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

DRAFT

PROGRAM ENVIRONMENTAL IMPACT REPORT

IMPACT SCIENCES

DECEMBER 2019

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TABLE OF CONTENTS

Section			Page
Executive Summary			ES-1
1.0	Introduction		1.0-1
2.0	Project Description		2.0-1
3.0	Environmental Impact Analysis and Mitigation Measures		3.0-1
	3.1	Aesthetics	3.1-1
	3.2	Agriculture and Forestry	3.2-1
	3.3	Air Quality	3.3-1
	3.4	Biological Resources	3.4-1
	3.5	Cultural Resources	3.5-1
	3.6	Energy	3.6-1
	3.7	Geology and Soils	3.7-1
	3.8	Greenhouse Gases	3.8-1
	3.9	Hazards and Hazardous Material	3.9-1
	3.10	Hydrology and Water Quality	3.10-1
	3.11	Land Use and Planning	3.11-1
	3.12	Mineral Resources	3.12-1
	3.13	Noise	3.13-1
	3.14	Population and Housing	3.14-1
	3.15	Public Services	3.15-1
		3.15.1 Fire Protection	3.15-1
		3.15.2 Police Protection	3.15-1
		3.15.3 Schools	3.15-1
		3.15.4 Library	3.15-1
	3.16	Parks and Recreation	3.16-1
	3.17	Transportation, Traffic, and Safety	3.17-1
	3.18	Tribal Cultural Resources	3.18-1
	3.19	Utilities and Service Systems	3.19-1
		3.19.1 Solid Waste	3.19.1-1
		3.19.2 Wastewater	3.19.2-1
		3.19.3 Water Supply	3.19.3-1
	3.20	Wildfire	3.20-1
	3.21	Cumulative Impacts	3.21-1
4.0	Alternatives		4.0-1
5.0	Other CEQA Considerations		5.0-1
6.0	List of Preparers		6.0-1
7.0	Glossary		7.0-1

Appendices

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

LIST OF FIGURES

Figure		Page
2.0-1	SCAG Region	2.0-43
2.0-2	SCAG Subregions	2.0-44
2.0-3	Existing Transit Network (2018)	2.0-45
2.0-4	Existing Arterial System (2016)	2.0-46
2.0-5	Existing Regional Goods Movement System	2.0-47
2.0-6	Major Airports in SCAG Region	2.0-48
2.0-7	Existing Land Use	2.0-49
2.0-8	SCAG Growth Priority Areas	2.0-50
2.0-9	SCAG Region Proposed Job Centers	2.0-51
2.0-10	Transit Priority Areas	2.0-52
2.0-11	High-Quality Transit Areas throughout the SCAG Region in 2045	2.0-53
2.0-12	Neighborhood Mobility Areas	2.0-54
2.0-13	Livable Corridors	2.0-55
2.0-14	2045 Plan Transit Network	2.0-56
2.0-15	Major Rail Projects	2.0-57
2.0-16	Major Highway Projects	2.0-58
2.0-17	Major HOV Projects	2.0-59
2.0-18	Planned Regional Express Lane Network	2.0-60
3.1-1	Land Use Patten in SCAG Region	3.1-41
3.1-2	State Designated and Eligible Scenic Highways and Vista Points	3.1-42
3.2-1	Farmland in the SCAG Region	3.2-32
3.2-2	Forest Lands in the SCAG Region	3.2-33
3.3-1	Annual Average Concentration of PM2.5	3.3-85
3.3-2	Maximum 8-Hour Ozone Concentrations (ppm)	3.3-86
3.3-3	Air Quality Basins and Monitoring Stations	3.3-87
3.3-4	Overview Freeway Segments Evaluated in HRA	3.3-88
3.4-1	Designated Critical Habitat in the SCAG Region	3.4-100
3.4-2	Sensitive Wildlife Species Reported in the SCAG Region	3.4-101
3.4-3	Essential Habitat Connectivity and Natural Landscape Blocks within the SCAG Region	3.4-102
3.7-1	Geomorphic Provinces	3.7-44
3.7-2	Alquist-Priolo Zones and Potential Areas of Probabilistic Ground Acceleration	3.7-45
3.7-3	Areas of Potential Liquefaction	3.7-46
3.7-4	Areas of Potential Landslides	3.7-47
3.7-5	Areas Susceptible to Tsunamis	3.7-48
3.7-6	General Soil Types	3.7-49
3.7-7	Soils with Moderate to High Erosion Potential	3.7-50
3.7-8	Connect SoCal Projects in Relation to Geologic Hazards	3.7-51
3.9-1	Airports in the SCAG Region	3.9-61
3.10-1	Regional Water Quality Control Boards	3.10-70
3.10-2	Watersheds in the SCAG Region	3.10-71
3.10-3	Areas Vulnerable to Sea Level Rise	3.10-72
3.11-1	SCAG Region	3.11-48
3.11-2	Existing Land Uses	3.11-49
3.11-3	Protected Areas in the SCAG Region	3.11-50

LIST OF FIGURES (continued)

Figure		Page
3.11-4	General Plan Land Use Designations	3.11-51
3.11-5	Commercial Land Uses in the SCAG Region	3.11-52
3.11-6	SCAG Region Open Space, Recreation, and Agricultural Uses	3.11-53
3.11-7	Tribal Lands in the SCAG Region	3.11-54
3.11-8	Los Angeles County Significant Ecological Areas	3.11-55
3.11-9	Regional Conservation Plans in the SCAG Region	3.11-56
3.12-1	Mineral Resources in the SCAG Region	3.12-13
3.14-1	Employment Density in the SCAG Region	3.14-30
3.16-1	Regional Recreation and Open Space Areas within a 45-Mile Radius of 2045 HQTAs	3.16-30
3.17-1	2019 AM Peak Period Congestion Delay on Regional Freeway System	3.17-72
3.17-2	2045 AM Peak Period Congestion Delay on Regional Freeway System	3.17-73
3.17-3	2019 PM Peak Period Congestion Delay on Regional Freeway System	3.17-74
3.17-4	2045 PM Peak Period Congestion Delay on Regional Freeway System	3.17-75
3.17-5	Amtrak Railways	3.17-76
3.17-6	Existing Regional Bikeways	3.17-77
3.17-7	Existing and Proposed Regional Bikeways (2045)	3.17-78
3.17-8	Existing Regional Goods Movement System	3.17-79

LIST OF TABLES

Table		Page
ES-1	2019-2045 Population, Households, and Employment Projections in the SCAG Region	ES-5
ES-2	Connect SoCal Expenditure (in Billions)	ES-6
ES-3	Connect SoCal Goals	ES-7
ES-4	Connect SoCal Guiding Principals	ES-7
ES-5	Summary of Project Impacts, Mitigation Measures, and Residual Impacts	ES-18
2.0-1	2019-2045 Population, Households, and Employment Projections in the SCAG Region	2.0-14
2.0-2	Recent Growth Trends in SCAG Growth Priority Areas	2.0-16
2.0-3	Connect SoCal Expenditure (in Billions)	2.0-17
2.0-4	Connect SoCal Revenue Sources	2.0-18
2.0-5	Connect SoCal Goals	2.0-21
2.0-6	Connect SoCal Guiding Principles	2.0-21
2.0-7	Connect SoCal Performance Measures	2.0-23
2.0-8	Selected Transit Capital Project	2.0-32
2.0-9	Sample Major Highway Projects Committed by the Counties	2.0-36
3.1-1	Caltrans Scenic Highways Program: Examples of Visual Quality Intrusions	3.1-3
3.1-2	Urban, Suburban, and Rural Land Use Patterns by County	3.1-8
3.1-3	Caltrans Designated Vista Points	3.1-10
3.1-4	Officially Designated State Scenic Highways	3.1-12
3.1-5	Officially Designated County Scenic Highways	3.1-13
3.1-6	Roadways Eligible for State Scenic Highway Designation	3.1-13
3.1-7	Historical Significance of State and Local Agency Bridges	3.1-15
3.1-8	Existing Sources of Nighttime Light in SCAG Region	3.1-20
3.1-9	Summary of County and City Policies and Ordinances in the SCAG Region	3.1-25
3.2-1	SCAG Region by Land Use Category (2016)	3.2-4
3.2-2	Important Farmland within the SCAG Region (2016)	3.2-5
3.2-3	SCAG Region Average Annual Acreage Change (1984-2016)	3.2-6
3.2-4	Estimated Maximum Direct Potential Loss of Important Agricultural Land	3.2-22
3.3-1	American Lung Association Report Card for SCAG Region	3.3-13
3.3-2	Population-Weighted Asthma Rate per 10,000	3.3-14
3.3-3	2019 Nonattainment Areas in the SCAG Region for all Criteria Pollutants by County by NAAQS	3.3-17
3.3-4	CAAQS Area Designations	3.3-18
3.3-5	Criteria Pollutant Emissions by County—Existing Conditions	3.3-19
3.3-6	Peak Criteria Pollutants Readings for the SCAG Region Air Basins	3.3-22
3.3-7	National Ambient Air Quality Standards	3.3-27
3.3-8	California Ambient Air Quality Standards	3.3-34
3.3-9	SCAQMD Air Quality Significance Thresholds	3.3-47
3.3-10	MDAQMD and AVAPCD Air Quality Significance Thresholds	3.3-48
3.3-11	ICAPCD Operational Air Quality Significance Thresholds	3.3-49
3.3-12	2016 AQMP Forecast of Annual Average Total Emissions in SCAB	3.3-56
3.3-13	On-Road Mobile-Source Criteria Air Pollutant Emissions by County – Existing Condition (2016) vs Plan (2045)	3.3-58
3.3-14	AQMP Forecast of Annual Average Off-Road Mobile Emissions in SCAB	3.3-59

LIST OF TABLES (continued)

Table		Page
3.3-15	AQMP Forecast of Annual Average Stationary Source Emissions in SCAB	3.3-60
3.3-16	Summary Maximum Exposed Individual Residential 30-Year Exposure Cancer Risk	3.3-78
3.4-1	Summary of Special-Status Species and Designated Critical Habitat in the SCAG Region	3.4-6
3.4-2	Federally and State Listed Species and Critical Habitat in the SCAG Region	3.4-7
3.4-3	Sensitive Wildlife Species Reported in the SCAG Region	3.4-12
3.4-4	Rare and Locally Important Plants Reported in the SCAG Region	3.4-18
3.4-5	Riparian Habitat and State Sensitive Plant Communities Reported in the SCAG Region	3.4-32
3.4-6	Sensitive Natural Communities within the SCAG Region	3.4-34
3.4-7	Federally Protected Wetlands and Waterways Reported in the SCAG Region	3.4-38
3.4-8	Potentially Protected Surface Water Features in the SCAG Region	3.4-40
3.4-9	Natural Landscape Blocks by County in the SCAG Region	3.4-41
3.4-10	Essential Connectivity Areas by County in the SCAG Region	3.4-42
3.4-11	Potential Riparian Connections in the SCAG Region	3.4-43
3.4-12	HCPs and NCCPs in the SCAG Region	3.4-44
3.4-13	Acres of Critical Habitat for Listed Species Potentially Affected by Connect SoCal Major Transportation Projects	3.4-66
3.4-14	Records of Listed Plant Species within 500 Feet of Connect SoCal Projects	3.4-67
3.4-15	Records of Listed Wildlife Species within 500 Feet of Connect SoCal Projects	3.4-68
3.4-16	Acres of Sensitive and Riparian Habitats within 500 Feet of Connect SoCal Major Transportation Projects	3.4-76
3.4-17	Blueline Streams and Rivers within 500 Feet of Connect SoCal Major Transportation Projects	3.4-77
3.4-18	Acres of Federally Protected Wetlands and Waterways within 500 Feet of Connect SoCal Major Transportation Projects.	3.4-81
3.4-19	Federally Protected Waterways Under Rivers and Harbors Act within 500 Feet of Connect SoCal Major Transportation Projects.	3.4-83
3.4-20	Areas Used for Wildlife Movement Potentially Affected by Connect SoCal Major Transportation Projects by County	3.4-87
3.4-21	Unincorporated Areas Subject to County General Plans Potentially Affected by the Connect SoCal Major Transportation Projects.	3.4-93
3.4-22	HCP's and NCCP's Potentially Affected by the Connect SoCal Major Transportation Projects	3.4-97
3.5-1	Archeological Resources Listed in the CHRIS	3.4-12
3.5-2	National Register of Historic Places Properties within the SCAG Region	3.5-13
3.5-3	National Historic Landmarks within the SCAG Region	3.5-14
3.5-4	California Historical Landmarks within the SCAG Region	3.5-16
3.5-5	California Points of Historical Interest within the SCAG Region	3.5-17
3.5-6	County Policies and Ordinances Relevant to the SCAG Region	3.5-31
3.6-1	Residential Energy Use and Cost per Household	3.6-36
3.6-2	Residential Energy and Water Cost per Household	3.6-36
3.6-3	Building Energy Consumption – Residential and Commercial	3.6-38
3.6-4	SCAG Region Estimated Transportation Fuel Consumption	3.6-39
3.6-5	Water Use – Residential and Commercial	3.6-40
3.6-6	Water-Related Energy Use	3.6-41

LIST OF TABLES (continued)

Table		Page
3.7-1	Characteristics of Major Faults in the SCAG Region	3.7-11
3.7-2	Potential Geologic Hazards Impacts from the Plan	3.7-30
3.8-1	Greenhouse Gases and Their Relative Global Warming Potential Compared to CO_2	3.8-4
3.8-2	Top Five GHG Producer Countries and the European Union (Annual)	3.8-11
3.8-3	GHG Emissions in California (2000 and 2017)	3.8-12
3.8-4	California Jurisdictions Addressing Climate Change in the SCAG Region (2016)	3.8-52
3.8-5	Greenhouse Gas Emissions from All On-Road Vehicles in the SCAG Region (Million Metric Tons per Year)	3.8-63
3.8-6	Greenhouse Gas Emissions from Other Transportation Sources in the SCAG Region (Million Metric Tons per Year)	3.8-63
3.8-7	Greenhouse Gas Emissions from On-Road Vehicles and Other Transportation Sources in the SCAG Region (Million Metric Tons per Year)	3.8-63
3.8-8	Greenhouse Gas Emissions All On-Road and Other Transportation Sources by County (CO_2) (Million Metric Tons per Year)	3.8-64
3.8-9	Greenhouse Gas Emissions for the SCAG Region from Three Primary Sources	3.8-66
3.8-10	SB 375 Analysis	3.8-74
3.8-11	Populatoin and VMT (2019 and 2045)	3.8-75
3.9-1	Number of Cleanup Sites by County	3.9-8
3.9-2	Leaking Underground Storage Tank Cleanup Sites	3.9-9
3.9-3	Hazardous Material Treatment Storage and Disposal Facilities in the SCAG Region	3.9-11
3.9-4	School, Hospitals, and Nursing Homes within One-Quarter Mile of Connect SoCal Transportation Projects	3.9-49
3.10-1	Federally Protected Wetlands and Waterways within the SCAG Region	3.10-10
3.10-2	Impaired Surface Water Bodies in the SCAG Region	3.10-13
3.10-3	Pollutants Associated with Transportation	3.10-53
3.11-1	Summary of Established Communities in the SCAG Region	3.11-6
3.11-2	SCAG Region General Land Use Categories	3.11-13
3.11-3	Existing Urban, Suburban, and Rural Land Use Patterns by County	3.11-13
3.11-4	Tribal Lands within the SCAG Region	3.11-21
3.11-5	Cities in the SCAG Region with Coastal Zone Jurisdiction	3.11-23
3.11-6	Potential Displacement of Existing Residential and Commercial Land Uses (in Acres)	3.11-41
3.12-1	Permitted Aggregate Resources and 50-Year Demand in the SCAG Region	3.12-5
3.13-1	Common Sound Levels and Loudness	3.13-4
3.13-2	Typical Levels of Ground-Borne Vibration	3.13-5
3.13-3	Ambient Noise Sampling Data	3.13-6
3.13-4	Major Commercial Airports within the SCAG Region	3.13-7
3.13-5	Reference Noise Levels for Various Rail Operations	3.13-10
3.13-6	Construction Equipment Noise Levels	3.13-15
3.13-7	Acceptable Noise Limit for Sensitive Land Uses	3.13-15
3.13-8	Construction Vibration Damage Criteria	3.13-21
3.13-9	Noise Levels Defining Impact for High-Speed Train Projects	3.13-22
3.13-10	Land Use Categories and Metrics for High-Speed Train Noise Impact Criteria	3.13-23
3.13-11	Community Noise Exposure	3.13-27
3.13-12	Activity Categories and Noise Abatement Criteria	3.13-28

LIST OF TABLES (continued)

Table		Page
3.13-13	Noise Compatibility Criteria	3.13-29
3.13-14	Construction Equipment Source Noise Levels	3.13-41
3.13-15	Construction Equipment Vibration Levels	3.13-43
3.14-1	Population Growth in the SCAG Region (2000-2019 for Incorporated Cities and Unincorporated Areas)	3.14-3
3.14-2	Households in the SCAG Region	3.14-4
3.14-3	Household Size in the SCAG Region (Persons)	3.14-5
3.14-4	Poverty Rates in the SCAG Region (1990-2017)	3.14-6
3.14-5	2019 Employment by County	3.14-7
3.14-6	Employment Growth for 2000 to 2019	3.14-7
3.14-7	Unemployment Rates	3.14-8
3.14-8	2019-2045 Population, Households, and Employment Projections in the SCAG Region	3.14-10
3.14-9	Summary of Housing Goals by County in the SCAG Region	3.14-17
3.14-10	Potential Displacement of Existing Homes and Business (in Acres)	3.14-26
3.15.3-1	Kindergarten through Grade 12 Enrollment and Teachers in the SCAG Region for the 2017–2018 School Year	3.15-2
3.15.3-2	Public and Private Schools in the SCAG Region	3.15-2
3.16-1	Recreational Areas and Protected Open Space by County in Acres	3.17-8
3.16-2	Acres of Regional Recreation and Open Space Areas within a 45-Mile Radius of HQTAs in 2045	3.16-24
3.17-1	Summary of Existing (2019) Daily Vehicle Miles and Percentage Vehicle Hours of Travel	3.17-5
3.17-2	Summary of Existing (2019) Delay and Work Trip Length	3.17-5
3.17-3	Existing (2019) Travel Mode Split (Percentage of County Total)	3.17-6
3.17-4	Existing Regional Freeway Route Miles and Lane Miles by County (2019)	3.17-7
3.17-5	Existing Regional Arterial Route Miles and Lane Miles by County (2019)	3.17-8
3.17-6	Existing Regional High-Occupancy Vehicle Lane Miles by County (2019)	3.17-9
3.17-7	SCAG Region Annual Fixed Route Transit Ridership	3.17-10
3.17-8	Statistics for Major Transit Operators for 2017	3.17-10
3.17-9	Total Vehicle Fatalities and Injuries in the SCAG Region (2015)	3.17-21
3.17-10	Transportation Security Vulnerabilities	3.17-22
3.17-11	Major Transit Capital Projects	3.17-48
3.17-12	Daily Transit Boardings	3.17-50
3.17-13	Percentage of Mode Share on Transit and Active Transportation	3.17-51
3.17-14	Total VMT 2019 and 2045 by County	3.17-56
3.17-15	Population and VMT (2019 and 2045)	3.17-56
3.17-16	VMT Per Capita by County	3.17-57
3.17-17	Total Daily Vehicle Hours of Delay	3.17-57
3.17-18	Percent of PM Work Trips Completed within 45 Minutes	3.17-58
3.17-19	Active Transportation Serious Injuries and Fatalities (2006-2016)	3.17-66
3.17-20	RTP/SCS Safety Projects by County – FTIP (Thousands)	3.17-66
3.18-1	Archaeological Resources Listed in the CHRIS	3.18-3
3.18-2	Sacred Lands Recorded by the NAHC in the SCAG Region	3.18-5

LIST OF TABLES (continued)

Table		Page
3.18-3	County Policies and Ordinances Relevant to Tribal Cultural Resources the SCAG Region	3.18-16
3.19.1-1	Solid Waste Tonnage within the SCAG Region (2018)	3.19.1-1
3.19.1-2	Active Solid Waste Landfills by SCAG County	3.19.1-2
3.19.1-3	Active Transfer Stations by SCAG County	3.19.1-3
3.19.1-4	Solid Waste Generated in the SCAG Region	3.19.1-14
3.19.2-1	Major Wastewater Treatment Facilities in the SCAG Region	3.19.2-2
3.19.2-2	Existing Lane Miles by County	3.19.2-16
3.19.2-3	2045 Plan Lane Miles by County	3.19.2-17
3.19.3-1	Active Water Treatment Facilities in the SCAG Region	3.19.3-4
3.19.3-2	California Hydrologic Summary (in Millions of Acre-Feet)	3.19.3-6
3.19.3-3	South Coast Region Water Balance	3.19.3-8
3.19.3-4	Colorado River Region Water Balance	3.19.3-9
3.19.3-5	Groundwater Dependence in the SCAG Region	3.19.3-10
3.19.3-6	Metropolitan Water District's Local Supplies for Average and Dry Years	3.19.3-22
3.21-1	Cumulative Impact Analysis Geographies	3.21-3
4.0-1	Comparison of Connect SoCal and Alternatives	4.0-7
4.0-2	Comparison of Alternatives to Connect SoCal	4.0-9
4.0-3	Plan Compared to No Project Alternative: Summary of Maximum Exposed Individuals Residential 30-Year Exposure Cancer Risk	4.0-16
4.0-4	Connect SoCal Compared to Existing Plans-Local Input Alternative: Summary of Maximum Exposed Individuals Residential 30-Year Exposure Cancer Risk	4.0-27
4.0-5	Connect SoCal Compared to Intensified Land Use Alternative: Summary of Maximum Exposed Individuals Residential 30-Year Exposure Cancer Risk	4.0-38

EXECUTIVE SUMMARY

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

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

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

1 *State CEQA Guidelines*, Section 15123.

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

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

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

ES.1 BACKGROUND AND PROJECT OVERVIEW

ES.1.1 SCAG Role and Responsibilities

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

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

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

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

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

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

ES.2 PROPOSED PROJECT

ES.2.1 Project Description

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

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

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

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

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

ES.2.2 Local Input and Public Outreach

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

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

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

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

Demographic Assumptions

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

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

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

Source: SCAG 2019

Financial Assumptions

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

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

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

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

Table ES-2
Connect SoCal Expenditure (in Billions)

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

Source: SCAG
Note: due to rounding, the total will not exactly match.
**Includes $4.8 billion for active transportation in addition to capital project investment level of $17.7 billion for a total of $22.5 billion for active transportation improvements*
***Includes Safety, Pooled Incentives, Mobility Equity Fund, Regional PEV Charger Program, and Others*

ES.2.3 Goals and Guiding Principles

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

Table ES-3
Connect SoCal Goals

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

Source: SCAG Connect SoCal, 2019

Table ES-4
Connect SoCal Guiding Principles

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

Source: SCAG Connect SoCal 2019

ES.3 PROJECT LOCATION AND SETTING

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

Transportation Network

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

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

Housing

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

2 Connect SoCal Demographics & Growth Forecast Technical Report, 2019

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

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

ES.3.1 Land Use and Transportation Strategies

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

Land Use Strategies

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

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

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

Priority Growth Areas

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

Transportation Strategies

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

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

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

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

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

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

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

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

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

ES.4 ALTERNATIVES TO THE PROJECT

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

Alternative 1: No Project Alternative

The No Project Alternative is required by Section 15126.6I(2) of the *CEQA Guidelines* and assumes that the Plan would not be implemented. The No Project Alternative allows decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project. The No Project Alternative evaluates "what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services" (*CEQA Guidelines* Section 15126.6€(2)). The No Project Alternative is aligned with the Trend/Baseline Scenario[4] and includes transportation projects that are in place at the time of preparation of the Connect SoCal Plan and that are included in the first two years of the previously conforming transportation plan and/or federal transportation improvement program (FTIP). "Exempt projects" include safety projects and certain mass transit projects, transportation control measures ("TCMs") that are approved by the State Implementation Plan, and project phases that were authorized by the FHWA/FTA prior to expiration of SCAG's conformity finding for the adopted 2016 RTP/SCS.

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

4 Connect SoCal – Sustainable Communities Strategy Technical Report.

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

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

Alternative 2: Existing Plans - Local Input Alternative

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

Alternative 3: Intensified Land Use Alternative

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

5 Federal Highway Administration. *Transportation Conformity: A Basic Guide for State and Local Officials* (Revised 2010), FHWA-HEP-11-001. Available at: http://www.fhwa.dot.gov/environment/air_quality/conformity/guide/guide10.cfm

6 Connect SoCal – Sustainable Communities Strategy Technical Report.

7 Connect SoCal – Sustainable Communities Strategy Technical Report.

ES.5 AREAS OF KNOWN CONTROVERSY

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

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

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

ES.6 ISSUES TO BE RESOLVED

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

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

ES.7 SUMMARY OF PROJECT IMPACTS

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

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

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

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

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

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

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

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

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

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

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

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

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
AESTHETICS		
Impact AES-1: Potential for the Plan to have a substantial adverse effect on a scenic vista.	*SCAG Mitigation Measures* **SMM AES-1:** SCAG shall facilitate minimizing impacts to scenic vistas through cooperation, information sharing regarding the locations of designated scenic vistas, and regional program development as part of SCAG's ongoing regional planning efforts, such as web-based planning tools for local government including REVISION, and other GIS tools and data services, including, but not limited to, Map Gallery, GIS library, and GIS applications, and direct technical assistance efforts such as sharing of associated online training materials. Caltrans and lead agencies, such as county and city planning departments, shall be consulted during this update process. *Project Level Mitigation Measures* **PMM AES-1:** In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to address potential aesthetic impacts to scenic vistas, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency: a) Use a palette of colors, textures, building materials that are graffiti-resistant, and/or plant materials that complement the surrounding landscape and development. b) Use contour grading to better match surrounding terrain. Contour edges of major cut-and-fill to provide a more natural looking finished profile. c) Design new corridor landscaping to respect existing natural and man-made features and to complement the dominant landscaping of the surrounding areas. d) Replace and renew landscaping along corridors with road widenings, interchange projects, and related improvements. e) Retain or replace trees bordering highways, so that clear-cutting is not evident. f) Provide new corridor landscaping that respects and provides appropriate transition to existing natural and man-made features and is complementary to the dominant landscaping or native habitats of surrounding areas. g) Reduce the visibility of construction staging areas by fencing and screening these areas with low contrast materials consistent with the surrounding environment, and by revegetating graded slopes and exposed earth surfaces at the earliest opportunity; h) Use see-through safety barrier designs (e.g. railings rather than walls)	Significant and unavoidable

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
Impact AES-2: Potential to substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.	*SCAG Mitigation Measures* See **SMM AES-1.** *Project Level Mitigation Measures* See **PMM AES-1.**	Significant and unavoidable
Impact AES-3: Potential to substantially degrade the existing visual character or quality of public views (public views are those that are experienced from publicly accessible vantage points). In an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality.	*SCAG Mitigation Measures* See **SMM AES-1.** *Project Level Mitigation Measures* **PMM AES-2:** In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to address potential aesthetic impacts that substantially degrade visual character, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency: a) Minimize contrasts in scale and massing between the projects and surrounding natural forms and development, minimize their intrusion into important viewsheds, and use contour grading to better match surrounding terrain in accordance with county and city hillside ordinances, where applicable. b) Design landscaping along highway corridors to add significant natural elements and visual interest to soften the hard-edged, linear transportation corridors. c) Require development of design guidelines for projects that make elements of proposed buildings/facilities visually compatible, or minimize visibility of changes in visual quality or character through use of hardscape and softscape solutions. Specific measures to be addressed include setback buffers, landscaping, color, texture, signage, and lighting criteria. d) Design projects consistent with design guidelines of applicable general plans. e) Require that sites are kept in a blight/nuisance-free condition. Remove blight or nuisances that compromise visual character or visual quality of project areas including graffiti abatement, trash removal, landscape management, maintenance of signage and billboards in good condition, and replace compromised native vegetation and landscape. f) Where sound walls are proposed, require sound wall construction and design methods that account for visual impacts as follows: – use transparent panels to preserve views where sound walls would block views from residences; – use landscaped earth berm or a combination wall and berm to minimize the apparent sound wall height; – construct sound walls of materials whose color and texture complements the surrounding landscape and development; g) Design sound walls to increase visual interest, reduce apparent height, and be visually compatible with the surrounding area; and landscape the sound walls with plants that screen the sound wall, preferably with either native vegetation or landscaping that complements the	Significant and unavoidable

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	dominant landscaping of surrounding areas.	
Impact AES-4: Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.	*SCAG Mitigation Measures* **SMM AES-2:** SCAG shall facilitate minimizing impacts on aesthetics related to new sources of light or glare through cooperation, information sharing regarding guidelines and policies, design approaches, building materials, siting, and technology, such as web-based planning tools for local government including CA LOTS, and other GIS tools and data services, including, but not limited to, Map Gallery, GIS library, and GIS applications, and direct technical assistance efforts and sharing of associated online training materials. Lead agencies, such as county and city planning departments, shall be consulted during this update process. *Project Level Mitigation Measures* **PMM AES-3:** In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to address potential aesthetic impacts that substantially degrade visual character, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency: a) Use lighting fixtures that are adequately shielded to a point below the light bulb and reflector and that prevent unnecessary glare onto adjacent properties. b) Restrict the operation of outdoor lighting for construction and operation activities to the hours of 7:00 a.m. to 10:00 p.m. c) Use high-pressure sodium and/or cut-off fixtures instead of typical mercury-vapor fixtures for outdoor lighting. d) Use unidirectional lighting to avoid light trespass onto adjacent properties. e) Design exterior lighting to confine illumination to the project site, and/or to areas which do not include light-sensitive uses. f) Provide structural and/or vegetative screening from light-sensitive uses. g) Shield and direct all new street and pedestrian lighting away from light-sensitive off-site uses. h) Use non-reflective glass or glass treated with a non-reflective coating for all exterior windows and glass used on building surfaces. i) Architectural lighting shall be directed onto the building surfaces and have low reflectivity to minimize glare and limit light onto adjacent properties.	Significant and unavoidable
AGRICULTURAL RESOURCES		
Impact AG-1: Potential for the Plan to convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use.	*SCAG Mitigation Measures* **SMM AG-1:** SCAG shall host a Natural & Farm Lands Conservation Working Group which will provide a forum for stakeholders to share best practices and develop recommendations for natural and agricultural land conservation throughout the region, including the development of a Natural Lands Conservation Strategy for the Connect SoCal Plan. **SMM AG-2:** SCAG shall expand on the Natural Resource Inventory Database and Conservation Framework & Assessment by incorporating strategic mapping layers to build the database and further refine the	Significant and unavoidable

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	priority conservation areas by (1) further investing in mapping and farmland data tracking and (2) working with County Transportation Commissions (CTCs) and SCAG's subregions to support their county-level efforts at data building. SCAG shall encourage CTCs to develop advanced mitigation programs or include them in future transportation measures by (1) funding pilot programs that encourage advance mitigation including data and replicable processes, (2) participating in state-level efforts that would support regional advanced mitigation planning in the SCAG region, and (3) supporting the inclusion of advance mitigation programs at county level transportation measures. **SMM AG-3:** SCAG shall align with funding opportunities and pilot programs to begin implementation of conservation strategies through (1) seeking planning funds, such as cap and trade auction proceeds that could help prepare for local action on acquisition and restoration, (2) supporting CTCs and other partners, and (3) continuing policy alignment with the State Wildlife Action Plan 2015 Update and its implementation. **SMM AG-4:** SCAG shall provide incentives to jurisdictions that cooperate across county lines to protect and restore natural habitat corridors, especially where corridors cross county boundaries, as detailed in the Natural & Farm Lands Technical Report strategies of Connect SoCal. SCAG will work with stakeholders to identify incentives and leverage resources that help protect habitat corridors. *Project Level Mitigation Measures* **PMM AG-1:** In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to address potential adverse effects on agricultural resources, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency: a) Require project sponsors to mitigate for loss of farmland by providing permanent protection of in-kind farmland in the form of easements, fees, or elimination of development rights/potential. b) Project relocation or corridor realignment to avoid Prime Farmland, Unique Farmland, or Farmland of Local or Statewide Importance. c) Maintain and expand agricultural land protections such as urban growth boundaries. d) Provide for mitigation fees to support a mitigation bank10 that invests in farmer education, agricultural infrastructure, water supply, marketing, etc. that enhance the commercial viability of retained agricultural lands. e) Minimize severance and fragmentation of agricultural land by constructing underpasses and overpasses at reasonable intervals to provide property access. f) Use berms, buffer zones, setbacks, and fencing to reduce conflicts between new development and farming uses and protect the functions of farmland.	
Impact AG-2: Potential for the Plan to conflict with existing zoning for agricultural use, or a Williamson	*SCAG Mitigation Measures* See **SMM AG-1** through **SMM AG-4.**	Significant and unavoidable

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

Significance Threshold and Project Impacts		Mitigation Measures	Residual Impact
	Act contract.	*Project Level Mitigation Measures* See **PMM AG-1.** **PMM AG-2:** Project level mitigation measures can and should be considered by Lead Agencies as applicable and feasible. Measures to reduce substantial adverse effects on Williamson Act contracts to the maximum extent practicable, as determined appropriate by each Lead Agency, may include the following, or other comparable measures: a) Project relocation or corridor realignment to avoid lands in Williamson Act contracts. b) Establish conservation easements consistent with the recommendations of the Department of Conservation, or 20-year Farmland Security Zone contracts (Government Code Section 51296 et seq.), 10-year Williamson Act contracts (Government Code Section 51200 et seq.), or use of other conservation tools available from the California Department of Conservation Division of Land Resource Protection.	
Impact AG-3:	Potential for the Plan to conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)).	*SCAG Mitigation Measures* See **SMM AG-1** through **SMM AG-2**. *Project Level Mitigation Measures* **PMM AG-3:** Project level mitigation measures can and should be considered by Lead Agencies as applicable and feasible. Measures to reduce substantial adverse effects, through the conversion of Farmland to maximum extent practicable, as determined appropriate by each Lead Agency, may include the following, or other comparable measures: a) Minimize construction related impacts to agricultural and forestry resources by locating materials and stationary equipment in such a way as to prevent conflict with agriculture and forestry resources.	
Impact AG-4:	Potential for the Plan to result in the loss of forest land or conversion of forest land to non-forest use.	*SCAG Mitigation Measures* See **SMM AG-1** through **SMM AG-2**. *Project Level Mitigation Measures* See **PMM AG-3**	Significant and unavoidable
Impact AG-5:	Potential for the Plan to involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.	*SCAG Mitigation Measure* See **SMM AG-1** through **SMM AG-2** and **SMM-GHG-1** through **SMM-GHG-5.** *Project Level Mitigation Measures* See **PMM AG-2** and **PMM GHG-2.** **PMM AG-4:** Project level mitigation measures can and should be considered by Lead Agencies as applicable and feasible. Measures to reduce substantial adverse effects, through the conversion of Farmland, to the maximum extent practicable, as determined appropriate by each Lead Agency, may include the following, or other comparable measures: a) Design proposed projects to minimize, to the greatest extent feasible, the loss of the highest valued agricultural land.	Significant and unavoidable

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

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	travelled corridors in the Connect SoCal Environmental Justice Appendix. SCAG staff shall also continue to work with districts and relevant stakeholders to be informed of any updates new and/or changes to air quality issue areas through various forums like the Environmental Justice Working Group. *Project Level Mitigation Measures* **PMM-AQ-1:** In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to violating air quality standards. Such measures may include the following or other comparable measures identified by the Lead Agency: a) Minimize land disturbance. b) Suspend grading and earth moving when wind gusts exceed 25 miles per hour unless the soil is wet enough to prevent dust plumes. c) Cover trucks when hauling dirt. d) Stabilize the surface of dirt piles if not removed immediately. e) Limit vehicular paths on unpaved surfaces and stabilize any temporary roads. f) Minimize unnecessary vehicular and machinery activities. g) Sweep paved streets at least once per day where there is evidence of dirt that has been carried on to the roadway. h) Revegetate disturbed land, including vehicular paths created during construction to avoid future off-road vehicular activities. i) On Caltrans projects, Caltrans Standard Specifications 10-Dust Control, 17-Watering, and 18-Dust Palliative shall be incorporated into project specifications. j) Require contractors to assemble a comprehensive inventory list (i.e., make, model, engine year, horsepower, emission rates) of all heavy-duty off-road (portable and mobile) equipment (50 horsepower and greater) that could be used an aggregate of 40 or more hours for the construction project. Prepare a plan for approval by the applicable air district demonstrating achievement of the applicable percent reduction for a CARB-approved fleet. k) Ensure that all construction equipment is properly tuned and maintained. l) Minimize idling time to 5 minutes—saves fuel and reduces emissions. m) Provide an operational water truck on-site at all times. Use watering trucks to minimize dust; watering should be sufficient to confine dust plumes to the project work areas. Sweep paved streets at least once per day where there is evidence of dirt that has been carried on to the roadway. n) Utilize existing power sources (e.g., power poles) or clean fuel generators rather than temporary power generators. o) Develop a traffic plan to minimize traffic flow interference from construction activities. The plan may include advance public notice of routing, use of public transportation, and satellite parking areas with a shuttle service. Schedule operations affecting traffic for off-peak hours. Minimize obstruction of through-traffic lanes. Provide a flag person to guide traffic properly	

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

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	suited for infill and redevelopment as well as critical habitat and natural lands to be preserved, including natural habitat corridors. SCAG will also collaborate with stakeholders to establish a new Regional Advanced Mitigation Program (RAMP) initiative to preserve habitat. *Project Level Mitigation Measures* **PMM BIO-1:** In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to threatened and endangered species. Such measures may include the following or other comparable measures identified by the Lead Agency: a) Require project design to avoid occupied habitat, potentially suitable habitat, and designated critical habitat, wherever practicable and feasible. b) Where avoidance is determined to be infeasible, provide conservation measures to fulfill the requirements of the applicable authorization for incidental take pursuant to Section 7 or 10(a) of the federal ESA, Section 2081 of the California ESA to support issuance of an incidental take permit, and/or as identified in local or regional plans. Conservation strategies to protect the survival and recovery of federally and state-listed endangered and local special status species may include: i. Impact minimization strategies ii. Contribution of in-lieu fees for in-kind conservation and mitigation efforts iii. Use of in-kind mitigation bank credits iv. Funding of research and recovery efforts v. Habitat restoration vi. Establishment of conservation easements vii. Permanent dedication of in-kind habitat c) Design projects to avoid desert native plants protected under the California Desert Native Plants Act, salvage and relocate desert native plants, and/or pay in lieu fees to support off-site long-term conservation strategies. d) Temporary access roads and staging areas will not be located within areas containing sensitive plants, wildlife species or non-native habitat wherever feasible, so as to avoid or minimize impacts to these species e) Develop and implement a Worker Environmental Awareness Program (environmental education) to inform project workers of their responsibilities to avoid and minimize impacts on sensitive biological resources. f) Retain a qualified botanist to document the presence or absence of special status plants before project implementation. g) Appoint a qualified biologist to monitor construction activities that may occur in or adjacent to occupied sensitive species' habitat to facilitate avoidance of resources not permitted for impact. h) Appoint a qualified biologist to monitor implementation of mitigation measures.	

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	i) Schedule construction activities to avoid sensitive times for biological resources (e.g. steelhead spawning periods during the winter and spring, nesting bird season) and to avoid the rainy season when erosion and sediment transport is increased. j) Develop an invasive species control plan associated with project construction k) If construction occurs during breeding seasons in or adjacent to suitable habitat, include appropriate sound attenuation measures required for sensitive avian species and other best management practices appropriate for potential local sensitive wildlife l) Conduct pre-construction surveys to delineate occupied sensitive species' habitat to facilitate avoidance. m) Where projects are determined to be within suitable habitat and may impact listed or sensitive species that have specific field survey protocols or guidelines outlined by the USFWS, CDFW, or other local agency, conduct preconstruction surveys that follow applicable protocols and guidelines and are conducted by qualified and/or certified personnel.	
Impact BIO-2: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service.	*SCAG Mitigation Measures* See **SMM BIO-1** and **SMM BIO-2.** *Project Level Mitigation Measures* See **PMM BIO-1**. **PMM BIO-2:** In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to riparian habitats and other sensitive natural communities. Such measures may include the following or other comparable measures identified by the Lead Agency: a) Consult with the USFWS and NMFS where such state-designated sensitive or riparian habitats provide potential or occupied habitat for federally listed rare, threatened, and endangered species afforded protection pursuant to the federal ESA. b) Consult with the USFS where such state-designated sensitive or riparian habitats provide potential or occupied habitat for federally listed rare, threatened, and endangered species afforded protection pursuant to the federal ESA and any additional species afforded protection by an adopted Forest Land Management Plan or Resource Management Plan for the four national forests in the six-county area: Angeles, Cleveland, Los Padres, and San Bernardino. c) Consult with the CDFW where such state-designated sensitive or riparian habitats provide potential or occupied habitat for state-listed rare, threatened, and endangered species afforded protection pursuant to the California ESA, or Fully Protected Species afforded protection pursuant to the State Fish and Game Code. d) Consult with the CDFW pursuant to the provisions of Section 1600 of the State Fish and Game Code as they relate to Lakes and Streambeds. e) Consult with the USFWS, USFS, CDFW, and counties and cities in the SCAG region, where state-designated sensitive or riparian habitats are occupied by birds afforded protection	Significant and unavoidable

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	pursuant to the MBTA during the breeding season. f) Consult with the CDFW for state-designated sensitive or riparian habitats where furbearing mammals, afforded protection pursuant to the provisions of the State Fish and Game Code for fur-beaming mammals, are actively using the areas in conjunction with breeding activities. g) Require project design to avoid sensitive natural communities and riparian habitats, wherever practicable and feasible. h) Where avoidance is determined to be infeasible, develop sufficient conservation measures through coordination with local agencies and the regulatory agency (i.e., USFWS or CDFW) to protect sensitive natural communities and riparian habitats and develop appropriate compensatory mitigation, where required. i) Appoint a qualified wetland biologist to monitor construction activities that may occur in or adjacent to sensitive communities. j) Appoint a qualified wetland biologist to monitor implementation of mitigation measures. k) Schedule construction activities to avoid sensitive times for biological resources and to avoid the rainy season when erosion and sediment transport is increased. l) When construction activities require stream crossings, schedule work during dry conditions and use rubber-wheeled vehicles, when feasible. Have a qualified wetland scientist determine if potential project impacts require a Notification of Lake or Streambed Alteration to CDFW during the planning phase of projects. m) Consult with local agencies, jurisdictions, and landowners where such state-designated sensitive or riparian habitats are afforded protection pursuant an adopted regional conservation plan. n) Install fencing and/or mark sensitive habitat to be avoided during construction activities. o) Salvage and stockpile topsoil (the surface material from 6 to 12 inches deep) and perennial native plants, when recommended by the qualified wetland biologist, for use in restoring native vegetation to areas of temporary disturbance within the project area. Salvage of soils containing invasive species, seeds and/or rhizomes will be avoided as identified by the qualified wetland biologist. p) Revegetate with appropriate native vegetation following the completion of construction activities. as identified by the qualified wetland biologist. q) Complete habitat enhancement (e.g., through removal of non-native invasive wetland species and replacement with more ecologically valuable native species). r) Use Best Management Practices (BMPs) at construction sites to minimize erosion and sediment transport from the area. BMPs include encouraging growth of native vegetation in disturbed areas, using straw bales or other silt-catching devices, and using settling basins to minimize soil transport.	

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
Impact BIO-3: Have a substantial adverse effect on State or Federally Protected Wetlands (including but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption or other means.	*SCAG Mitigation Measures* See **SMM BIO-1** and **SMM BIO-2.** *Project Level Mitigation Measures* See **PMM BIO-1** and **PMM BIO-2.** **PMM BIO-3:** In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to wetlands. Such measures may include the following or other comparable measures identified by the Lead Agency. a) Require project design to avoid federally protected aquatic resources consistent with the provisions of Sections 404 and 401 of the CWA, wherever practicable and feasible. b) Where the lead agency has identified that a project, or other regionally significant project, has the potential to impact other wetlands or waters, such as those considered Waters Of the State of California under the State Wetland Definition and Procedures for Dischargers of Dredged or Fill Material to Waters of the State , not protected under Section 404 or 401 of the CWA, seek comparable coverage for these wetlands and waters in consultation with the SWRCB, applicable RWQCB, and CDFW. c) Where avoidance is determined to be infeasible, develop sufficient conservation measures to fulfill the requirements of the applicable authorization for impacts to federal and state protected aquatic resource to support issuance of a permit under Section 404 of the CWA as administered by the USACE. The use of an authorized Nationwide Permit or issuance of an individual permit requires the project applicant to demonstrate compliance with the USACE's Final Compensatory Mitigation Rule. The USACE reviews projects to ensure environmental impacts to aquatic resources are avoided or minimized as much as possible. Consistent with the administration's performance standard of "no net loss of wetlands" a USACE permit may require a project proponent to restore, establish, enhance or preserve other aquatic resources in order to replace those affected by the proposed project. This compensatory mitigation process seeks to replace the loss of existing aquatic resource functions and area. Project proponents required to complete mitigation are encouraged to use a watershed approach and watershed planning information. The new rule establishes performance standards, sets timeframes for decision making, and to the extent possible, establishes equivalent requirements and standards for the three sources of compensatory mitigation: – Permittee-responsible mitigation – Contribution of in-kind in-lieu fees – Use of in-kind mitigation bank credits – Where avoidance is determined to be infeasible and d) Where avoidance is determined to be infeasible and proposed projects' impacts exceed an existing Nationwide Permit (NWP) and/or California SWRCB-certified NWP, the lead agency should provide USACE and SWRCB (where applicable) an alternative analysis consistent with the Least Environmentally Damaging Practicable Alternatives in this order of priorities:	Significant and unavoidable

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	– Avoidance – Impact Minimization – On-site alternatives – Off-site alternatives e) Require review of construction drawings by a certified wetland delineator as part of each project-specific environmental analysis to determine whether aquatic resources will be affected and, if necessary, perform formal wetland delineation	
Impact BIO-4: Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.	*SCAG Mitigation Measures* See **SMM BIO-1** and **SMM BIO-2, SMM AG-1** through **SMM AG-4, SMM GHG-1, SMM WF-1.** **SMM BIO-3:** SCAG shall encourage and facilitate research, programs and policies to identify, protect and restore natural habitat corridors, especially where corridors cross county boundaries. Additionally, continue support for preserving wildlife corridors and wildlife crossings to minimize the impact of transportation projects on wildlife species and habitat fragmentation. *Project Level Mitigation Measures* See **PMM BIO-1** through **PMM BIO-3**. **PMM BIO-4:** In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to wildlife movement. Such measures may include the following or other comparable measures identified by the Lead Agency: a) Consult with the USFS where impacts to migratory wildlife corridors may occur in an area afforded protection by an adopted Forest Land Management Plan or Resource Management Plan for the four national forests in the six-County area: Angeles, Cleveland, Los Padres, and San Bernardino. b) Consult with counties, cities, and other local organizations when impacts may occur to open space areas that have been designated as important for wildlife movement related to local ordinances or conservation plans. c) Prohibit construction activities within 500 feet of occupied breeding areas for wildlife afforded protection pursuant to Title 14 § 460 of the California Code of Regulations protecting fur-bearing mammals, during the breeding season. d) Conduct a survey to identify active raptor and other migratory nongame bird nests by a qualified biologist at least two weeks before the start of construction at project sites from February 1 through August 31. e) Prohibit construction activities with 250 feet of occupied nest of birds afforded protection pursuant to the Migratory Bird Treaty Act, during the breeding season. f) Ensure that suitable nesting sites for migratory nongame native bird species protected under the Migratory Bird Treaty Act and/or trees with unoccupied raptor nests should only be removed prior to February 1, or following the nesting season. g) When feasible and practicable, proposed projects will be designed to minimize impacts to wildlife movement and habitat connectivity and preserve existing and functional wildlife	Significant and unavoidable

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	corridors. h) Conduct site-specific analyses of opportunities to preserve or improve habitat linkages with areas on- and off-site. i) Long linear projects with the possibility of impacting wildlife movement should analyze habitat linkages/wildlife movement corridors on a broad scale to avoid critical narrow choke points that could reduce function of recognized movement corridor. j) Require review of construction drawings and habitat connectivity mapping by a qualified biologist to determine the risk of habitat fragmentation. k) Pursue mitigation banking to preserve habitat linkages and corridors (opportunities to purchase, maintain, and/or restore offsite habitat). l) When practicable and feasible design projects to promote wildlife corridor redundancy by including multiple connections between habitat patches. m) Evaluate the potential for installation of overpasses, underpasses, and culverts to create wildlife crossings in cases where a roadway or other transportation project may interrupt the flow of species through their habitat. Provide wildlife crossings in accordance with proven standards, such as FHWA's Critter Crossings or Ventura County Mitigation Guidelines and in consultation with wildlife corridor authorities. n) Install wildlife fencing where appropriate to minimize the probability of wildlife injury due to direct interaction between wildlife and roads or construction. o) Where avoidance is determined to be infeasible, design sufficient conservation measures through coordination with local agencies and the regulatory agency (i.e., USFWS or CDFW) and in accordance with the respective counties and cities general plans to establish plans to mitigate for the loss of fish and wildlife movement corridors and/or wildlife nursery sites. The consideration of conservation measures may include the following measures, in addition to the measures outlined in MM-BIO-1(b), where applicable: – Wildlife movement buffer zones – Corridor realignment – Appropriately spaced breaks in center barriers – Stream rerouting – Culverts – Creation of artificial movement corridors such as freeway under- or overpasses – Other comparable measures p) Where the lead agency has identified that a RTP/SCS project, or other regionally significant project, has the potential to impact other open space or nursery site areas, seek comparable coverage for these areas in consultation with the USFWS, CDFW, NMFS, or other local jurisdictions.	

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
Impact BIO-5: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	SCAG Mitigation Measures See **SMM BIO-1, SMM BIO-2** and **SMM BIO-3**. *Project Level Mitigation Measures* See **PMM BIO-1** through **PMM BIO-4.** **PMM BIO-5:** In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce conflicts with local policies and ordinances protecting biological resources . Such measures may include the following or other comparable measures identified by the Lead Agency. a) Consult with the appropriate local agency responsible for the administration of the policy or ordinance protecting biological resources. b) Prioritize retention of trees on-site consistent with local regulations. Provide adequate protection during the construction period for any trees that are to remain standing, as recommended by an International Society of Arboriculture (ISA) certified arborist. c) If specific project area trees are designated as "Protected Trees," "Landmark Trees," or "Heritage Trees," obtain approval for encroachment or removals through the appropriate entity, and develop appropriate mitigation measures at that time, to ensure that the trees are replaced. Mitigation trees shall be locally collected native species, as directed by a qualified biologist. d) Appoint an ISA certified arborist to monitor construction activities that may occur in areas with trees are designated as "Protected Trees," "Landmark Trees," or "Heritage Trees," to facilitate avoidance of resources not permitted for impact. Before the start of any clearing, excavation, construction or other work on the site, securely fence off every protected tree deemed to be potentially endangered by said site work. Keep such fences in place for duration of all such work. Clearly mark all trees to be removed. e) Establish a scheme for the removal and disposal of logs, brush, earth and other debris that will avoid injury to any protected tree. Where proposed development or other site work could encroach upon the protected perimeter of any protected tree, incorporate special measures to allow the roots to breathe and obtain water and nutrients. Minimize any excavation, cutting, filing, or compaction of the existing ground surface within the protected perimeter. Require that no change in existing ground level occur from the base of any protected tree at any time. Require that no burning or use of equipment with an open flame occur near or within the protected perimeter of any protected tree. f) Require that no storage or dumping of oil, gas, chemicals, or other substances that may be harmful to trees occur from the base of any protected trees, or any other location on the site from which such substances might enter the protected perimeter. Require that no heavy construction equipment or construction materials be operated or stored within a distance from the base of any protected trees. Require that wires, ropes, or other devices not be attached to any protected tree, except as needed for support of the tree. Require that no sign, other than a tag showing the botanical classification, be attached to any protected tree. g) Thoroughly spray the leaves of protected trees with water periodically during construction to	Significant and unavoidable

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	prevent buildup of dust and other pollution that would inhibit leaf transpiration, as directed by the certified arborist. h) If any damage to a protected tree should occur during or as a result of work on the site, the appropriate local agency will be immediately notified of such damage. If, such tree cannot be preserved in a healthy state, as determined by the certified arborist, require replacement of any tree removed with another tree or trees on the same site deemed adequate by the local agency to compensate for the loss of the tree that is removed. Remove all debris created as a result of any tree removal work from the property within two weeks of debris creation, and such debris shall be properly disposed of in accordance with all applicable laws, ordinances, and regulations. Design projects to avoid conflicts with local policies and ordinances protecting biological resources i) Where avoidance is determined to be infeasible, sufficient conservation measures to fulfill the requirements of the applicable policy or ordinance shall be developed, such as to support issuance of a tree removal permit. The consideration of conservation measures may include: – Avoidance strategies – Contribution of in-lieu fees – Planting of replacement trees – Re-landscaping areas with native vegetation post-construction – Other comparable measures developed in consultation with local agency and certified arborist.	
Impact BIO-6: Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.	*SCAG Mitigation Measures* **SMM BIO-1, SMM BIO-2** and **SMM BIO-3.** *Project Level Mitigation Measures* See **PMM BIO-1** through **PMM BIO-5.** **PMM BIO-6:** In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects on HCPs and NCCPs. Such measures may include the following or other comparable measures identified by the Lead Agency: a) Consult with the appropriate federal, state, and/or local agency responsible for the administration of HCPs or NCCPs. b) Wherever practicable and feasible, the project shall be designed to avoid lands preserved under the conditions of an HCP or NCCP. c) Where avoidance is determined to be infeasible, sufficient conservation measures to fulfill the requirements of the HCP and/or NCCP, which would include but not be limited to applicable authorization for incidental take pursuant to Section 7 or 10(a) of the federal Endangered Species Act or Section 2081 of the California ESA, shall be developed to support issuance of an incidental take permit or any other permissions required for development within the HCP/NCCP boundaries. The consideration of additional conservation measures would include the measures outlined in SMM-BIO-2, where applicable.	Significant and unavoidable

Significance Threshold and Project Impacts		Mitigation Measures	Residual Impact
CULTURAL RESOURCES			
Impact CULT-1:	Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5.	*SCAG Mitigation Measure* **SMM CULT-1:** Impacts to cultural resources shall be minimized through cooperation, information sharing, and SCAG's ongoing regional planning efforts such as web-based planning tools for local governments including CA LOTS, and other GIS tools and data services, including, but not limiting to, Map Gallery, GIS library, and GIS applications; and direct technical assistance efforts such as Toolbox Tuesday series and sharing of associated online Training materials. SCAG shall consult with resource agencies such as the National Park Service, Office of Historic Preservation, and Native American Heritage Commission to identify opportunities for early and effective consultation to identify archaeological sites, historical resources, and cemeteries to avoid such resources wherever practicable and feasible and reduce or mitigate for conflicts in compatible land use to the maximum extent practicable. *Project Level Mitigation Measures* **PMM CULT-1**: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to historical resources. Such measures may include the following or other comparable measures identified by the Lead Agency: a) Pursuant to *CEQA Guidelines* Section 15064.5, conduct a record search during the project planning phase at the appropriate Information Center to determine whether the project area has been previously surveyed and whether historical resources were identified. b) During the project planning phase, retain a qualified architectural historian, defined as an individual who meets the Secretary of the Interior's (SOI) Professional Qualification Standards (PQS) in Architectural History, to conduct historic architectural surveys if a built environment resource greater than 45 years in age may be affected by the project or if recommended by the Information Center. c) Comply with Section 106 of the National Historic Preservation Act (NHPA) including, but not limited to, projects for which federal funding or approval is required for the individual project. This law requires federal agencies to evaluate the impact of their actions on resources included in or eligible for listing in the National Register. Federal agencies must coordinate with the State Historic Preservation Officer in evaluating impacts and developing mitigation. These mitigation measures may include, but are not limited to the following: – Employ design measures to avoid historical resources and undertake adaptive reuse where appropriate and feasible. If resources are to be preserved, as feasible, carry out the maintenance, repair, stabilization, rehabilitation, restoration, preservation, conservation or reconstruction in a manner consistent with the Secretary of the Interior's Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings. If resources would be impacted, impacts should be minimized to the extent feasible. – Where feasible, noise buffers/walls and/or visual buffers/landscaping should be constructed to preserve the contextual setting of significant built resources. d) If a project requires the relocation, rehabilitation, or alteration of an eligible historical resource, the Secretary of the Interior's Standards for the Treatment of Historic Properties should be used	Significant and unavoidable

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	to the maximum extent possible to ensure the historical significance of the resource is not impaired. The application of the standards should be overseen by an architectural historian or historic architect meeting the SOI PQS. Prior to any construction activities that may affect the historical resource, a report, meeting industry standards, should identify and specify the treatment of character-defining features and construction activities and be provided to the Lead Agency for review and approval. e) If a project would result in the demolition or significant alteration of a historical resource eligible for or listed in the National Register of Historic Places (NRHP), California Register of Historical Resources (CRHR), or local register, recordation should take the form of Historic American Buildings Survey (HABS), Historic American Engineering Record (HAER), or Historic American Landscape Survey (HALS) documentation, and should be performed by an architectural historian or historian who meets the SOI PQS. Recordation should meet the SOI Standards and Guidelines for Architectural and Engineering, which defines the products acceptable for inclusion in the HABS/HAER/HALS collection at the Library of Congress. The specific scope and details of documentation should be developed at the project level in coordination with the Lead Agency. f) During the project planning phase, obtain a qualified archaeologist, defined as one who meets the SOI PQS for archaeology, to conduct a record search at the appropriate Information Center of the California Historical Resources Information System (CHRIS) to determine whether the project area has been previously surveyed and whether resources were identified. g) Contact the NAHC to request a Sacred Lands File search and a list of relevant Native American contacts who may have additional information. h) During the project planning phase, obtain a qualified archaeologist or architectural historian (depending on applicability) to conduct archaeological and/or historic architectural surveys as recommended by the qualified professional, the Lead Agency, or the Information Center. In the event the records indicate that no previous survey has been conducted, the qualified professional or Information Center will make a recommendation on whether a survey is warranted based on the sensitivity of the project area for archaeological resources. i) If potentially significant archaeological resources are identified through survey, and impacts to these resources cannot be avoided, a Phase II Testing and Evaluation investigation should be performed by a qualified archaeologist prior to any construction-related ground-disturbing activities to determine significance. If resources determined significant or unique through Phase II testing, and avoidance is not possible, appropriate resource-specific mitigation measures should be established by the lead agency and undertaken by qualified personnel. These might include a Phase III data recovery program implemented by a qualified archaeologist and performed in accordance with the OHP's Archaeological Resource Management Reports (ARMR): Recommended Contents and Format and Guidelines for Archaeological Research Designs. Additional options can include 1) interpretative signage, or 2) educational outreach that helps inform the public of the past activities that occurred in this area. Archaeological materials collected from a significant resource should be curated with a recognized scientific or educational repository j) If a record search or archaeological assessment indicates that the project is located in an area	

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	sensitive for archaeological resources, as determined by the Lead Agency in consultation with a qualified archaeologist, retain an archaeological monitor to observe ground disturbing operations, including but not limited to grading, excavation, trenching, or removal of existing features of the subject property. The archaeological monitor should be supervised by an archaeologist meeting the SOI PQS k) Conduct construction activities and excavation to avoid cultural resources (if identified). If avoidance is not feasible, further work may be needed to determine the importance of a resource. Retain a qualified archaeologist, and/or as appropriate, a qualified architectural historian who should make recommendations regarding the work necessary to assess significance. If the cultural resource is determined to be significant under state or federal guidelines, impacts to the cultural resource will need to be mitigated. l) Stop construction activities and excavation in the area where cultural resources are found until a qualified archaeologist can determine whether these resources are significant. If the archaeologist determines that the discovery is significant, it should be curated with a recognized scientific or educational repository.	
Impact CULT-2: Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5.	*SCAG Mitigation Measure* See **SMM CULT-1.** *Project Level Mitigation Measures* See **PMM CULT-1.**	Significant and unavoidable
Impact CULT-3: Disturb human remains, including those interred outside of dedicated cemeteries.	*SCAG Mitigation Measures* See **SMM CULT-1** *Project Level Mitigation Measures* **PMM CULT-2:** In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to human remains. Such measures may include the following or other comparable measures identified by the Lead Agency: a) In the event of discovery or recognition of any human remains during construction or excavation activities associated with the project, in any location other than a dedicated cemetery, cease further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until the coroner of the county in which the remains are discovered has been informed and has determined that no investigation of the cause of death is required. b) If any discovered remains are of Native American origin: – Contact the County Coroner to contact the NAHC to designate a Native American Most Likely Descendant (MLD). The MLD should make a recommendation to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods. This may include obtaining a qualified archaeologist or team of archaeologists to properly excavate the human remains.	Significant and unavoidable

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	– If the NAHC is unable to identify a MLD, or the MLD fails to make a recommendation within 48 hours after being notified by the commission, or the landowner or his representative rejects the recommendation of the MLD and the mediation by the NAHC fails to provide measures acceptable to the landowner, obtain a culturally affiliated Native American monitor, and an archaeologist, if recommended by the Native American monitor, and rebury the Native American human remains and any associated grave goods, with appropriate dignity, on the property and in a location that is not subject to further subsurface disturbance.	
ENERGY		
Impact ENR-1: Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.	No mitigation is required	Less than significant
Impact ENR-2: Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.	No mitigation is required	Less than significant
GEOLOGY AND SOILS		
Impact GEO-1: Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: (i) rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42; (ii) strong seismic ground shaking; (iii) seismic-related ground failure, including liquefaction; (iv) landslides.	No mitigation is required	Less than significant
Impact GEO-2: Result in substantial soil erosion or the loss of topsoil	*SCAG Mitigation Measure* **SMM-GEO-1:** SCAG shall facilitate the minimization of substantial soil erosion or loss of topsoil through cooperation, information sharing, and regional program development as part of SCAG's ongoing regional planning efforts. Such efforts shall include web-based planning tools for local government including CA LOTS, and other GIS tools and data services, including, but not limited to, Map Gallery, GIS library, and GIS applications, and direct technical assistance efforts such as training series and sharing of associated online training materials. Resource agencies, such as the U.S. Geology Survey, shall be consulted during this update process. *Project Mitigation Measures* **PMM-GEO-1:** In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to historical resources. Such measures may include the following	Significant and unavoidable

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	or other comparable measures identified by the Lead Agency: a) Consistent with the CBC and local regulatory agencies with oversight of development associated with the Plan, ensure that site-specific geotechnical investigations conducted by a qualified geotechnical expert are conducted to ascertain soil types prior to preparation of project designs. These investigations can and should identify areas of potential failure and recommend remedial geotechnical measures to eliminate any problems. b) Consistent with the requirements of the State Water Resources Control Board (SWRCB) for projects over one acre in size, obtain coverage under the General Construction Activity Storm Water Permit (General Construction Permit) issued by the SWRCB and prepare a stormwater pollution prevention plan (SWPPP) and submit the plan for review and approval by the Regional Water Quality Control Board (RWQCB). At a minimum, the SWPPP should include a description of construction materials, practices, and equipment storage and maintenance; a list of pollutants likely to contact stormwater; site-specific erosion and sedimentation control practices; a list of provisions to eliminate or reduce discharge of materials to stormwater; best management practices (BMPs); and an inspection and monitoring program. c) Consistent with the requirements of the SWRCB and local regulatory agencies with oversight of development associated with the Plan, ensure that project designs provide adequate slope drainage and appropriate landscaping to minimize the occurrence of slope instability and erosion. Design features should include measures to reduce erosion caused by storm water. Road cuts should be designed to maximize the potential for revegetation. d) Consistent with the CBC and local regulatory agencies with oversight of development associated with the Plan, ensure that, prior to preparing project designs, new and abandoned wells are identified within construction areas to ensure the stability of nearby soils.	
Impact GEO-3: Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.	No mitigation is required	Less than significant
Impact GEO-4: Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.	No mitigation is required	Less than significant
Impact GEO-5: Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.	No mitigation is required	Less than significant
Impact GEO-6: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	*SCAG Mitigation Measure* **SMM-GEO-3:** Impacts to paleontological resources shall be minimized through cooperation, information sharing, and SCAG's ongoing regional planning efforts such as web-based planning tools for local	Significant and unavoidable

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	governments including CA LOTS, and other GIS tools and data services, including, but not limiting to, Map Gallery, GIS library, and GIS applications; and direct technical assistance efforts such as training series and sharing of associated online training materials. SCAG shall consult with resource agencies such as the National Park Service, United States Forest Service, and Bureau of Land Management to identify opportunities for early and effective consultation to identify unique paleontological resources and unique geological features to avoid such resources wherever practicable and feasible and reduce or mitigation for conflicts in compatible land use to the maximum extent practicable. *Project Level Mitigation Measures* **PMM-GEO-1:** In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to paleontological resources. Such measures may include the following or other comparable measures identified by the Lead Agency: a) Ensure compliance with the Paleontological Resources Preservation Act, the Federal Land Policy and Management Act, the Antiquities Act, Section 5097.5 of the Public Resources Code (PRC), adopted county and city general plans, and other federal, state and local regulations, as applicable and feasible, by adhering to and incorporating the performance standards and practices from the 2010 Society for Vertebrate Paleontology (SVP) standard procedures for the assessment and mitigation of adverse impacts to paleontological resources. b) Obtain review by a qualified paleontologist (e.g. who meets the SVP standards for a Principal Investigator or Project Paleontologist or the Bureau of Land Management (BLM) standards for a Principal Investigator), to determine if the project has the potential to require ground disturbance of parent material with potential to contain unique paleontological or resources, or to require the substantial alteration of a unique geologic feature. The assessment should include museum records searches, a review of geologic mapping and the scientific literature, geotechnical studies (if available), and potentially a pedestrian survey, if units with paleontological potential are present at the surface. c) Avoid exposure or displacement of parent material with potential to yield unique paleontological resources. d) Where avoidance of parent material with the potential to yield unique paleontological resources is not feasible: 1) All on-site construction personnel receive Worker Education and Awareness Program (WEAP) training prior to the commencement of excavation work to understand the regulatory framework that provides for protection of paleontological resources and become familiar with diagnostic characteristics of the materials with the potential to be encountered. 2) A qualified paleontologist prepares a Paleontological Resource Management Plan (PRMP) to guide the salvage, documentation and repository of unique paleontological resources encountered during construction. The PRMP should adhere to and incorporate the performance standards and practices from the 2010 SVP Standard procedures for the assessment and mitigation of adverse impacts to paleontological resources. If unique	

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	paleontological resources are encountered during construction, use a qualified paleontologist to oversee the implementation of the PRMP. 3) Monitor ground disturbing activities in parent material, with a moderate to high potential to yield unique paleontological resources using a qualified paleontological monitor meeting the standards of the SVP or the BLM to determine if unique paleontological resources are encountered during such activities, consistent with the specified or comparable protocols. 4) Identify where ground disturbance is proposed in a geologic unit having the potential for containing fossils and specify the need for a paleontological monitor to be present during ground disturbance in these areas. e) Avoid routes and project designs that would permanently alter unique geological features. f) Salvage and document adversely affected resources sufficient to support ongoing scientific research and education. g) Significant recovered fossils should be prepared to the point of curation, identified by qualified experts, listed in a database to facilitate analysis, and deposited in a designated paleontological curation facility. h) Following the conclusion of the paleontological monitoring, the qualified paleontologist should prepare a report stating that the paleontological monitoring requirement has been fulfilled and summarize the results of any paleontological finds. The report should be submitted to the lead CEQA and the repository curating the collected artifacts, and should document the methods and results of all work completed under the PRMP, including treatment of paleontological materials, results of specimen processing, analysis, and research, and final curation arrangements.	
GREENHOUSE GASES		
Impact GHG-1: Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.	*SCAG Mitigation Measures* **SMM GHG-1:** SCAG, in partnership with local air districts, shall continue to work with the counties and cities to adopt qualified GHG reduction plans (e.g., climate action plans [CAPs], develop GHG-reducing planning policies, and implement local climate initiatives. These reductions can be achieved through a combination of programs, that implement plans developed collaboratively, including ZNE in new construction, retrofits of existing buildings, incentivizing the development of renewable energy sources that serve both new and existing land uses, as well as measures to reduce GHG emissions form transportation sources. **SMM GHG-2:** SCAG shall encourage energy efficient design for buildings, through SCAG's Sustainable Communities Program potentially including strengthening local building codes for new construction and renovation to achieve a higher level of energy efficiency. **SMM GHG-3:** SCAG shall continue working with partners including universities, utilities, regulating agencies, the private sector and NGO's, and member agencies to support deployment of electric vehicle (EV) charging in the region. SCAG shall provide resources to member agencies and supply them with available information and data so that they can better take advantage of legislation and funding for EV charging.	Significant and unavoidable

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	SMM GHG-4: SCAG shall continue to pursue partnerships with SCE, municipal utilities, locally operated electricity providers and CPUC to promote energy efficient development in the SCAG region, through coordinated planning and data and information sharing activities. *Project Level Mitigation Measures:* **PMM-GHG-1:** In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to greenhouse gas emissions. Such measures may include the following or other comparable measures identified by the Lead Agency: a) Integrate green building measures consistent with CALGreen (California Building Code Title 24), local building codes and other applicable laws, into project design including: i. Use energy efficient materials in building design, construction, rehabilitation, and retrofit. ii. Install energy-efficient lighting, heating, and cooling systems (cogeneration); water heaters; appliances; equipment; and control systems. iii. Reduce lighting, heating, and cooling needs by taking advantage of light-colored roofs, trees for shade, and sunlight. iv. Incorporate passive environmental control systems that account for the characteristics of the natural environment. v. Use high-efficiency lighting and cooking devices. vi. Incorporate passive solar design. vii. Use high-reflectivity building materials and multiple glazing. viii. Prohibit gas-powered landscape maintenance equipment. ix. Install electric vehicle charging stations. x. Reduce wood burning stoves or fireplaces. xi. Provide bike lanes accessibility and parking at residential developments. b) Reduce emissions resulting from projects through implementation of project features, project design, or other measures, such as those described in Appendix F of the State CEQA Guidelines. c) Include off-site measures to mitigate a project's emissions. d) Measures that consider incorporation of Best Available Control Technology (BACT) during design, construction and operation of projects to minimize GHG emissions, including but not limited to: i. Use energy and fuel-efficient vehicles and equipment; ii. Deployment of zero- and/or near zero emission technologies; iii. Use lighting systems that are energy efficient, such as LED technology; iv. Use the minimum feasible amount of GHG-emitting construction materials; v. Use cement blended with the maximum feasible amount of flash or other materials	

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	that reduce GHG emissions from cement production; vi. Incorporate design measures to reduce GHG emissions from solid waste management through encouraging solid waste recycling and reuse; vii. Incorporate design measures to reduce energy consumption and increase use of renewable energy; viii. Incorporate design measures to reduce water consumption; ix. Use lighter-colored pavement where feasible; x. Recycle construction debris to maximum extent feasible; xi. Plant shade trees in or near construction projects where feasible; and xii. Solicit bids that include concepts listed above. e) Measures that encourage transit use, carpooling, bike-share and car-share programs, active transportation, and parking strategies, including, but not limited to the following: i. Promote transit-active transportation coordinated strategies; ii. Increase bicycle carrying capacity on transit and rail vehicles; iii. Improve or increase access to transit; iv. Increase access to common goods and services, such as groceries, schools, and day care; v. Incorporate affordable housing into the project; vi. Incorporate the neighborhood electric vehicle network; vii. Orient the project toward transit, bicycle and pedestrian facilities; viii. Improve pedestrian or bicycle networks, or transit service; ix. Provide traffic calming measures; x. Provide bicycle parking; xi. Limit or eliminate park supply; xii. Unbundle parking costs; xiii. Provide parking cash-out programs; xiv. Implement or provide access to commute reduction program; f) Incorporate bicycle and pedestrian facilities into project designs, maintaining these facilities, and providing amenities incentivizing their use; and planning for and building local bicycle projects that connect with the regional network; g) Improving transit access to rail and bus routes by incentives for construction of transit facilities within developments, and/or providing dedicated shuttle service to transit stations; and h) Adopting employer trip reduction measures to reduce employee trips such as vanpool and carpool programs, providing end-of-trip facilities, and telecommuting programs including but not limited to measures that: i. Provide car-sharing, bike sharing, and ride-sharing programs;	

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	ii. Provide transit passes; iii. Shift single occupancy vehicle trips to carpooling or vanpooling, for example providing ride-matching services; iv. Provide incentives or subsidies that increase that use of modes other than single-occupancy vehicle; v. Provide on-site amenities at places of work, such as priority parking for carpools and vanpools, secure bike parking, and showers and locker rooms; vi. Provide employee transportation coordinators at employment sites; vii. Provide a guaranteed ride home service to users of non-auto modes. i) Designate a percentage of parking spaces for ride-sharing vehicles or high-occupancy vehicles, and provide adequate passenger loading and unloading for those vehicles; j) Land use siting and design measures that reduce GHG emissions, including: i. Developing on infill and brownfields sites; ii. Building compact and mixed-use developments near transit; iii. Retaining on-site mature trees and vegetation, and planting new canopy trees; iv. Measures that increase vehicle efficiency, encourage use of zero and low emissions vehicles, or reduce the carbon content of fuels, including constructing or encouraging construction of electric vehicle charging stations or neighborhood electric vehicle networks, or charging for electric bicycles; and v. Measures to reduce GHG emissions from solid waste management through encouraging solid waste recycling and reuse.	
Impact GHG-2: Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.	*SCAG Mitigation Measures* See **SMM GHG -1, SMM GHG-2, SMM GHG-3,** and **SMM GHG-4.** *Project Level Mitigation Measures* See **PMM-GHG-1.**	Significant and unavoidable
HAZARDS AND HAZARDOUS MATERIALS		
Impact HAZ-1: Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	*SCAG Mitigation Measures* **SMM HAZ-1:** SCAG shall work with the U.S. DOT, the Office of Environmental Service Caltrans, and the private sector to continue to conduct driver safety training programs and enforce speed limits on roadways. In an effort to reduce risks associated with the transport of hazardous materials in the SCAG region, SCAG shall encourage the U.S. Department of Transportation and the California Highway Patrol to continue to enforce speed limits and existing regulations governing goods movement and hazardous materials transportation. **SMM HAZ-2:** SCAG shall notify member agencies of the importance of ensuring that construction and operation of transportation projects provide for the safe transport and disposal of hazardous waste, consistent with the provisions of HMR, 49 CFR Parts 171–180. **SMM HAZ-3:** SCAG shall coordinate with the Office of Environmental Services to identify any transportation	Significant and unavoidable

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	infrastructure elements within the SCAG region where risks to people and property occur at an above-average incident level, potentially warranting consideration for remedial design in future regional transportation plans (RTPs). *Project Level Mitigation Measures* **PMM HAZ-1:** In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to the routine transport, use, or disposal of hazardous materials, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency: a) Where the construction or operation of projects involves the transport of hazardous material, provide a written plan of proposed routes of travel demonstrating use of roadways designated for the transport of such materials. b) Specify Project requirements for interim storage and disposal of hazardous materials during construction and operation. Storage and disposal strategies must be consistent with applicable federal, state, and local statutes and regulations. Specify the appropriate procedures for interim storage and disposal of hazardous materials, anticipated to be required in support of operations and maintenance activities, in conformance with applicable federal, state, and local statutes and regulations, in the business plan for projects as applicable and appropriate. c) Submit a Hazardous Materials Business/Operations Plan for review and approval by the appropriate local agency. Once approved, keep the plan on file with the Lead Agency (or other appropriate government agency) and update, as applicable. The purpose of the Hazardous Materials Business/Operations Plan is to ensure that employees are adequately trained to handle the materials and provides information to the local fire protection agency should emergency response be required. The Hazardous Materials Business/Operations Plan should include the following: o The types of hazardous materials or chemicals stored and/or used on-site, such as petroleum fuel products, lubricants, solvents, and cleaning fluids. o The location of such hazardous materials. o An emergency response plan including employee training information. o A plan that describes the way these materials are handled, transported and disposed. d) Follow manufacturer's recommendations on use, storage, and disposal of chemical products used in construction. e) Avoid overtopping construction equipment fuel gas tanks. f) Properly contain and remove grease and oils during routine maintenance of construction equipment. g) Properly dispose of discarded containers of fuels and other chemicals. h) Prior to shipment remove the most volatile elements, including flammable natural gas liquids, as feasible. i) Identify and implement more stringent tank car safety standards.	

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	j) Improve rail transportation route analysis, and modification of routes based on that analysis. k) Use the best available inspection equipment and protocols and implement positive train control. l) Reduce train car speeds to 40 miles per hour when passing through urbanized areas of any size. m) Limit storage of crude oil tank cars in urbanized areas of any size and provide appropriate security in storage yards for all shipments. n) Notify in advance county and city emergency operations offices of all crude oil shipments, including a contact number that can provide real-time information in the event of an oil train derailment or accident. o) Report quarterly hazardous commodity flow information, including classification and characterization of materials being transported, to all first response agencies (49 Code Fed. Regs. 15.5) along the mainline rail routes used by trains carrying crude oil identified. p) Fund training and outfitting emergency response crews that includes the cost of backfilling personnel while in training. q) Undertake annual emergency responses scenario/field based training including Emergency Operations Center Training activations with local emergency response agencies.	
Impact HAZ-2: Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.	*SCAG Mitigation Measures* See **SMM HAZ-1** through **SMM HAZ-3.** *Project Level Mitigation Measures* See **PMM HAZ-1**. **PMM HAZ-2:** In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce hazards related to the reasonably foreseeable upsets and accidents involving the release of hazardous materials, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency: a) Removal of the most volatile elements, including flammable natural gas liquids, prior to shipment; b) More stringent tank car safety standards; c) Improved rail transportation route analysis, and modification of routes based on that analysis; d) Utilization of the best available inspection equipment and protocols, and implementation of positive train control; e) Reduced train car speeds to 40 miles per hour when passing through urbanized areas of any size; f) Limitations on storage of hazardous materials tank cars in urbanized areas of any size and provide appropriate security in storage yards for all shipments; g) Advance notification to county and city emergency operations offices of all crude oil and hazardous materials shipments, including a contact number that can provide real-time	Significant and unavoidable

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	information in the event of an oil train derailment or accident; h) Quarterly hazardous commodity flow information, including classification and characterization of materials being transported, to all first response agencies (49 Code Fed. Regs. 15.5) along the mainline rail routes used by trains carrying hazardous materials.	
Impact HAZ-3: Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school	*SCAG Mitigation Measures* See **SMM HAZ-1** through **SMM HAZ-3**. *Project Level Mitigation Measures* See **PMM HAZ-1** and **PMM HAZ-2**. **PMM HAZ-3:** In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to the release of hazardous materials within one-quarter mile of schools, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency: a) Where the construction and operation of projects involves the transport of hazardous materials, avoid transport of such materials within one-quarter mile of schools, when school is in session, wherever feasible. b) Where it is not feasible to avoid transport of hazardous materials, within one-quarter mile of schools on local streets, provide notifications of the anticipated schedule of transport of such materials.	Significant and unavoidable
Impact HAZ-4: Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment.	*SCAG Mitigation Measures* See **SMM HAZ-1** through **SMM HAZ-3**. *Project Level Mitigation Measures* **PMM HAZ-4:** In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to projects that are located on a site which is included on the Cortese List, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency: a) For any listed sites or sites that have the potential for residual hazardous materials as a result of historic land uses, complete a Phase I Environmental Site Assessment, including a review and consideration of data from all known databases of contaminated sites, during the process of planning, environmental clearance, and construction for projects. b) Where warranted due to the known presence of contaminated materials, submit to the appropriate agency responsible for hazardous materials/wastes oversight a Phase II Environmental Site Assessment report if warranted by a Phase I report for the project site. The reports should make recommendations for remedial action, if appropriate, and be signed by a Registered Environmental Assessor, Professional Geologist, or Professional Engineer. c) Implement the recommendations provided in the Phase II Environmental Site Assessment report, where such a report was determined to be necessary for the construction or operation of the project, for remedial action.	Significant and unavoidable

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	d) Submit a copy of all applicable documentation required by local, state, and federal environmental regulatory agencies, including but not limited to: permit applications, Phase I and II Environmental Site Assessments, human health and ecological risk assessments, remedial action plans, risk management plans, soil management plans, and groundwater management plans. e) Conduct soil sampling and chemical analyses of samples, consistent with the protocols established by the U.S. EPA to determine the extent of potential contamination beneath all underground storage tanks (USTs), elevator shafts, clarifiers, and subsurface hydraulic lifts when on-site demolition or construction activities would potentially affect a particular development or building. f) Consult with the appropriate local, state, and federal environmental regulatory agencies to ensure sufficient minimization of risk to human health and environmental resources, both during and after construction, posed by soil contamination, groundwater contamination, or other surface hazards including, but not limited to, underground storage tanks, fuel distribution lines, waste pits and sumps. g) Obtain and submit written evidence of approval for any remedial action if required by a local, state, or federal environmental regulatory agency. h) Cease work if soil, groundwater, or other environmental medium with suspected contamination is encountered unexpectedly during construction activities (e.g., identified by odor or visual staining, or if any underground storage tanks, abandoned drums, or other hazardous materials or wastes are encountered), in the vicinity of the suspect material. Secure the area as necessary and take all appropriate measures to protect human health and the environment, including but not limited to, notification of regulatory agencies and identification of the nature and extent of contamination. Stop work in the areas affected until the measures have been implemented consistent with the guidance of the appropriate regulatory oversight authority. i) Soil generated by construction activities should be stockpiled on-site in a secure and safe manner. All contaminated soils determined to be hazardous or non-hazardous waste must be adequately profiled (sampled) prior to acceptable reuse or disposal at an appropriate off-site facility. Complete sampling and handling and transport procedures for reuse or disposal, in accordance with applicable local, state and federal laws and policies. j) Groundwater pumped from the subsurface should be contained on-site in a secure and safe manner, prior to treatment and disposal, to ensure environmental and health issues are resolved pursuant to applicable laws and policies. Utilize engineering controls, which include impermeable barriers to prohibit groundwater and vapor intrusion into the building. k) As needed and appropriate, prior to issuance of any demolition, grading, or building permit, submit for review and approval by the Lead Agency (or other appropriate government agency) written verification that the appropriate federal, state and/or local oversight authorities, including but not limited to the Regional Water Quality Control Board (RWQCB), have granted all required clearances and confirmed that the all applicable standards, regulations, and conditions have been met for previous contamination at the site.	

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	l) Develop, train, and implement appropriate worker awareness and protective measures to assure that worker and public exposure is minimized to an acceptable level and to prevent any further environmental contamination as a result of construction. m) If asbestos-containing materials (ACM) are found to be present in building materials to be removed, submit specifications signed by a certified asbestos consultant for the removal, encapsulation, or enclosure of the identified ACM in accordance with all applicable laws and regulations, including but not necessarily limited to: California Code of Regulations, Title 8; Business and Professions Code; Division 3; California Health and Safety Code Section 25915-25919.7; and other local regulations. n) Where projects include the demolitions or modification of buildings constructed prior to 1978, complete an assessment for the potential presence or lack thereof of ACM, lead based paint, and any other building materials or stored materials classified as hazardous waste by state or federal law. o) Where the remediation of lead-based paint has been determined to be required, provide specifications to the appropriate agency, signed by a certified Lead Supervisor, Project Monitor, or Project Designer for the stabilization and/or removal of the identified lead paint in accordance with all applicable laws and regulations, including but not necessarily limited to: California Occupational Safety and Health Administration's (Cal OSHA's) Construction Lead Standard, Title 8 California Code of Regulations (CCR) Section 1532.1 and Department of Health Services (DHS) Regulation 17 CCR Sections 35001–36100, as may be amended. If other materials classified as hazardous waste by state or federal law are present, the project sponsor should submit written confirmation to the appropriate local agency that all state and federal laws and regulations should be followed when profiling, handling, treating, transporting, and/or disposing of such materials.	
Impact HAZ-5: For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area	*SCAG Mitigation Measures* See **SMM NOISE-1.** **SMM HAZ-5:** SCAG shall continue to collaborate with key stakeholders on regional aviation planning issues through the Aviation Technical Advisory Committee (ATAC). The ATAC is a partnership between the airports, transportation agencies and commissions, experts, and other community members. *Project Level Mitigation Measures* See **PMM NOISE-1.**	Significant and unavoidable
Impact HAZ-6: Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan	*SCAG Mitigation Measures* See **SMM HAZ-1** through **SMM HAZ-5** and **SMM TRA-5.** *Project Level Mitigation Measures* See **PMM HAZ-1** through **PMM HAZ-4** and **PMM TRA-5.** **PMM HAZ-5:** In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects which may impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan, as applicable and feasible. Such	Significant and unavoidable

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	measures may include the following or other comparable measures identified by the Lead Agency: a) Continue to coordinate locally and regionally based on ongoing review and integration of projected transportation and circulation conditions. b) Develop new methods of conveying projected and real time information to citizens using emerging electronic communication tools including social media and cellular networks; c) Continue to evaluate lifeline routes for movement of emergency supplies and evacuation.	
Impact HAZ-7: Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.	This impact is addressed under **Section 3.20, Wildfire, Impact WF-2**. See below.	
HYDROLOGY AND WATER QUALITY		
Impact HYD-1: Potential to violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.	*SCAG Mitigation Measure* **SMM HYD-1:** SCAG shall continue to work with local jurisdictions and water quality agencies to encourage regional-scale planning for improved water quality management and pollution prevention. Future impacts to water quality shall be avoided to the extent practical and feasible through cooperative planning, information sharing, and comprehensive pollution control measure development within the SCAG region. This cooperative planning shall occur as part of current and existing coordination, an integral part of SCAG's ongoing regional planning efforts. *Project Level Mitigation Measures* **PMM HYD-1:** In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects from violation of any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency: a) Complete, and have approved, a Stormwater Pollution Prevention Plan (SWPPP) prior to initiation of construction. b) Implement Best Management Practices to reduce the peak stormwater runoff from the project site to the maximum extent practicable. c) Comply with the Caltrans storm water discharge permit as applicable; and identify and implement Best Management Practices to manage site erosion, wash water runoff, and spill control. d) Complete, and have approved, a Standard Urban Stormwater Management Plan, prior to occupancy of residential or commercial structures. e) Ensure adequate capacity of the surrounding stormwater system to support stormwater runoff from new or rehabilitated structures or buildings. f) Prior to construction within an area subject to Section 404 of the Clean Water Act, obtain all required permit approvals and certifications for construction within the vicinity of a watercourse: g) Where feasible, restore or expand riparian areas such that there is no net loss of impervious	Significant and unavoidable

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	surface as a result of the project. h) Install structural water quality control features, such as drainage channels, detention basins, oil and grease traps, filter systems, and vegetated buffers to prevent pollution of adjacent water resources by polluted runoff where required by applicable urban storm water runoff discharge permits, on new facilities. i) Provide operational best management practices for street cleaning, litter control, and catch basin cleaning are implemented to prevent water quality degradation in compliance with applicable storm water runoff discharge permits; and ensure treatment controls are in place as early as possible, such as during the acquisition process for rights-of-way, not just later during the facilities design and construction phase. j) Comply with applicable municipal separate storm sewer system discharge permits as well as Caltrans' storm water discharge permit including long-term sediment control and drainage of roadway runoff. k) Incorporate as appropriate treatment and control features such as detention basins, infiltration strips, and porous paving, other features to control surface runoff and facilitate groundwater recharge into the design of new transportation projects early on in the process to ensure that adequate acreage and elevation contours are provided during the right-of-way acquisition process. l) Upgrade stormwater drainage facilities to accommodate any increased runoff volumes. These upgrades may include the construction of detention basins or structures that will delay peak flows and reduce flow velocities, including expansion and restoration of wetlands and riparian buffer areas. System designs shall be completed to eliminate increases in peak flow rates from current levels. m) Encourage Low Impact Development (LID) and incorporation of natural spaces that reduce, treat, infiltrate and manage stormwater runoff flows in all new developments, where practical and feasible.	
Impact HYD-2: Potential to substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.	*SCAG Mitigation Measure* **SMM HYD-2:** SCAG shall build from existing efforts including those at the sub-regional and local level and shall continue to work with local jurisdictions and water agencies, to encourage regional-scale planning for improved stormwater management and groundwater recharge, including consideration of alternative recharge technologies and practices. Future adverse impacts may be avoided through cooperative planning, information sharing, and comprehensive implementation efforts within the SCAG region. *Project Level Mitigation Measures* **PMM HYD-2:** In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects from violation of any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:	Significant and unavoidable

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

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
Impact HYD-4: In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.	*SCAG Mitigation Measures* **SMM-HYD-4:** SCAG shall continue to work with local jurisdictions and water quality agencies to encourage flood protection and prevent development in flood hazard areas that do not have appropriate protections. This shall be accomplished through cooperation and information sharing regarding specific alignments and rights-of-way planning for RTP projects, and regional program development as part of SCAG's ongoing regional planning efforts. These include but are not limited to web-based data distribution planning tools and sustainability programs in conjunction with local governments. Such services would potentially consist of an inventory of areas located in or near a 100-year flood hazard zone or hazard areas that would potentially be affected by a failure of a levee or dam; or inundation by seiche, tsunami, or mudflow. *Project Level Mitigation Measures* **PMM-HYD-4:** In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures capable of avoiding or reducing the potential impacts of locating structures that would impede or redirect flood flows, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency: a) Ensure that all roadbeds for new highway and rail facilities be elevated at least one foot above the 100-year base flood elevation. Since alluvial fan flooding is not often identified on FEMA flood maps, the risk of alluvial fan flooding should be evaluated and projects should be sited to avoid alluvial fan flooding. Delineation of floodplains and alluvial fan boundaries should attempt to account for future hydrologic changes caused by global climate change.	Significant and unavoidable
Impact HYD-5: Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.	*SCAG Mitigation Measure* See **SMM HYD-2.** *Project Level Mitigation Measure* See **PMM HYD-2.**	Significant and unavoidable
LAND USE		
Impact LU-1: Potential for the Plan to physically divide an established community	*SCAG Mitigation Measures* **SMM LU-1:** SCAG shall coordinate with local County Transportation Commissions, Caltrans and other implementing agencies when siting new facilities in residential areas to facilitate minimizing future impacts of transportation projects on established communities, through cooperation, information sharing, and regional program development as part of SCAG's ongoing regional planning efforts to promote best planning practices. *Project Level Mitigation Measures* **PMM LU-1:** In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects that physically divide a community, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency: a) Facilitate good design for land use projects that build upon and improve existing circulation patterns	Significant and unavoidable

Significance Threshold and Project Impacts		Mitigation Measures	Residual Impact
		b) Encourage implementing agencies to orient transportation projects to minimize impacts on existing communities by: – Selecting alignments within or adjacent to existing public rights of way. – Design sections above or below-grade to maintain viable vehicular, cycling, and pedestrian connections between portions of communities where existing connections are disrupted by the transportation project. – Wherever feasible incorporate direct crossings, overcrossings, or under crossings at regular intervals for multiple modes of travel (e.g., pedestrians, bicyclists, vehicles). c) Where it has been determined that it is infeasible to avoid creating a barrier in an established community, consider other measures to reduce impacts, including but not limited to: – Alignment shifts to minimize the area affected. – Reduction of the proposed right-of-way take to minimize the overall area of impact. – Provisions for bicycle, pedestrian, and vehicle access across improved roadways.	
Impact LU-2:	Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect	*SCAG Mitigation Measures* **SMM LU-2:** SCAG shall continue to promote the Intergovernmental Review (IGR) Program as an internal and external informational tool by reviewing and monitoring all projects submitted to SCAG for review and working with local jurisdictions to ensure that submitted projects support the most currently adopted Connect SoCal Plan. SCAG shall provide comment letters on regionally significant projects to recommend additional resources to help the lead agency support or develop a projects that are consistent with the Plan, as appropriate. The IGR Mapping Tool can also be utilized by local jurisdictions to assess regional impacts. To visit the IGR Mapping tool, please go to: https://maps.scag.ca.gov/IGR/. For more information on SCAG's IGR Program, please visit: http://www.scag.ca.gov/programs/Pages/IGR.aspx. **SMM LU-3:** SCAG shall encourage cities and counties in the region to provide SCAG with electronic versions of their most recent general plan (and associated environmental document) and any updates as they are produced. **SMM LU-4:** SCAG shall continue to provide targeted technical services such as GIS and data support for cities and counties to update their general plans at least every ten years, as recommended by the Governor's Office of Planning and Research. **SMM LU-5:** SCAG shall provide technical assistance and regional leadership to encourage implementation of the Plan goals and strategies that integrate growth and land use planning with the existing and planned transportation network. *Project Level Mitigation Measures* **PMM LU-2:** In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects that physically divide a community, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency: a) When an inconsistency with the adopted general plan policy or land use regulation (adopted for the purpose of avoiding or mitigating an impact) is identified modify the transportation or	Significant and unavoidable

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	land use project to eliminate the conflict; or, determine if the environmental, social, economic, and engineering benefits of the project warrant an amendment to the general plan or land use regulation.	
MINERAL RESOURCES		
Impact MIN-1: Potential to result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.	*SCAG Mitigation Measures* **SMM MIN-1:** SCAG shall coordinate with the Department of Conservation, California Geological Survey to maintain a database of (1) available mineral resources in the SCAG region including permitted and unpermitted aggregate resources and (2) the anticipated 50-year demand for aggregate and other mineral resources. Based on the results of this survey, SCAG shall work with local agencies on strategies to address anticipated demand, including identifying future sites that may seek permitting and working with industry experts to identify ways to encourage and increase recycling to reduce the demand for aggregate. *Project Level Mitigation Measures* **PMM MIN-1:** In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce the use of mineral resources that could be of value to the region, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency: a) Provide for the efficient use of known aggregate and mineral resources or locally important mineral resource recovery sites, by ensuring that the consumptive use of aggregate resources is minimized and that access to recoverable sources of aggregate is not precluded, as a result of construction, operation and maintenance of projects. b) Where avoidance is infeasible, minimize impacts to the efficient and effective use of recoverable sources of aggregate through measures that have been identified in county and city general plans, or other comparable measures such as: 1) Recycle and reuse building materials resulting from demolition, particularly aggregate resources, to the maximum extent practicable. 2) Identify and use building materials, particularly aggregate materials, resulting from demolition at other construction sites in the SCAG region, or within a reasonable hauling distance of the project site. 3) Design transportation network improvements in a manner (such as buffer zones or the use of screening) that does not preclude adjacent or nearby extraction of known mineral and aggregate resources following completion of the improvement and during long-term operations. 4) Avoid or reduce impacts on known aggregate and mineral resources and mineral resource recovery sites through the evaluation and selection of project sites and design features (e.g., buffers) that minimize impacts on land suitable for aggregate and mineral resource extraction by maintaining portions of MRZ-2 areas in open space or other general plan land use categories and zoning that allow for mining of mineral resources.	Significant and unavoidable

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
Impact MIN-2 Potential to result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.	*SCAG Mitigation Measure* See **SMM MIN-1.** *Project Level Mitigation Measure* See **PMM-MIN-1.**	Significant and unavoidable
NOISE		
Impact NOISE-1: Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.	*SCAG Mitigation Measures* **SMM-NOISE-1:** SCAG shall coordinate with CTCs and member agencies as part of SCAG's outreach and technical assistance to local governments to encourage transportation projects and projects involving residential and commercial land uses to mitigate noise and vibration or be developed in areas that are normally acceptable or conditionally acceptable, consistent with applicable guidelines (i.e, OPR, Caltrans, etc.) *Project Level Mitigation Measures* **PMM NOISE-1:** In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects that physically divide a community, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency: a) Install temporary noise barriers during construction. b) Include permanent noise barriers and sound-attenuating features as part of the project design. Barriers could be in the form of outdoor barriers, sound walls, buildings, or earth berms to attenuate noise at adjacent sensitive uses. c) Schedule construction activities consistent with the allowable hours pursuant to applicable general plan noise element or noise ordinance d) Post procedures and phone numbers at the construction site for notifying the Lead Agency staff, local Police Department, and construction contractor (during regular construction hours and off-hours), along with permitted construction days and hours, complaint procedures, and who to notify in the event of a problem. e) Notify neighbors and occupants within 300 feet of the project construction area at least 30 days in advance of anticipated times when noise levels are expected to exceed limits established in the noise element of the general plan or noise ordinance. f) Designate an on-site construction complaint and enforcement manager for the project. g) Ensure that construction equipment are properly maintained per manufacturers' specifications and fitted with the best available noise suppression devices (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds silencers, wraps). All intake and exhaust ports on power equipment shall be muffled or shielded. h) Use hydraulically or electrically powered tools (e.g., jack hammers, pavement breakers, and rock drills) for project construction to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is	Significant and unavoidable

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	unavoidable, an exhaust muffler on the compressed air exhaust should be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves should be used, if such jackets are commercially available, and this could achieve a further reduction of 5 dBA. Quieter procedures should be used, such as drills rather than impact equipment, whenever such procedures are available and consistent with construction procedures. i) Where feasible, design projects so that they are depressed below the grade of the existing noise-sensitive receptor, creating an effective barrier between the roadway and sensitive receptors. j) Where feasible, improve the acoustical insulation of dwelling units where setbacks and sound barriers do not provide sufficient noise reduction. k) Using rubberized asphalt or "quiet pavement" to reduce road noise for new roadway segments, roadways in which widening or other modifications require re-pavement, or normal reconstruction of roadways where re-pavement is planned l) Projects that require pile driving or other construction noise above 90 dBA in proximity to sensitive receptors, should reduce potential pier drilling, pile driving and/or other extreme noise generating construction impacts greater than 90 dBA; a set of site-specific noise attenuation measures should be completed under the supervision of a qualified acoustical consultant. m) Use land use planning measures, such as zoning, restrictions on development, site design, and buffers to ensure that future development is compatible with adjacent transportation facilities and land uses; n) Monitor the effectiveness of noise reduction measures by taking noise measurements and installing adaptive mitigation measures to achieve the standards for ambient noise levels established by the noise element of the general plan or noise ordinance. o) Use equipment and trucks with the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds, wherever feasible) for project construction. p) Stationary noise sources can and should be located as far from adjacent sensitive receptors as possible and they should be muffled and enclosed within temporary sheds, incorporate insulation barriers, or use other measures as determined by the Lead Agency (or other appropriate government agency) to provide equivalent noise reduction. q) Use of portable barriers in the vicinity of sensitive receptors during construction. r) Implement noise control at the receivers by temporarily improving the noise reduction capability of adjacent buildings (for instance by the use of sound blankets), and implement if such measures are feasible and would noticeably reduce noise impacts. s) Monitor the effectiveness of noise attenuation measures by taking noise measurements. t) Maximize the distance between noise-sensitive land uses and new roadway lanes, roadways, rail lines, transit centers, park-and-ride lots, and other new noise-generating facilities.	

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	u) Construct sound reducing barriers between noise sources and noise-sensitive land uses. v) Stationary noise sources can and should be located as far from adjacent sensitive receptors as possible and they should be muffled and enclosed within temporary sheds, incorporate insulation barriers, or use other measures as determined by the Lead Agency (or other appropriate government agency) to provide equivalent noise reduction. w) Use techniques such as grade separation, buffer zones, landscaped berms, dense plantings, sound walls, reduced-noise paving materials, and traffic calming measures. x) Locate transit-related passenger stations, central maintenance facilities, decentralized maintenance facilities, and electric substations away from sensitive receptors to the maximum extent feasible.	
Impact NOISE-2: Generation of excessive groundborne vibration or groundborne noise levels.	*SCAG Mitigation Measure* See **SMM-NOISE-1** *Project Level Mitigation Measures* See **PMM-NOISE-1**. **PMM-NOISE-2:** In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to violating air quality standards. Such measures may include the following or other comparable measures identified by the Lead Agency: a) For projects that require pile driving or other construction techniques that result in excessive vibration, such as blasting, determine the potential vibration impacts to the structural integrity of the adjacent buildings within 50 feet of pile driving locations. b) For projects that require pile driving or other construction techniques that result in excessive vibration, such as blasting, determine the threshold levels of vibration and cracking that could damage adjacent historic or other structure, and design means and construction methods to not exceed the thresholds. c) For projects where pile driving would be necessary for construction due to geological conditions, utilize quiet pile driving techniques such as predrilling the piles to the maximum feasible depth, where feasible. Predrilling pile holes will reduce the number of blows required to completely seat the pile and will concentrate the pile driving activity closer to the ground where pile driving noise can be shielded more effectively by a noise barrier/curtain. d) Restrict construction activities to permitted hours in accordance with local jurisdiction regulation. e) Properly maintain construction equipment and outfit construction equipment with the best available noise suppression devices (e.g., mufflers, silences, wraps). f) Prohibit idling of construction equipment for extended periods of time in the vicinity of sensitive receptors.	Significant and unavoidable

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

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	following or other comparable measures identified by the Lead Agency: a) Evaluate alternate route alignments and transportation facilities that minimize the displacement of homes and businesses. Use an iterative design and impact analysis where impacts to homes or businesses are involved to minimize the potential of impacts on housing and displacement of people. b) Prioritize the use existing ROWs, wherever feasible. c) Develop a construction schedule that minimizes potential neighborhood deterioration from protracted waiting periods between right-of-way acquisition and construction. d) Review capacities of available urban infrastructure and augment capacities as needed to accommodate demand in locations where growth is desirable to the local lead Agency and encouraged by the SCS (primarily TPAs, where applicable). e) When General Plans and other local land use regulations are amended or updated, use the most recent growth projections and RHNA allocation plan.	
FIRE SERVICES		
Impact PSF-1: Result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities, need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives.	*SCAG Mitigation Measures* See **SMM PSP-1** through **SMM PSP-4.** **SMM PSF-1:** SCAG shall assist planners, first responders, and recovery teams in a supporting role, in three key areas, before a major emergency and during the recovery period: • Provide a policy forum to help develop regional consensus and education on security policies and emergency responses. • Assist in expediting the planning and programming of transportation infrastructure repairs from major disasters. • Encourage integration of transportation security measures into transportation projects early in the project development process by leveraging SCAG's relevant plans, programs, and processes, including regional ITS architecture. An example includes SCAG's participation in the development of the Southern California Catastrophic Earthquake Preparedness Plan. **SMM PSF-2:** SCAG shall facilitate minimizing future impacts to fire protection services through information sharing regarding Fire-wise Land Management (data regarding fire-resistant vegetation, fire-resistant materials, locations where development is potentially hazardous in regard to wildfire, and management of brush and other fire risks in the immediate vicinity of development in areas with high fire threat) with county and city planning departments. *Project Mitigation Measures* See **PMM-PSP-1.**	Significant and unavoidable

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
POLICE SERVICES		
Impact PSP-1: Result in substantial adverse physical impacts associated with the provision of new or physically altered police facilities, need for new or physically altered police facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives.	*SCAG Mitigation Measures* See **SMM PSF-1.** **SMM PSP-1:** SCAG shall facilitate minimizing future impacts to library services through cooperation, information sharing, and regional program development as part of SCAG's ongoing regional planning efforts, such as web-based planning tools for local government including CA LOTS, and other GIS tools and data services, including, but not limited to Map Gallery, GIS library, and GIS applications, and promote acceptable service ratios regarding library services. **SMM PSP-2:** SCAG shall help to enhance the region's ability to deter and respond to acts of terrorism, human-caused or natural disasters through regionally cooperative and collaborative strategies. SCAG shall work with local officials to develop regional consensus on regional transportation safety, security, and safety security policies. **SMM PSP-3:** SCAG shall help to enhance the region's ability to deter and respond to terrorist incidents, human-caused or natural disasters by strengthening relationship and coordination with transportation. This will be accomplished by the following: • SCAG shall work with local officials to develop regional consensus on regional transportation safety, security, and safety security policies. • SCAG shall encourage all SCAG elected officials are educated in NIMS. • SCAG shall work with partner agencies, federal, state and local jurisdictions to improve communications and interoperability and to find opportunities to leverage and effectively utilize transportation and public safety/security resources in support of this effort. **SMM PSP-4:** SCAG shall encourage and provide a forum for local jurisdictions to develop mutual aid agreements for essential government services during any incident recovery. *Project Mitigation Measures* **PMM PSP-1:** In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects of constructing new emergency response facilities, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency: a) Coordinate with emergency response agencies to ensure that there are adequate governmental facilities to maintain acceptable service ratios, response times or other performance objectives for emergency response services and that any required additional construction of buildings is incorporated in to the project description. b) Where current levels of services at the project site are found to be inadequate, provide fair share contributions towards infrastructure improvements, as appropriate and applicable, to mitigate identified CEQA impacts. c) Project sponsors can and should develop traffic control plans for individual projects. Traffic control plans should include information on lane closures and the anticipated flow of traffic during the construction period. The basic objective of each traffic control plan (TCP) is to permit the contractor to work within the public right of way efficiently and effectively while	Significant and unavoidable

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

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	a county level to help local jurisdictions to improve resident access to parks. SCAG shall communicate the impacts of the Plan through its Public Health Working group, and continue to support policy changes at the city and county level through educational programs. *Project Level Mitigation Measures* **PMM REC-1:** In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects on the use of existing neighborhood and regional parks or other recreational facilities, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency: a) Prior to the issuance of permits, where projects require the construction or expansion of recreational facilities or the payment of equivalent Quimby fees, consider increasing the accessibility to natural areas and lands for outdoor recreation from the proposed project area, in coordination with local and regional open space planning and/or responsible management agencies. b) Prior to the issuance of permits, where projects require the construction or expansion of recreational facilities or the payment of equivalent Quimby fees, encourage patterns of urban development and land use which reduce costs on infrastructure and make better use of existing facilities, using strategies such as: i. Increasing the accessibility to natural areas for outdoor recreation ii. Utilizing "green" development techniques iii. Promoting water-efficient land use and development iv. Encouraging multiple uses, such as the joint use of schools v. Including trail systems and trail segments in General Plan recreation standards	
Impact REC-2: Result in substantial adverse physical impacts associated with the provision of new or physically altered park facilities, need for new or physically altered park facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, or other performance objectives. Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.	*SCAG Mitigation Measure* See **SMM REC-1.** *Project Level Mitigation Measures* See **PMM REC-1, PMM AQ-2,** and **PMM NOISE-1.**	Significant and unavoidable

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
TRANSPORTATION, TRAFFIC, AND SAFETY		
Impact TRA-1: Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.	No mitigation is required	Less than significant
Impact TRA-2: Conflict or be inconsistent with *CEQA Guidelines* section 15064.3(b).	*SCAG Mitigation Measures* **SMM TRA-1:** SCAG shall facilitate minimizing VMT and related vehicular delay by minimizing impacts to circulation and access, improve mobility, and encourage transit and Active Transportation via workshops (i.e., Mobility 21 workshop and Regional Transportation Workgroups) and web-based planning tools for local governments, forums with policy makers, and County Transportation Planning Agencies, member cities, and state partners. **SMM TRA-2:** SCAG shall identify further reduction in VMT, and fuel consumption that could be obtained through land-use strategies, additional car-sharing programs with linkage to public transportation, additional vanpools, additional bicycle sharing and parking programs, and implementation of a universal employee transit access pass (TAP) program. **SMM TRA-3:** SCAG shall initiate and facilitate an SB 743 implementation program. The grant-funded project, co-sponsored by SCAG and LADOT, seeks to provide technical and mitigation strategy development guidance to local jurisdictions in the six-county SCAG region to facilitate implementation of the VMT-based CEQA transportation impact analysis provisions of SB 743. This coordinated program of technical guidance, evaluation of options, and cooperative engagement with local communities will serve to smooth the transition to the new VMT-reducing development paradigm, helping to ensure a successful region-wide implementation of SB 743 and attainment of the associated GHG reduction goals. Some of the primary features of the scope of work include: • Evaluate the feasibility of various alternative VMT mitigation options, including local and regional VMT exchange and banking programs. • Establish CEQA nexus to reduce VMT through a VMT mitigation exchange or banking program alternative. • Substantiate the legal basis of a VMT exchange program for satisfying CEQA mitigation requirements. • Collaborate with other communities and jurisdictions to reduce VMT through implementation of a VMT mitigation exchange or bank program. • Improve the dissemination of transportation project VMT mitigation options. • Support a variety of TDM strategies for Transportation Management Organization (TMO) membership agencies. • Provide guidance to facilitate establishment of VMT mitigation exchange or bank programs throughout the region and state **SMM TRA-4:** SCAG shall continue to analyze and develop potential implementation strategies for a regional, market-based system to price or charge for auto trips during peak hours. **SMM TRA-5:** SCAG shall develop a vanpool program for SCAG employees' commute trips.	Significant and unavoidable

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	SMM TRA-6: SCAG shall encourage new developments to incorporate both local and regional transit measures into the project design that promote the use of alternative modes of transportation. *Project Level Mitigation Measures* **PMM-TRA-1:** In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to transportation-related impacts. Such measures may include the following or other comparable measures identified by the Lead Agency: • Transportation demand management (TDM) strategies should be incorporated into individual land use and transportation projects and plans, as part of the planning process. Local agencies should incorporate strategies identified in the Federal Highway Administration's publication: Integrating Demand Management into the Transportation Planning Process: A Desk Reference (August 2012) into the planning process (FHWA 2012). For example, the following strategies may be included to encourage use of transit and non-motorized modes of transportation and reduce vehicle miles traveled on the region's roadways: – include TDM mitigation requirements for new developments; – incorporate supporting infrastructure for non-motorized modes, such as, bike lanes, secure bike parking, sidewalks, and crosswalks; – provide incentives to use alternative modes and reduce driving, such as, universal transit passes, road and parking pricing; – implement parking management programs, such as parking cash-out, priority parking for carpools and vanpools; – develop TDM-specific performance measures to evaluate project-specific and system-wide performance; – incorporate TDM performance measures in the decision-making process for identifying transportation investments; – implement data collection programs for TDM to determine the effectiveness of certain strategies and to measure success over time; and – set aside funding for TDM initiatives. – The increase in per capita VMT on facilities experiencing LOS F represents a significant impact compared to existing conditions. To assess whether implementation of these specific mitigation strategies would result in measurable traffic congestion reductions, implementing actions may need to be further refined within the overall parameters of the proposed Plan and matched to local conditions in any subsequent project-level environmental analysis.	
Impact TRA-3: Substantially increase hazards due to geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).	No mitigation is required	Less than significant

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
Impact TR-4: Result in inadequate emergency access. **Impact WF-1:** Substantially impair an adopted emergency response plan or emergency evacuation plan.	*SCAG Mitigation Measures* **SMM TRA-7:** SCAG shall, in cooperation with local and state agencies, identify critical infrastructure needs necessary for: a) emergency responders to enter the region, b) evacuation of affected facilities, and c) restoration of utilities. In addition, SCAG shall establish transportation infrastructure practices that promote and enhance security. **SMM TRA-8:** SCAG shall provide the means for collaboration in planning, communication, and information sharing before, during, or after a regional emergency. This will be accomplished by the following: • SCAG shall develop and incorporate strategies and actions pertaining to response and prevention of security incidents and events as part of the on-going regional planning activities. • SCAG shall offer a regional repository of GIS data for use by local agencies in emergency planning, and response, in a standardized format. • SCAG shall enter into mutual aid agreements with other MPOs (as feasible) to provide this data, in coordination with the California OES in the event that an event disrupts SCAG's ability to function. *Project Level Mitigation Measures* **PMM TRA-2:** In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects which may substantially impair implementation of an adopted emergency response plan or emergency evacuation plan, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency: • Prior to construction, project implementation agencies can and should ensure that all necessary local and state road and railroad encroachment permits are obtained. The project implementation agency can and should also comply with all applicable conditions of approval. As deemed necessary by the governing jurisdiction, the road encroachment permits may require the contractor to prepare a traffic control plan in accordance with professional engineering standards prior to construction. Traffic control plans can and should include the following requirements: – Identification of all roadway locations where special construction techniques (e.g., directional drilling or night construction) would be used to minimize impacts to traffic flow. – Development of circulation and detour plans to minimize impacts to local street circulation. This may include the use of signing and flagging to guide vehicles through and/or around the construction zone. – Scheduling of truck trips outside of peak morning and evening commute hours. – Limiting of lane closures during peak hours to the extent possible. – Usage of haul routes minimizing truck traffic on local roadways to the extent possible. – Inclusion of detours for bicycles and pedestrians in all areas potentially affected by project construction. – Installation of traffic control devices as specified in the California Department of	Significant and unavoidable

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	Transportation Manual of Traffic Controls for Construction and Maintenance Work Zones. – Development and implementation of access plans for highly sensitive land uses such as police and fire stations, transit stations, hospitals, and schools. The access plans would be developed with the facility owner or administrator. To minimize disruption of emergency vehicle access, affected jurisdictions can and should be asked to identify detours for emergency vehicles, which will then be posted by the contractor. Notify in advance the facility owner or operator of the timing, location, and duration of construction activities and the locations of detours and lane closures. – Storage of construction materials only in designated areas. – Coordination with local transit agencies for temporary relocation of routes or bus stops in work zones, as necessary. – Ensure the rapid repair of transportation infrastructure in the event of an emergency through cooperation among public agencies and by identifying critical infrastructure needs necessary for: a) emergency responders to enter the region, b) evacuation of affected facilities, and c) restoration of utilities. – Enhance emergency preparedness awareness among public agencies and with the public at large.	
TRIBAL CULTURAL RESOURCES		
Impact TCR-1: Cause a substantial adverse change in the significance of a tribal cultural resource defined in Public Resources Code section 21074 that is: a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1.	*SCAG Mitigation Measure* **SMM TCR-1:** Impacts to tribal cultural resources shall be minimized through cooperation, information sharing, and SCAG's ongoing regional planning efforts such as web-based planning tools for local governments including CA LOTS, and other GIS tools and data services, including, but not limiting to, Map Gallery, GIS library, and GIS applications; and direct technical assistance efforts such as Toolbox Tuesday series and sharing of associated online Training materials. SCAG shall consult with the Native American Heritage Commission, as well as Native American tribes, to identify opportunities for early and effective consultation to identify tribal cultural resources to avoid such resources wherever practicable and feasible and reduce or mitigate for conflicts in compatible land use to the maximum extent practicable. *Project Level Mitigation Measures* See **PMM CULT-1.** **PMM TCR-1:** In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects on tribal cultural resources. Such measures may include the following or other comparable measures identified by the Lead Agency: a) Avoidance and preservation of the resources in place, including, but not limited to, planning and construction to avoid the resources and protect the cultural and natural context, or planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria b) Treating the resource with culturally appropriate dignity taking into account the tribal cultural	Significant and unavoidable

Significance Threshold and Project Impacts		Mitigation Measures	Residual Impact
		values and meaning of the resource, including, but not limited to, the following: protecting the cultural character and integrity of the resource; protecting the traditional use of the resource; and protecting the confidentiality of the resource; c) Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places; and protecting the resource.	
SOLID WASTE			
Impact USSW-1:	Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals	*SCAG Mitigation Measures* **SMM USSW-1:** During the planning, design, and project-level CEQA review process for individual development projects, SCAG shall coordinate with waste management agencies and the appropriate local and regional jurisdictions to facilitate the development of measures and to encourage diversion of solid waste such as recycling and composting programs, as needed. This includes discouraging siting of new landfills unless all other waste reduction and prevention actions have been fully explored to minimize impacts to neighborhoods. **SMM USSW-2:** SCAG shall coordinate with waste management agencies, and the appropriate local and regional jurisdictions, measures to facilitate and encourage diversion of solid waste such as recycling and composting programs. *Project Level Mitigation Measures* **PMM USSW-2:** In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce the generation of solid waste, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency: Integrate green building measures consistent with CALGreen (California Building Code Title 24) into project design including, but not limited to the following: a) Reuse and minimization of construction and demolition (C&D) debris and diversion of C&D waste from landfills to recycling facilities. b) Inclusion of a waste management plan that promotes maximum C&D diversion. c) Source reduction through (1) use of materials that are more durable and easier to repair and maintain, (2) design to generate less scrap material through dimensional planning, (3) increased recycled content, (4) use of reclaimed materials, and (5) use of structural materials in a dual role as finish material (e.g., stained concrete flooring, unfinished ceilings, etc.). d) Reuse of existing structure and shell in renovation projects. e) Development of indoor recycling program and space. f) Discourage the siting of new landfills unless all other waste reduction and prevention actions have been fully explored. If landfill siting or expansion is necessary, site landfills with an adequate landfill-owned, undeveloped land buffer to minimize the potential adverse impacts of the landfill in neighboring communities. g) Discourage exporting of locally generated waste outside of the SCAG region during the construction and implementation of a project. Encourage disposal within the county where the	Significant and unavoidable
Impact USSW-2:	Comply with federal, state, and local management and reduction statutes and regulations related to solid waste.		

Significance Threshold and Project Impacts		Mitigation Measures	Residual Impact
		waste originates as much as possible. Promote green technologies for long-distance transport of waste (e.g., clean engines and clean locomotives or electric rail for waste-by-rail disposal systems) and consistency with SCAQMD and Connect SoCal policies can and should be required. h) Encourage waste reduction goals and practices and look for opportunities for voluntary actions to exceed the 80 percent waste diversion target. i) Encourage the development of local markets for waste prevention, reduction, and recycling practices by supporting recycled content and green procurement policies, as well as other waste prevention, reduction and recycling practices. j) Develop ordinances that promote waste prevention and recycling activities such as: requiring waste prevention and recycling efforts at all large events and venues; implementing recycled content procurement programs; and developing opportunities to divert food waste away from landfills and toward food banks and composting facilities. k) Develop and site composting, recycling, and conversion technology facilities that have minimum environmental and health impacts. l) Integrate reuse and recycling into residential industrial, institutional and commercial projects. m) Provide education and publicity about reducing waste and available recycling services. n) Implement or expand city or county-wide recycling and composting programs for residents and businesses. This could include extending the types of recycling services offered (e.g., to include food and green waste recycling) and providing public education and publicity about recycling services.	
WASTEWATER			
Impact USWW-1:	Require or result in the relocation or construction of new or expanded wastewater treatment or storm drainage facilities, the construction or relocation of which could cause significant environmental effects.	*SCAG Mitigation Measures* **SMM USWW-1:** SCAG shall work with local jurisdictions and wastewater agencies to encourage regional-scale planning for improved wastewater and stormwater management. Future impacts to wastewater and stormwater facilities shall be avoided to the extent practical and feasible through cooperative planning, information sharing, and comprehensive pollution control measure development within the SCAG region. This cooperative planning shall occur as part of current and existing coordination, an integral part of SCAG's ongoing regional planning efforts. *Project Level Mitigation Measures* See **PMM-HYD-1.** **PMM USWW-1:** In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects on utilities and service systems, particularly for construction of wastewater facilities, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency: • During the design and CEQA review of individual future projects, implementing agencies and projects sponsors shall determine whether sufficient wastewater capacity exists for the	Significant and unavoidable

Significance Threshold and Project Impacts		Mitigation Measures	Residual Impact
		proposed projects. There CEQA determinations must ensure that the proposed development can be served by its existing or planned treatment capacity. If adequate capacity does not exist, project sponsors shall coordinate with the relevant service provider to ensure that adequate public services and utilities could accommodate the increased demand, and if not, infrastructure improvements for the appropriate public service or utility shall be identified in each project's CEQA documentation. The relevant public service provider or utility shall be responsible for undertaking project-level review as necessary to provide CEQA clearance for new facilities.	
Impact USWW-2:	Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.	*SCAG Mitigation Measures* See **SMM UWW-1, SMM HYD-1** through **SMM HYD-3.** *Project Level Mitigation Measures* See **PMM UWW-1.**	Significant and unavoidable
WATER SUPPLY			
Impact USWS-1:	Require or result in the relocation or construction of new or expanded water facilities, the construction or relocation of which could cause significant environmental effects.	*SCAG Mitigation Measure* **SMM USWS-1:** SCAG shall coordinate with local agencies as part of SCAG's Sustainability Program regarding the implementation of Urban Greening, Greenbelts and Community Separator land use strategies. Primary features of land use strategies address the following: • Increased trail and greenway connectivity; • Improved water quality, groundwater recharge and watershed health; • Reduce urban runoff; • Expand the urban forest; • Provision of wildlife habitat and increased biodiversity; • Expand recreation opportunities and beautification; • Preserving agrarian economies; • Restore severed wildlife corridors. *Project Level Mitigation Measures* **PMM USSW-1:** In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to ensure sufficient water supplies, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency: a) Reduce exterior consumptive uses of water in public areas, and should promote reductions in private homes and businesses, by shifting to drought-tolerant native landscape plantings, using weather-based irrigation systems, educating other public agencies about water use, and installing related water pricing incentives. b) Promote the availability of drought-resistant landscaping options and provide information on where these can be purchased. Use of reclaimed water especially in median landscaping and	Significant and unavoidable

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

Significance Threshold and Project Impacts		Mitigation Measures	Residual Impact
		b) Ensure structures in high fire risk areas are built to current state and federal standards which serve to greatly increase the chances the structure will survive a wildfire and also allow for people to shelter-in-place. c) Improve road access for emergency response and evacuation so people can evacuate safely and timely when necessary. d) Improve, and educate regarding, local emergency communications and notifications with residents and businesses. e) Enforce defensible space regulations to keep overgrown and unmanaged vegetation, accumulations of trash and other flammable material away from structures. f) Provide public education about wildfire risk and fire prevention measures, and safety procedures and practices to allow for safe evacuation and/or options to shelter-in-place	
Impact WF-3:	Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risks or that may result in temporary or ongoing impacts to the environment.	*SCAG Mitigation Measures* See **SMM-WF-1, SMM WF-2, SMM AG-4,** and **SMM BIO-3.** *Project Mitigation Measures* See **PMM HAZ-4.** **PMM WF-2:** In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to wildfire risk, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency: a) New development or infrastructure activity within very high hazard severity zones or SRAs shall be required to: **1)** Submit a fire protection plan including the designation of fire watch staff; **2)** Maintain water and other fire suppression equipment designated solely for firefighting on site for any construction and maintenance activities; **3)** Locate construction and maintenance equipment in designated "safe areas" such that they do not discharge combustible materials; and **4)** Designate trained fire watch staff during project construction to reduce risk of fire hazards.	Significant and unavoidable
Impact WF-4:	Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope stability, or drainage changes.	*SCAG Mitigation Measures* See **SMM-WF-1, SMM WF-2, SMM HYD-3, SMM GEO-1** and **SMM GEO-2.** *Project Level Mitigation Measures* See **PMM WF-1, PMM WF-2PMM HYD-1,** and **PMM HAZ-4.**	Significant and unavoidable

1.0 INTRODUCTION

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

SCAG's jurisdiction comprises a six-county region that includes the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura, as well as 191 cities. SCAG is the Metropolitan Planning Organization (MPO) for this region, designated pursuant to Title 23, United States Code (USC) 134(d)(1), and has the primary responsibility, through its Regional Council, for consideration of Connect SoCal for approval, and thus serves as the Lead Agency under CEQA. SCAG published a Notice of Preparation (NOP) for this PEIR, pursuant to Section 21080.4 and *CEQA Guidelines* Section 15082 and 15375 on January 23, 2019.[1] Based on the analysis undertaken in the PEIR for the 2016-2040 Regional Transportation Plan and Sustainable Communities Strategies (2016 RTP/SCS),[2] SCAG determined that it is appropriate to prepare a PEIR for Connect SoCal.

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

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

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

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

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

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

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

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

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

1.1 SCAG REGION AND AUTHORITY

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

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

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

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

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

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

1.1.1 Regional Cooperation and Subregions

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

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

1.1.2 Regional Transportation Plan / Sustainable Communities Strategy

Regional Transportation Plan and Federal Transportation Improvement Plan

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

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

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

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

Moving Ahead for Progress in the 21st Century Act

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

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

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

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

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

Section 65080 of the California Government Code

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

Sustainable Communities and Climate Protection Act of 2008

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

Pursuant to SB 375, the SCS prepared by SCAG is required to meet reduction targets for greenhouse gas (GHG) emissions by 8 percent per capita by 2020 and 19 percent per capita by 2035 compared to 2005, as set by the California Air Resources Board (CARB). The most recent targets were established by CARB in October 2018.[7]

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

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

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

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

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

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

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

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

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

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

National Environmental Policy Act

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

Revisions to the State CEQA Guidelines

On December 28, 2018, the updated *CEQA Guidelines* were approved by the Office of Administrative Law. The revisions to the *CEQA Guidelines* apply to the CEQA process (*CEQA Guidelines*, § 15007, subd. (b).) The proposed updates include analyzing transportation impacts pursuant to Senate Bill 743, proposed updates to the analysis of greenhouse gas emissions, new checklist questions for wildfire and energy, and revised Section 15126.2(a) in response to the California Supreme Court's decision in *California Building Industry Association v. Bay Area Air Quality Management District* (2015) 62 Cal.4th 369.[11] For the purposes of this analysis, the Connect SoCal Plan PEIR utilizes the updated *CEQA Guidelines* Appendix G Checklist.

1.2 PURPOSE AND SCOPE OF THE ENVIRONMENTAL IMPACT REPORT

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

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

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

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

12 *CEQA Guidelines* § 15002.

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

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

1.2.1 Programmatic Level of Analysis

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

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

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

14 Ibid.

15 Ibid.

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

The geographic scope, consisting of over 38,000 square miles, and complexity represented by the diverse needs of six counties, 15 subregional areas, 191 cities, and 16 federally recognized tribes[17] that comprise the SCAG region, that are addressed by the Plan, played an important role in determining the appropriate level of detail to include in this PEIR.

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

1.2.2 Limitations on the Scope of Analysis

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

- Aesthetics (e.g., degradation of existing visual character of the site and/or creation of new sources of light or glare that affect day or nighttime views)

- Air quality (e.g., localized air toxic pollutant effects from construction)

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

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

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

1.3 BASELINE FOR DETERMINING SIGNIFICANCE AND THRESHOLDS OF SIGNIFICANCE

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

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

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

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

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

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

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

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

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

1.5 CONNECT SOCAL PLAN AND ALTERNATIVES TO THE PLAN

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

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

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

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

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

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

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

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

22 Ibid.

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

- *Existing Plans-Local Input Alternative* - The Existing Plans-Local Input Alternative incorporates jurisdictional general plans and land use information to reflect the Plan's population, household and employment growth estimates and land use development patterns in the region. This alternative includes policies and strategies in the 2016 RTP/SCS to the extent that they have been incorporated into local jurisdictional plans. This alternative does not include additional land use strategies described in the Plan that go beyond current local policy. This alternative includes projects planned by each County Transportation Commission (CTC).

- *Intensified Land Use Alternative* - The Intensified Land Use Alternative is based on the Plan's transportation network and strategies. This alternative analyzes more aggressive densities and land use patterns than included in the Accelerated Tomorrow Scenario. The land use pattern builds on the land use strategies as described in the Connect SoCal Plan and beyond. Specifically, it increases densities and intensifies land use patterns of the Plan, especially around HQTAs to maximize transit opportunities. The growth pattern associated with this alternative optimizes urban areas and suburban town centers, transit-oriented developments (TODs), HQTAs, livable corridors, and neighborhood mobility areas. It also includes a greater progressive job-housing distribution optimized for TODs and infill in HQTAs.

1.6 MITIGATION MEASURES

1.6.1 General Description and Legal Requirements

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

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

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

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

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

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

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

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

27 CEQA. *Article 7. EIR Process*.

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

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

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

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

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

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

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

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

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

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

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

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

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

1.6.2 Transportation Project Mitigation

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

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

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

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

1.6.3 Land Use Planning and Development Project Mitigation

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

1.7 PUBLIC PARTICIPATION AND CONSULTATION FOR THE PLAN

The Plan was developed with input from the public in accordance with the adopted Public Participation Plan. SCAG recognizes the need for early engagement during the development of the RTP/SCS. For members of the public, SCAG conducted 28 open house workshops on the Plan between June and July 2019.[36] These goals of these events was to share the purpose of Connect SoCal, introduce and provide information on policies and strategies under consideration, describe the performance outcomes of the different policy choices and receive input from participants. Scenarios were developed to help facilitate discussion during the development of the Draft Plan and to evaluate how each scenario would perform in terms of meeting the goals and guiding policies of the Plan and other performance metrics. SCAG also broadened its participation activities in the development of the Plan to engage a more extensive group of stakeholders in its planning and programming processes. SCAG held five public workshops on environmental justice for the Plan.

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

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

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

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

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

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

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

1.8 PUBLIC PARTICIPATION AND CONSULTATION FOR THE PEIR

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

1.9 CEQA STREAMLINING

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

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

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

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

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

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

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

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

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

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

- Be within 0.5 mile of a major transit stop[38] or high-quality transit corridor[39] included in the RTP.

Sustainable Communities Project Exemption

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

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

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

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

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

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

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

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

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

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

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

Sustainable Communities Environmental Assessment

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

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

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

Transit Priority Project Streamlined Environmental Impact Report

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

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

Traffic Mitigation Measures

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

Other CEQA Streamlining within SB 375

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

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

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

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

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

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

43 *Senate Bill No. 226*.

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

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

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

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

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

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

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

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

1) The project is proposed within a transit priority area.

2) The project is undertaken to implement and is consistent with a specific plan for which an environmental impact report has been certified.

3) The project is consistent with the general use designation, density, building intensity, and applicable policies specified for the project area in either a sustainable communities strategy or an alternative planning strategy accepted by the State Air Resources Board.[46]

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

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

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

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

46 See Pub. Res. Code § 21155.4.

47 Pub. Res. Code § 21099(d).

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

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

The updated *CEQA Guidelines* were approved by the Office of Administrative Law and the California Natural Resources Agency on December 28, 2018.[48] The *CEQA Guidelines* update package included changes to the Guidelines section implementing Senate Bill 743 (§ 15064.3).[49] OPR has also developed a Technical Advisory on Evaluating Transportation Impacts in CEQA which contains OPR's technical recommendations regarding assessment of VMT, thresholds of significance, and mitigation measures.[50]

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

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

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

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

51 *CEQA Guidelines* § 15064.3

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

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

- Technical Advisory on Evaluating Transportation Impacts in CEQA;[52]
- The 2017 Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals;[53] and
- Local Development – Intergovernmental Review Program Interim Guidance, Implementing Caltrans Strategic Management Plan 2015-2020 Consistent with SB 743.[54]

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

1.9.4 Streamlining Greenhouse Gas Analyses

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

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

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

1.9.5 Summary

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

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

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

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

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

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

1.10 ORGANIZATION OF THE PEIR

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

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

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

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

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

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

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

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

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

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

Appendices. The Draft PEIR appendices include:

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

1.11 SOURCES

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2.0 PROJECT DESCRIPTION

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

2.1 INTRODUCTION

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

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

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

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

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

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

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

2.2 REGIONAL LOCATION AND GENERAL SETTING

2.2.1 Regional Location

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

1 Connect SoCal Demographics & Growth Report, 2019

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

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

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

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

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

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

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

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

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

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

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

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

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

2.2.2 General Setting

Transportation Network

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

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

Open Space and Natural Lands

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

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

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

Housing

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

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

2.3 PROJECT BACKGROUND

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

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

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

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

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

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

2.3.1 Federal and State Requirements

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

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

- RTPs must be developed through an open and inclusive process that ensures public input; seeks out and considers the needs of those traditionally under served by existing transportation systems; and consults with resource agencies to ensure potential problems are discovered early in the RTP planning process;

- RTPs must be developed for a period of not less than 20 years into the future; RTPs must reflect the most recent assumptions for population, travel, land use, congestion, employment, and economic activity;

- RTPs must have a financially constrained element, transportation revenue assumptions must be reasonable, and the long-range financial estimate must take into account construction-related inflation costs;

- RTPs must include a description of the performance measures and performance targets used in assessing the performance of the transportation system;

- RTPs must include a system performance report evaluating the condition and performance of the system with respect to performance targets adopted by the state that detail progress over time;

- RTPs may include multiple scenarios for consideration and evaluation relative to the state performance targets as well as locally developed measures;

- RTPs must conform to the applicable federal air quality plan, called the State Implementation Plan (SIP) for ozone and other pollutants for which an area is not in attainment; and

- RTPs must consider planning factors and strategies in the local context.

Regional Transportation Plan Requirements

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

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

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

Sustainable Communities Strategy Requirements

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

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

2.4 PURPOSE AND NEED FOR ACTION

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

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

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

The SCAG Regional Council has the responsibility for consideration of the Plan with substantial input from its member jurisdictions, agencies, and stakeholders. Since the Plan includes transportation improvements that may involve a federal action (such as the use of federal funds, right-of-way, permits and or leases), the requirement for environmental review under NEPA as set forth in 40 CFR Section 1502.13 may be triggered at the time that project-level design is initiated. Therefore, where determined appropriate by a Lead Agency undertaking a site or project-specific federal action evaluated in this PEIR at the programmatic-level of detail, this statement of purpose and need may be incorporated by reference in site- or project-specific NEPA documents as provided in 40 CFR § 1502.21.[11]

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

2.5 PROJECT DESCRIPTION

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

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

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

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

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

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

2.5.1 Local Input and Public Outreach

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

2.5.2 Scenario Planning

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

1. **Trend/Baseline:** This scenario reflects current land use trends carried forward into the future

2. **Existing Plan – Local Input:** This scenario reflects the land use and growth patterns as submitted to SCAG to envision the region in 2045. For transportation, projects planned by each CTC would occur throughout the region.

3. **Networked Destinations:** This scenario assumes that growth occurs near transit stops and new jobs locate in areas with easy access to frequent bus or rail service. Growth was prioritized in Transit Priority Areas (TPA), Livable Corridors, High Quality Transit Areas, (HQTA) and Neighborhood Mobility Areas (NMA).

4. **Dynamic Centers:** This scenario assumes that growth occurs near existing job centers, transit stations and in walkable neighborhoods, where homes, jobs, shops and services are accessible without a car. Growth was prioritized in Job Centers, TPAs, NMAs, Livable Corridors and HQTAs.

5. **Accelerated Tomorrow (Unconstrained):** This scenario assumes that funding is available to invest in expanded bus and rail networks, and there is additional revenue to make existing transit service faster and more reliable. Additionally, new investments would occur in public infrastructure, which focus on active transportation and facilitate connections between transit, jobs, homes and local destinations. Growth was prioritized in TPAs, Livable Corridors, Job Centers, HQTAs and NMAs.

Planning Assumptions

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

Demographic Assumptions

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

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

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

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

Source: SCAG 2019

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

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

Economic Assumptions

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

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

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

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

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

Source: SCAG

1. *Extracted from draft 2045 plan year data of the Connect SoCal, 2020-2045 RTP/SCS*
2. *Overlaps between specific plan boundaries and the 2045 Transit Priority Areas (TPA)*
3. *Using 0.5 mile buffers from the Livable Corridors*
4. *Including open space, military installations, and tribal lands*
5. *Including the California Protected Areas Database (CPAD) and the California Conservation Easement Database (CCED). Please note CPAD does not include: military lands used primarily for military purposes, tribal lands, private golf courses, and public lands not intended for open space.*
6. *Including Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance and Grazing lands*
7. *Including the 100-year (1% annual chance of occurring) and 500-year (0.2% annual chance of occurring) flood zones*
8. *Including 'High' and 'Very High' wildfire hazard classifications*

Financial Assumptions

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

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

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

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

Table 2.0-3
Connect SoCal Expenditure (in Billions)

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

Source: SCAG
Note: due to rounding, the total will not exactly match.
**Includes $4.8 billion for active transportation in addition to capital project investment level of $17.7 billion for a total of $22.5 billion for active transportation improvements*
***Includes Safety, Pooled Incentives, Mobility Equity Fund, Regional PEV Charger Program, and Others*

Table 2.0-4
Connect SoCal Revenue Sources

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

Source: SCAG Connect SoCal, 2019

Modeling

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

Regional Travel Demand Model / Activity Based Model (ABM)

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

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

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

Scenario Planning Model (SPM)

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

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

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

2.5.3 Goals and Guiding Principles

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

Table 2.0-5
Connect SoCal Goals

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

Source: SCAG

Table 2.0-6
Connect SoCal Guiding Principles

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

Source: SCAG

2.5.4 Performance Measures

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

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

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

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

Table 2.0-7
Connect SoCal Performance Measures

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

Source: SCAG 2019

2.5.5 Connect SoCal Document Framework

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

0. Making Connections – an introduction to the Plan.

1. About the Plan – a description of the Plan including goals and guiding principles and description of how the Plan was developed as well as identification of the laws that guide the Plan.

2. SoCal Today – identification of major trends, population and demographic changes, regional growth, a description of the transportation system (and mode choices), identification of farmland lost and at-risk, discussion of transportation safety, discussion of public health, discussion of access and mobility, funding, planning for disruption and moving towards solutions.

3. A Path to Greater Access, Mobility and Sustainability – a description of the proposed transportation strategies and sustainable communities strategies

4. Paying Our Way Forward – a description of how the transportation projects are anticipated to be financed.

5. Measuring Our Progress – identification of how the performance of the Plan is measured.

6. Looking Ahead – a summary of the challenges that lie ahead.

The Plan also includes the following supplemental technical reports:

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

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

2.5.6 Land Use and Transportation Strategies

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

Land Use Strategies

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

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

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

1. Focus Growth Near Destinations and Mobility Options

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

2. Promote Diverse Housing Choices

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

3. Leverage Technology Innovations

- Promote low emission technologies such as neighborhood electric vehicles, shared rides hailing, car sharing, bike sharing and scooters by providing supportive and safe infrastructure such as dedicated lanes, charging and parking/drop-off space

- Improve access to services through technology- such as telework and telemedicine as well as commuter incentives such as a "mobility wallet", an app-based system for storing transit and other multi-modal payments

- Identify ways to incorporate "micro-power grids" in communities, for example solar energy, hydrogen fuel cell power storage and power generation

4. Support Implementation of Sustainability Policies

- Pursue funding opportunities to support local sustainable development implementation projects that reduce greenhouse gas emissions

- Support statewide legislation that reduces barriers to new construction and that incentivizes development near transit corridors and stations

- Support cities in the establishment of Enhanced Infrastructure Financing Districts (EIFDs), Community Revitalization and Investment Authorities (CRIAs), or other tax increment or value capture tools to finance sustainable infrastructure and development projects

- Work with local jurisdictions/communities to identify opportunities and assess barriers to implement sustainability strategies

- Enhance partnerships with other planning organizations to promote resources and best practices in the SCAG region

- Continue to support long range planning efforts by local jurisdictions

- Provide educational opportunities to local decisions makers and staff on new tools, best practices and policies related to implementing the Sustainable Communities Strategy

5. Promote a Green Region

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

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

Priority Growth Areas

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

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

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

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

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

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

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

Transportation Strategies

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

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

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

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

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

- ***Congestion Pricing.*** Connect SoCal identified three congestion pricing strategies, two of which were incorporated into the 2012 and 2016 RTP/SCS:

  - Develop a network of express lanes, that connects to existing express lanes in order to accommodate growing inter-county travel

  - Establish a mileage-based user fee to generate a funding source for aging infrastructure and construction of other travel options

  - Develop Cordon/Area Pricing which involves charging a variable or fixed fee to drive into or within a highly congested area.

- ***Transportation Demand Management.*** Transportation Demand Management (TDM) is a set of strategies that aims to reduce the demand for roadway travel, particularly from single-occupancy Vehicles (SOVs). TDM investments can reduce congestion and shift trips from SOVs to other modes in ways that often cost significantly less than roadway or transit capital expansion projects. TDM strategies add transportation choices that improve sustainability, public health and the quality of life by reducing congestion, air pollution and greenhouse gas emissions. When transit ridership, carpooling, biking and walking increase, the efficiency of the entire transportation system improves, bringing many benefits to the region. These benefits can justify relatively modest public expenditures on effectively implemented TDM programs. Connect SoCal commits $7.3 billion through 2045 to implement TDM strategies throughout the region. There are three primary goals of this program:

  - Reduce the number of SOV trips and per capita VMT through ridesourcing (which includes carpooling and vanpooling) and providing first/last mile services to and from transit

  - Redistribute or eliminate vehicle trips during peak demand periods by supporting telecommuting and alternative work schedules

  - Reduce the number of SOV trips through use of other modes such as transit, rail, bicycling, and walking, or other micro-mobility modes

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

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

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

Table 2.0-8
Selected Transit Capital Projects

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

Source: SCAG Connect SoCal 2019

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

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

- **Grow Ridership:** Although ridership on commuter and intercity rail services has steadily grown over the last two decades, there is still tremendous potential to significantly increase ridership in the region.

- **Provide More Frequent and New Services:** Providing more frequent rail service will attract new riders to passenger rail. Currently, commuter rail service in Southern California is much less frequent than commuter rail services elsewhere in the nation. There are also several unserved passenger rail markets that would greatly benefit from the establishment of new rail service.

- **Improve Connectivity:** While progress has been made in connecting passenger rail services to other existing transit in our region, more needs to be done to coordinate schedules and connections. Also, more progress must be made in first/last mile connections to rail stations, and station area planning and transit-oriented development (TOD).

- **Secure Funding:** New funding opportunities have been created since the 2016 RTP/SCS, such as the first dedicated source for rail operations at the state level. However, passenger rail funding in the region is still incremental in nature and to grow ridership via increased service levels, more long-term state and federal financing needs to be identified.

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

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

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

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

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

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

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

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

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

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

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

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

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

Source: SCAG Arterials Report, 2019

Regional Express Lane Network. The regional express lane network included in Connect SoCal builds on the success of the I-10 and I-110 Express Lanes in Los Angeles County and the recent extension of the SR-91 Express Lanes between Orange and Riverside Counties. Additional efforts underway include planned express lanes on the 1-105 in Los Angeles County, the I-15 in Riverside County, the I-15 and the I-10 in San Bernardino County and the I-405 in Orange County and Los Angeles County. **Figure 2.0-18, Planned Regional Express Lane Network,** display the segments in the proposed regional express lane network.

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

- **Infrastructure Investments to Improve Freight Mobility.** Capturing the benefits that accompany goods movement means ensuring that regional businesses have access to and increased mobility on key goods movement corridors and networks. Improving efficiency on the transportation system will help contain rising costs of goods and services that often pass on to consumers. Connect SoCal identifies a significant number of infrastructure investments to assure that the region continues to be the leading trade gateway in the U.S. It does this by supporting physical improvements in marine terminals, highways, intermodal terminals, railroad mainlines, access routes, airports and international land border crossings that make up the goods movement network.

- **Last-Mile Freight.** Last-mile delivery represents the final leg for goods to customers. These deliveries happen in complex environments, including high-density regional locations, and they involve sophisticated interactions among physical infrastructure, and often compete for limited public space

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

- **Workforce Development.** Changing supply chains, automation and new technologies, and increasingly competitive wages from other sectors, will place growing pressure on goods movement related businesses to find qualified workers without raising costs and reduce the availability of jobs that have traditionally provided well-paying jobs to lower-skilled workers. Connect SoCal supports regional programs that raise awareness of the issue, reposition the image of goods movement jobs to reflect career mobility, promote increased participation by younger workers, and improve access for workers.

- **Truck Bottleneck Relief Strategy.** Connect SoCal identifies 48 truck bottlenecks in the region and allocates an estimated $5 billion toward strategies that relieve them, such as:
  - Ramp metering
  - Extending merging lanes
  - Improving ramps and interchanges
  - Adding auxiliary lanes

- **Industrial Warehouse & Distribution Centers.** SCAG will continue efforts to provide the most updated data on industrial warehouse building square footage and conduct further analyses to better reflect changes in industrial land uses, truck industry service types, and equipment usage for truck terminals due to e-commerce. This includes consideration of new area sub-category classifications such as seaport and air cargo terminals, and rail intermodal and classification yards. By further understanding industrial facilities, SCAG will be more equipped to explore strategies that support the effective integration between goods movement needs and regional land use patterns.

- **Goods Movement Environmental Strategy.** Connect SoCal proposes an environmental strategy to address the air quality impacts of goods movement, while also allowing for the efficient and safe movement of goods throughout the region. A critical component of this strategy is the integration of advanced technologies that have benefits such as air quality improvements, energy security, and economic growth opportunities. Connect SoCal articulates a process to accelerate the development and deployment of effective technologies, along with key action steps, to help the region reduce dangerous pollutants as much as possible. While this plan focuses on getting cleaner vehicles on the road quickly, this must be done with full life-cycle consideration of production, use and disposal

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

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

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

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

2.5.7 Public Health

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

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

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

2.6 INTENDED USES OF THE PEIR

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

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

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

- transportation projects consistent with the SCS;

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

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

List of Permits or Other Approvals Required to Implement the Project

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

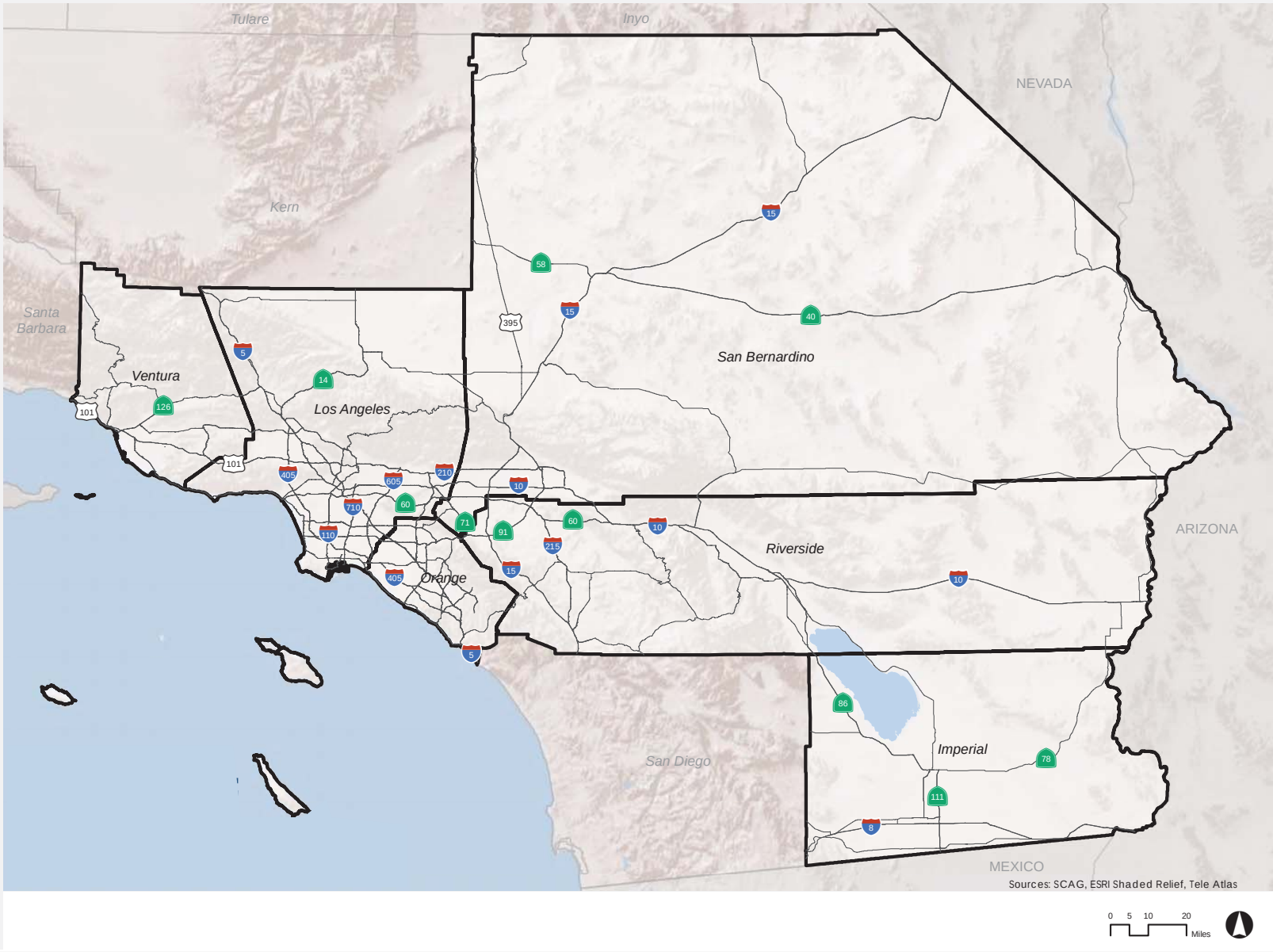
Furthermore, under SB 375, the Plan is subject to review and approval by the California Air Resources Board (CARB). Specifically, the SCS component will be reviewed by CARB to determine whether the adopted SCS, if implemented, would meet the region's 2035 19 percent per capita greenhouse gas reduction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

List of Environmental Review and Consultation Requirements

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

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

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



SOURCE: SCAG, 2019

FIGURE **2.0-1**

SCAG Region

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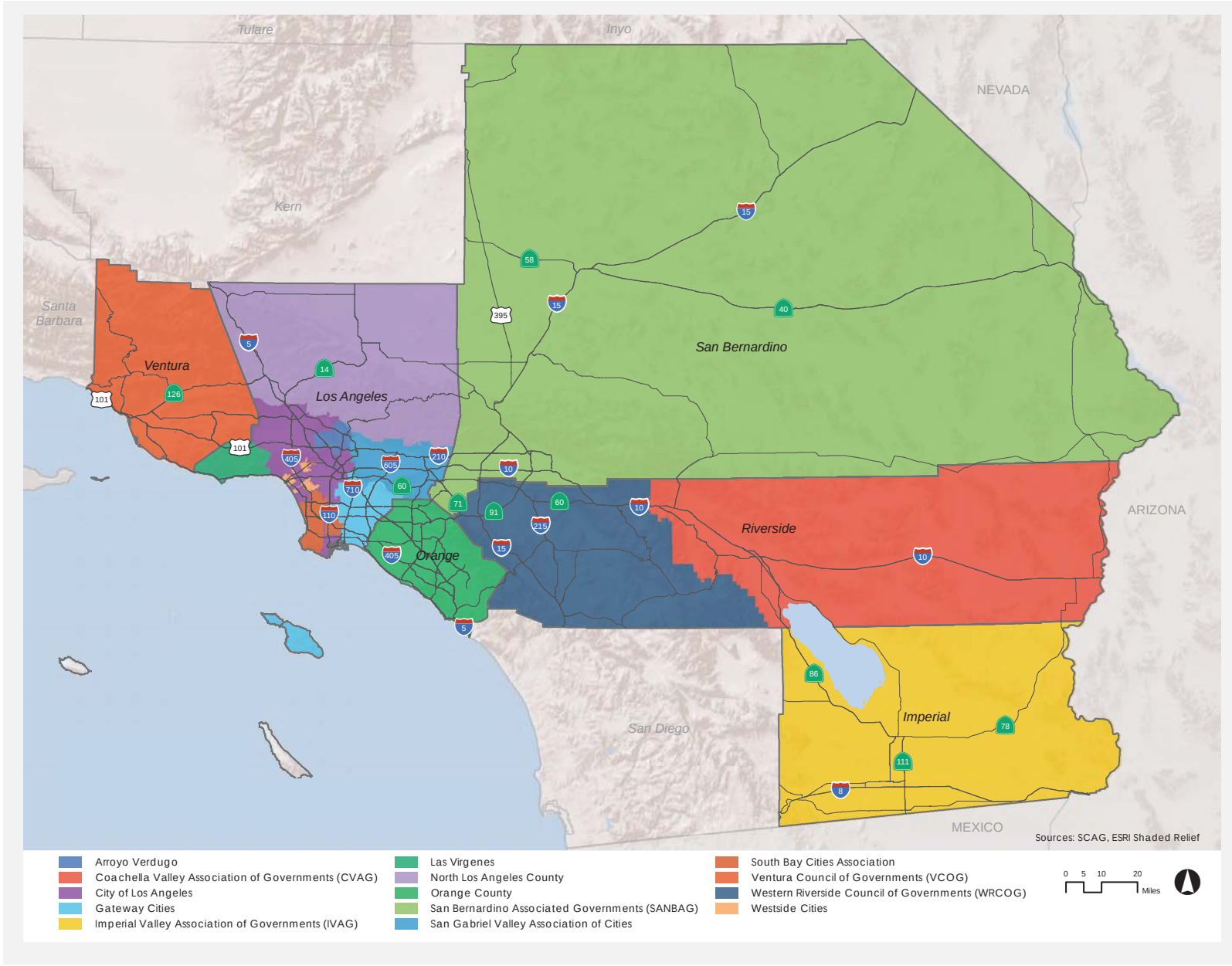

SOURCE: SCAG, 2019

FIGURE **2.0-2**

SCAG Subregions

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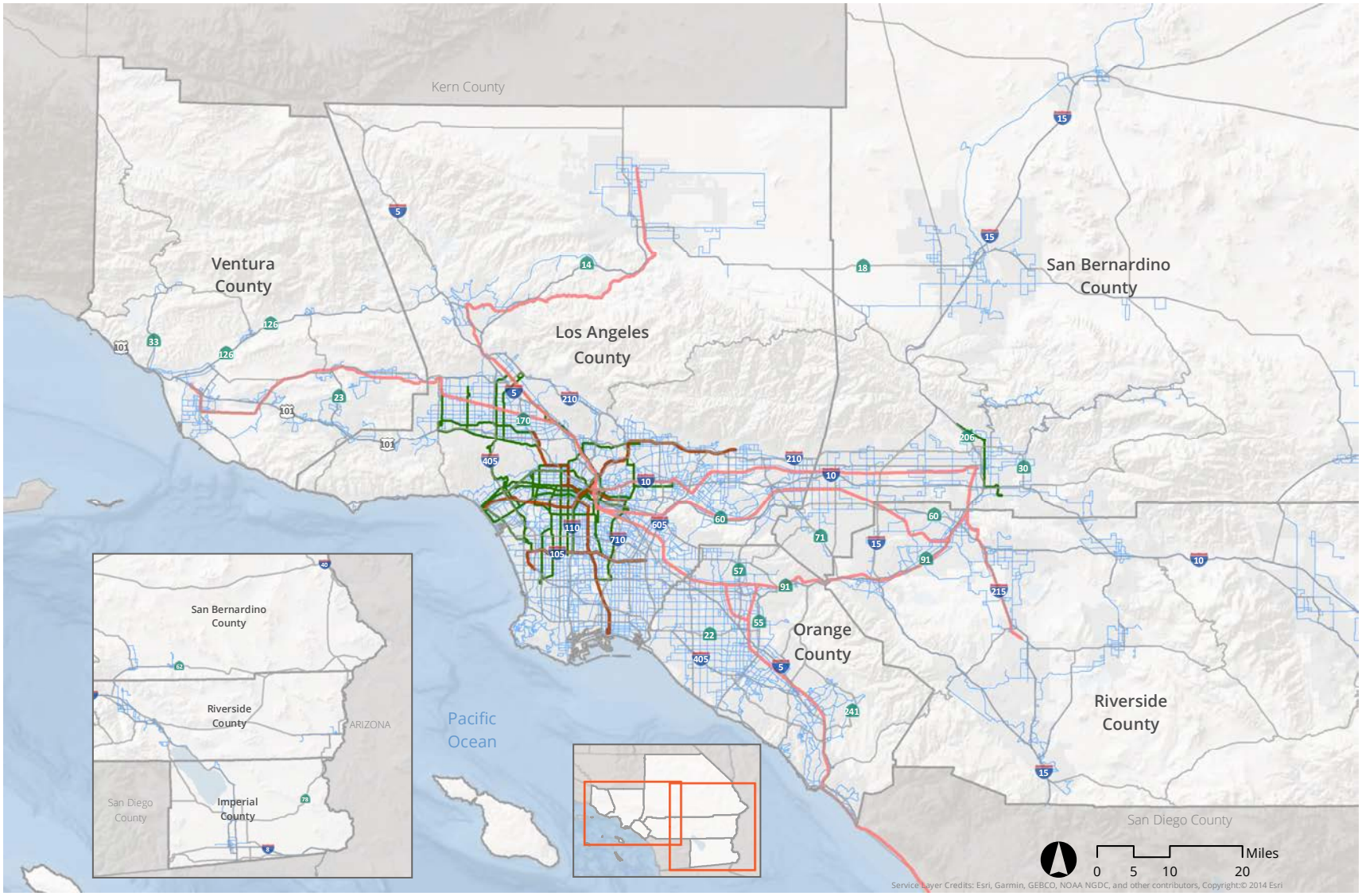

SOURCE: SCAG, 2019

FIGURE **2.0-3**

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Existing Transit Network (2018)

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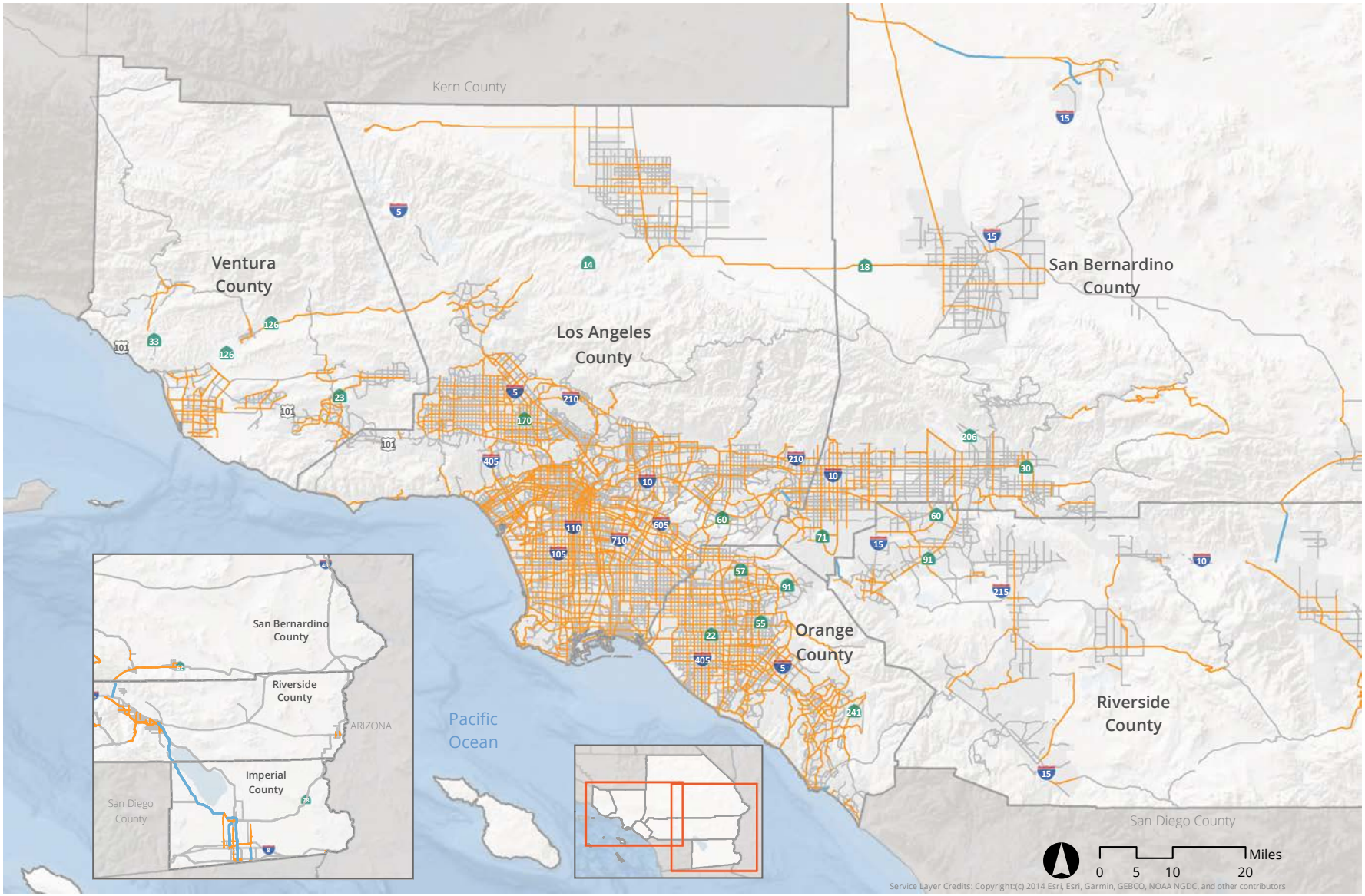

SOURCE: SCAG, 2019

FIGURE **2.0-4**

Existing Arterial System (2016)

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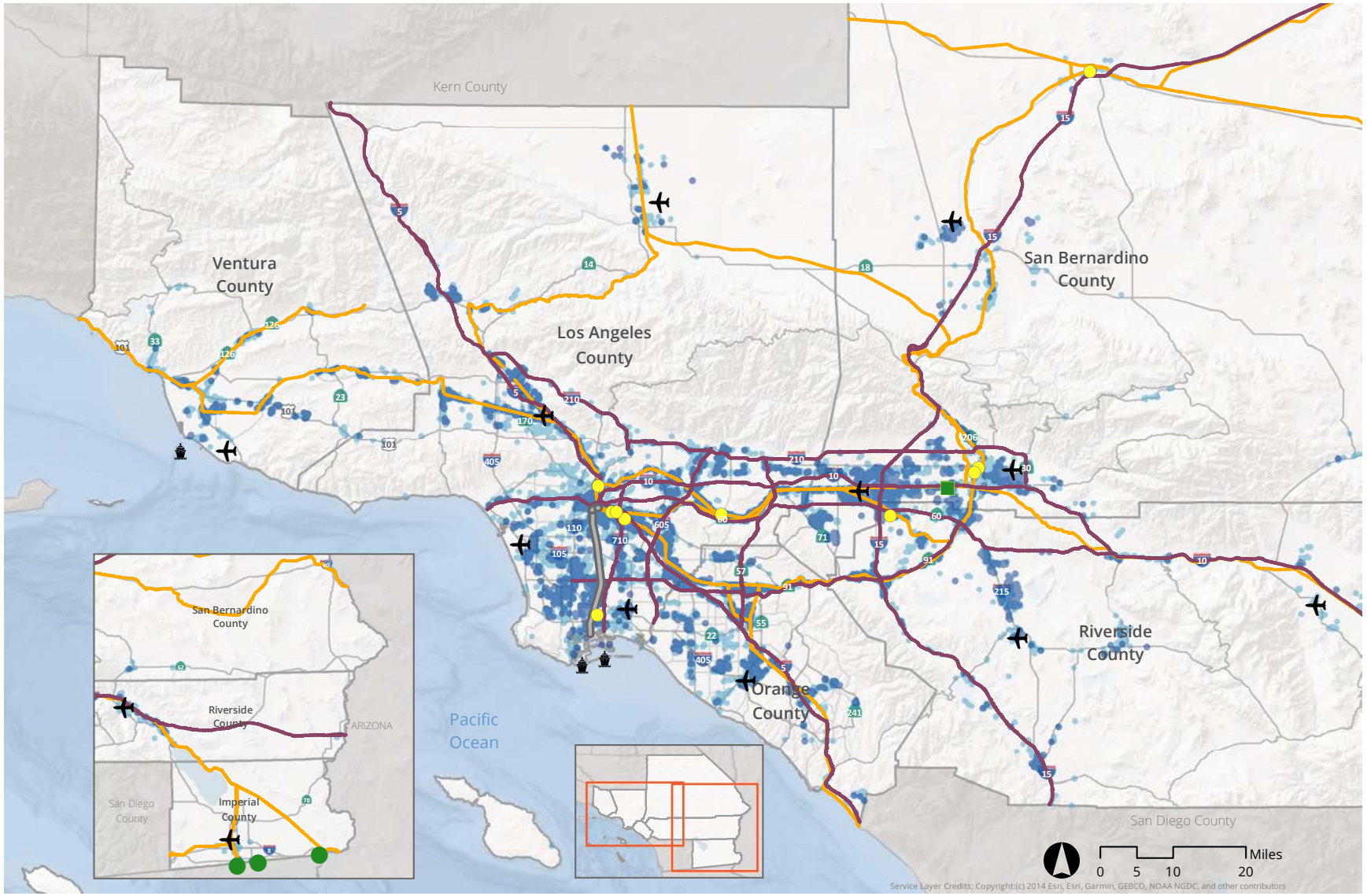

SOURCE: SCAG, CoStar Realty Information, Inc., 2019

FIGURE **2.0-5**

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Existing Regional Goods Movement System

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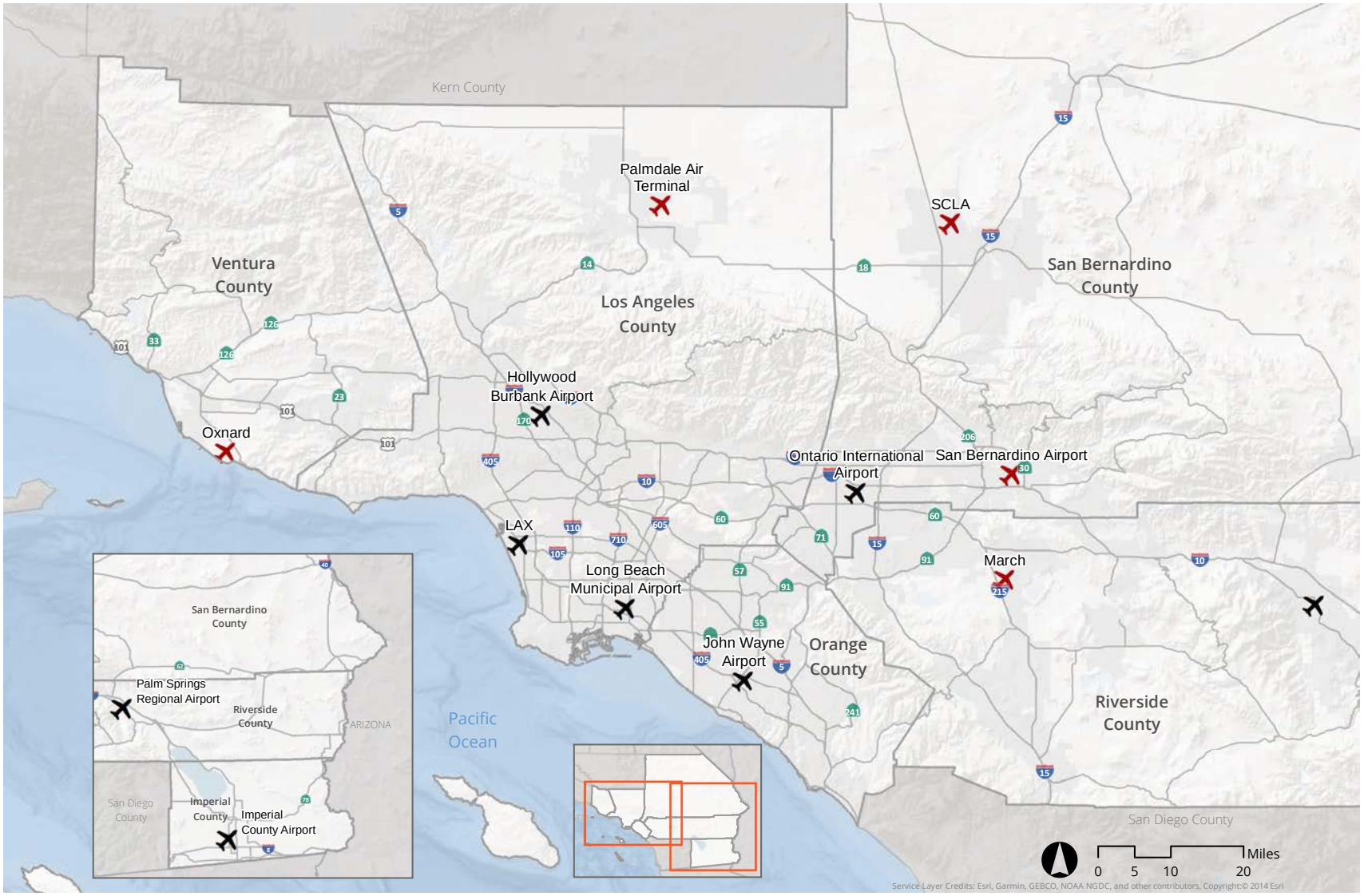

SOURCE: SCAG, 2019

FIGURE **2.0-6**

Major Airports in SCAG Region

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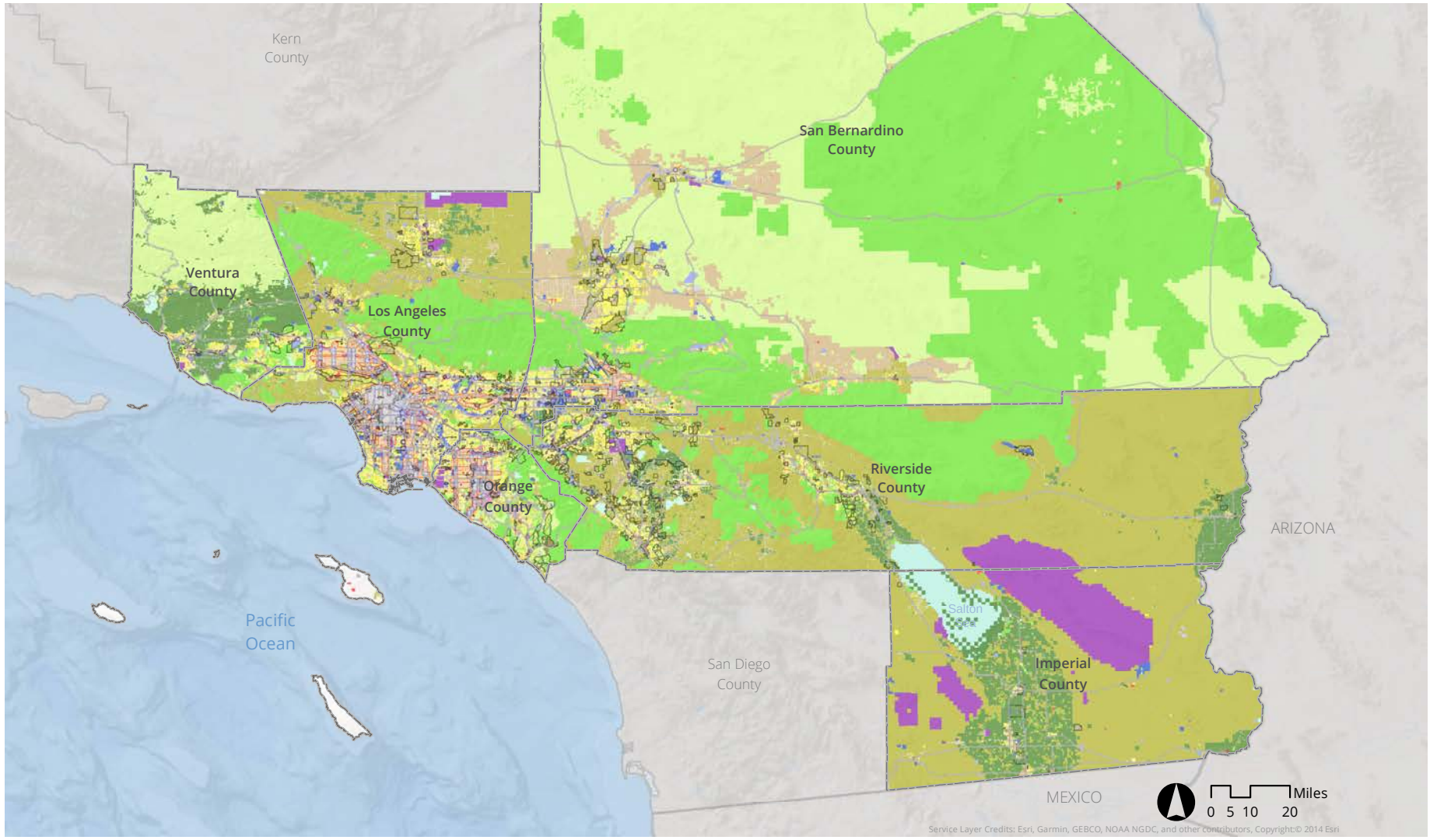

SOURCE: SCAG, 2019

FIGURE **2.0-7**

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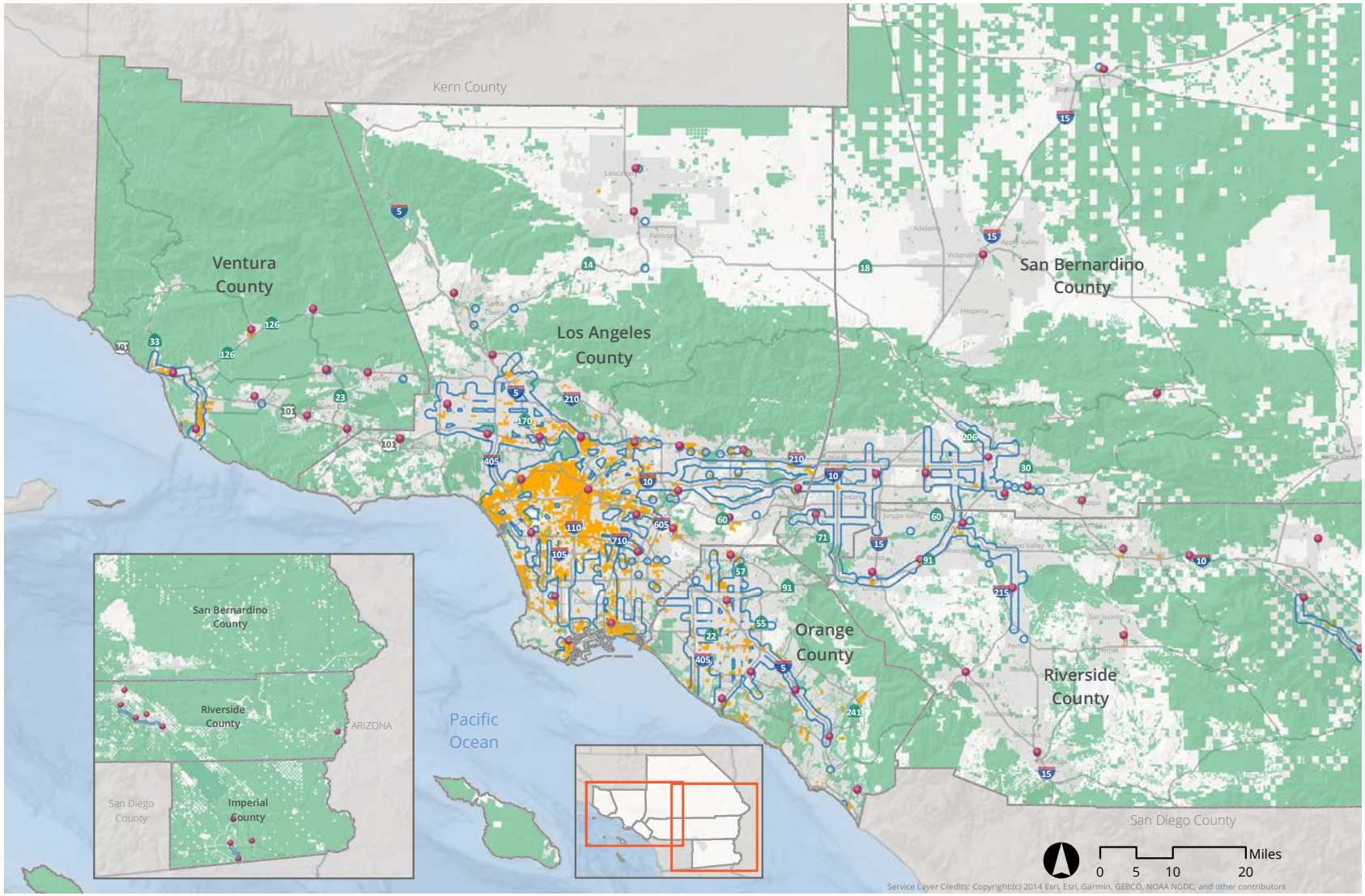
Existing Land Use



Priority Growth Areas vs. Regional Growth Constraints

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

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

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

FIGURE **2.0-8**

IMPACT SCIENCES

SCAG Growth Priority Areas

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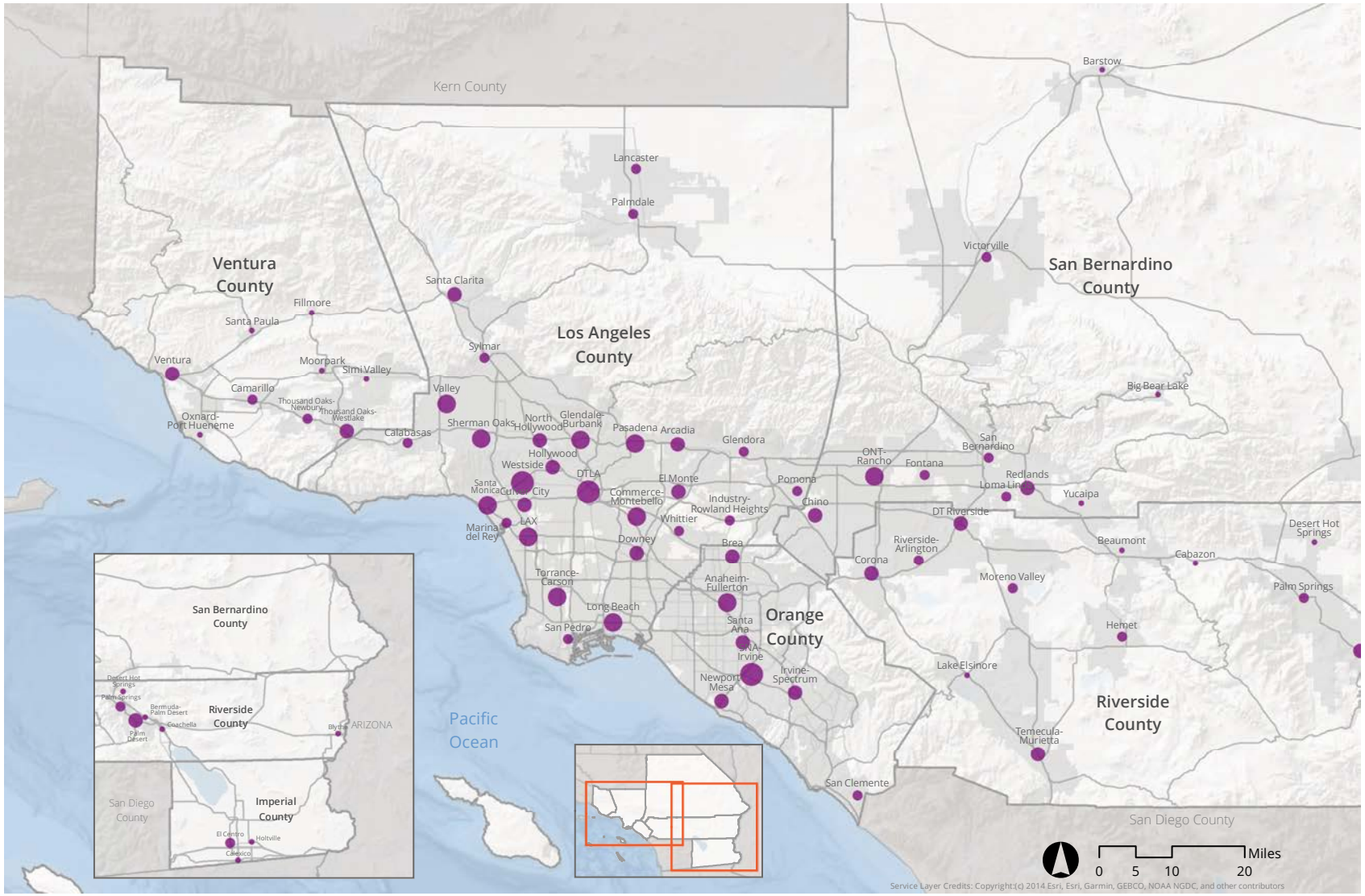

SCAG Region Proposed 2020 RTP/SCS Job Centers (Total Employment)

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

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

SOURCE: SCAG, 2019

FIGURE **2.0-9**

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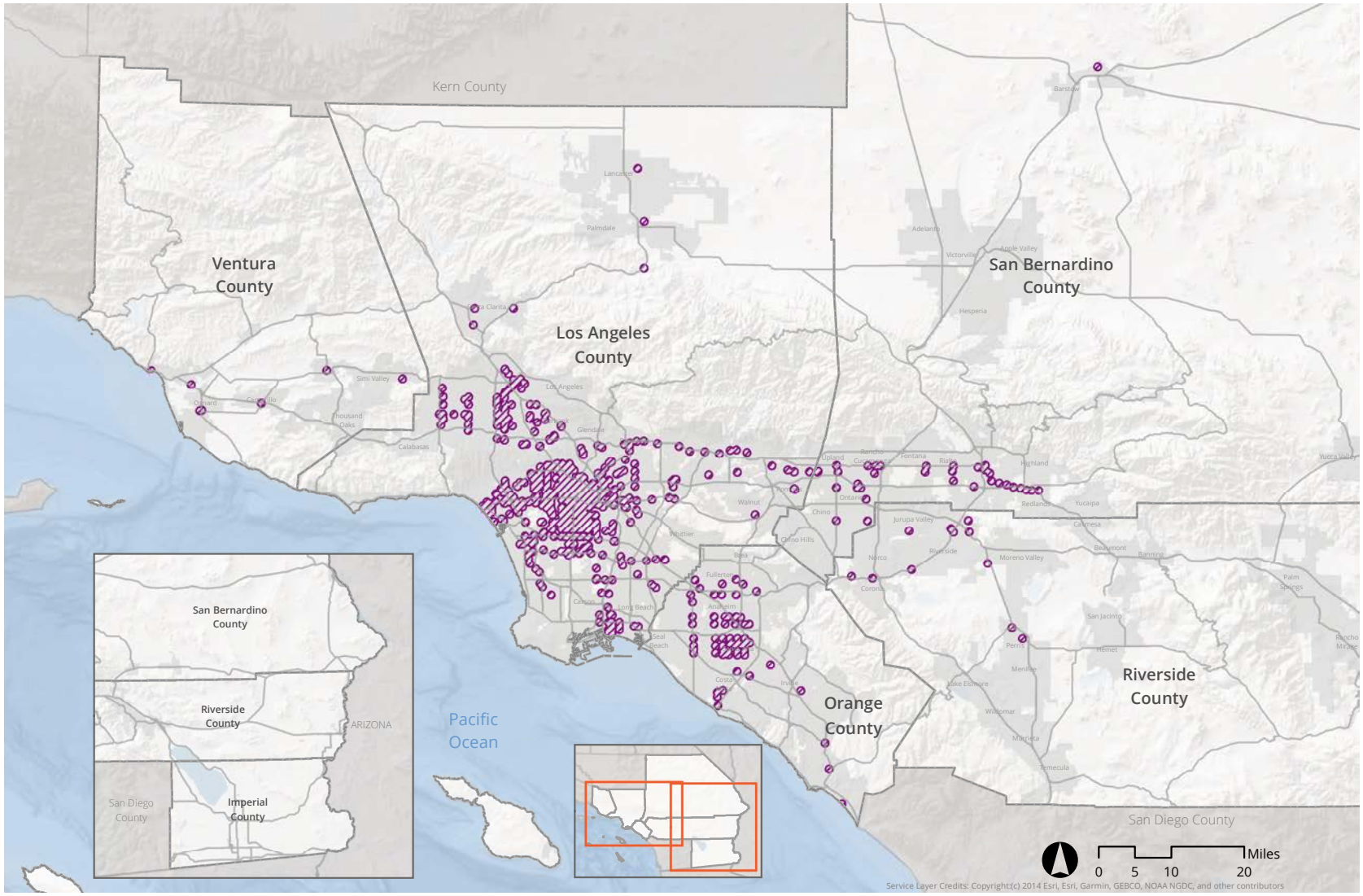
SCAG Region Proposed Job Centers



Transit Priority Areas (2045)

TPA

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

SOURCE: County Transportation Commissions, SCAG, 2019

FIGURE **2.0-10**

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Transit Priority Areas

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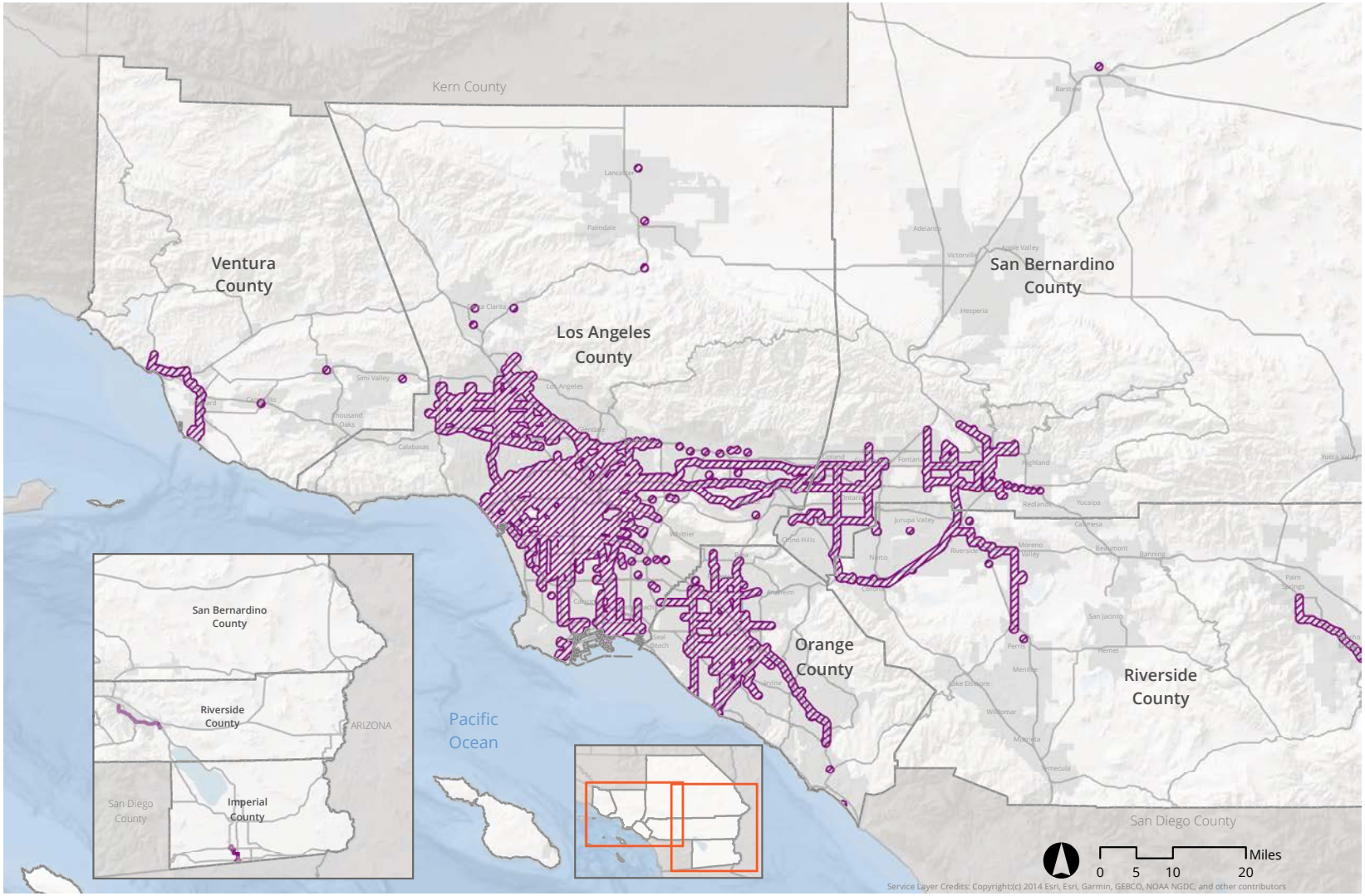

High Quality Transit Areas (2045)

HQTA

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

SOURCE: SCAG, 2019

FIGURE **2.0-11**

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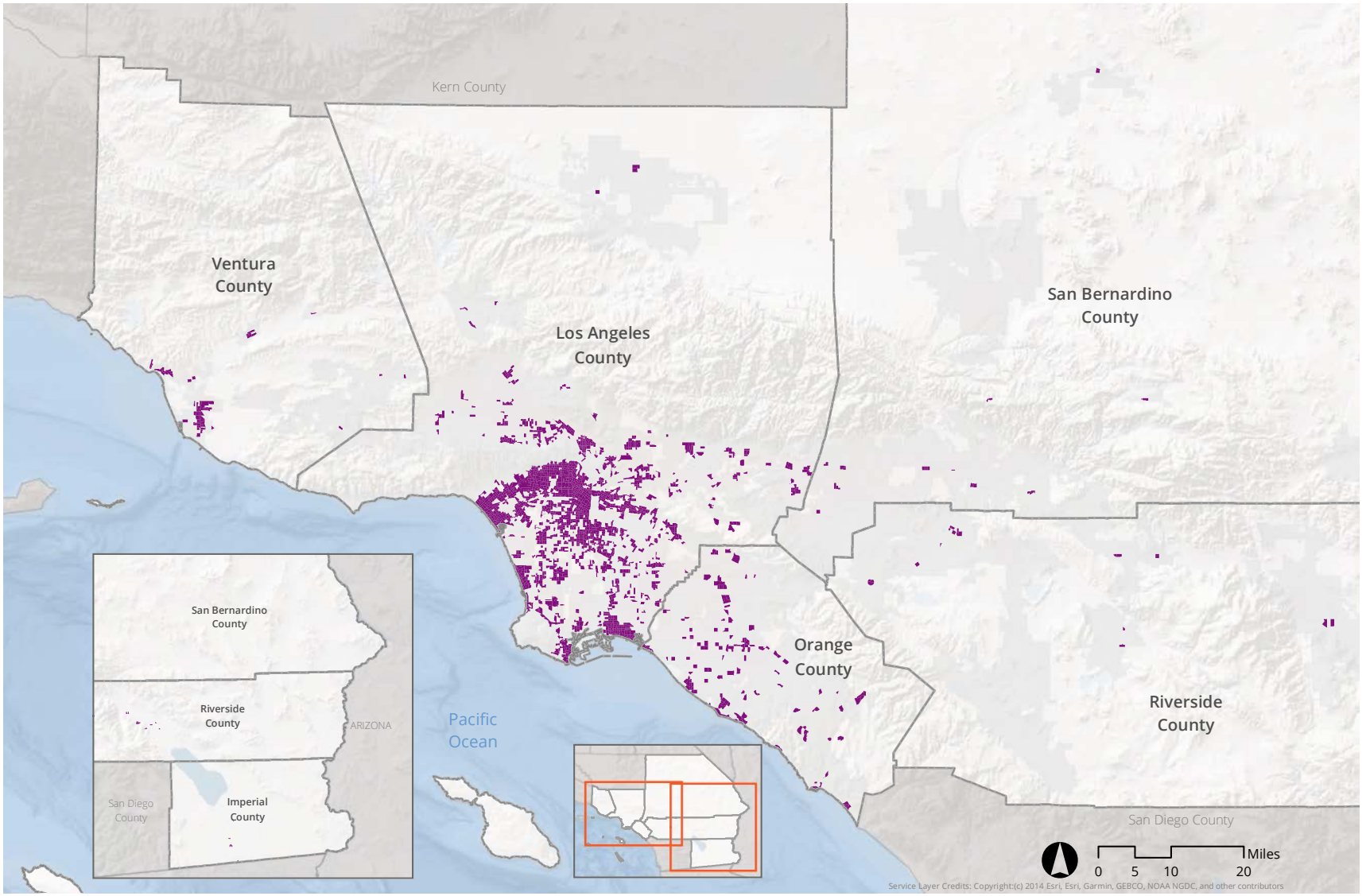
High-Quality Transit Areas throughout the SCAG Region in 2045



Neighborhood Mobility Areas (NMA)

Top 20% of TAZs

Note: Neighborhood Mobility Areas (NMA) were identified by analyzing and assigning z-scores four measures at the Tier 2 TAZ level, and subsequently summing the z-scores. TAZs that scored at the 80th percentile or higher for the composite score were considered NMAs.

SOURCE: SCAG, 2019

FIGURE **2.0-12**

IMPACT SCIENCES

Neighborhood Mobility Areas

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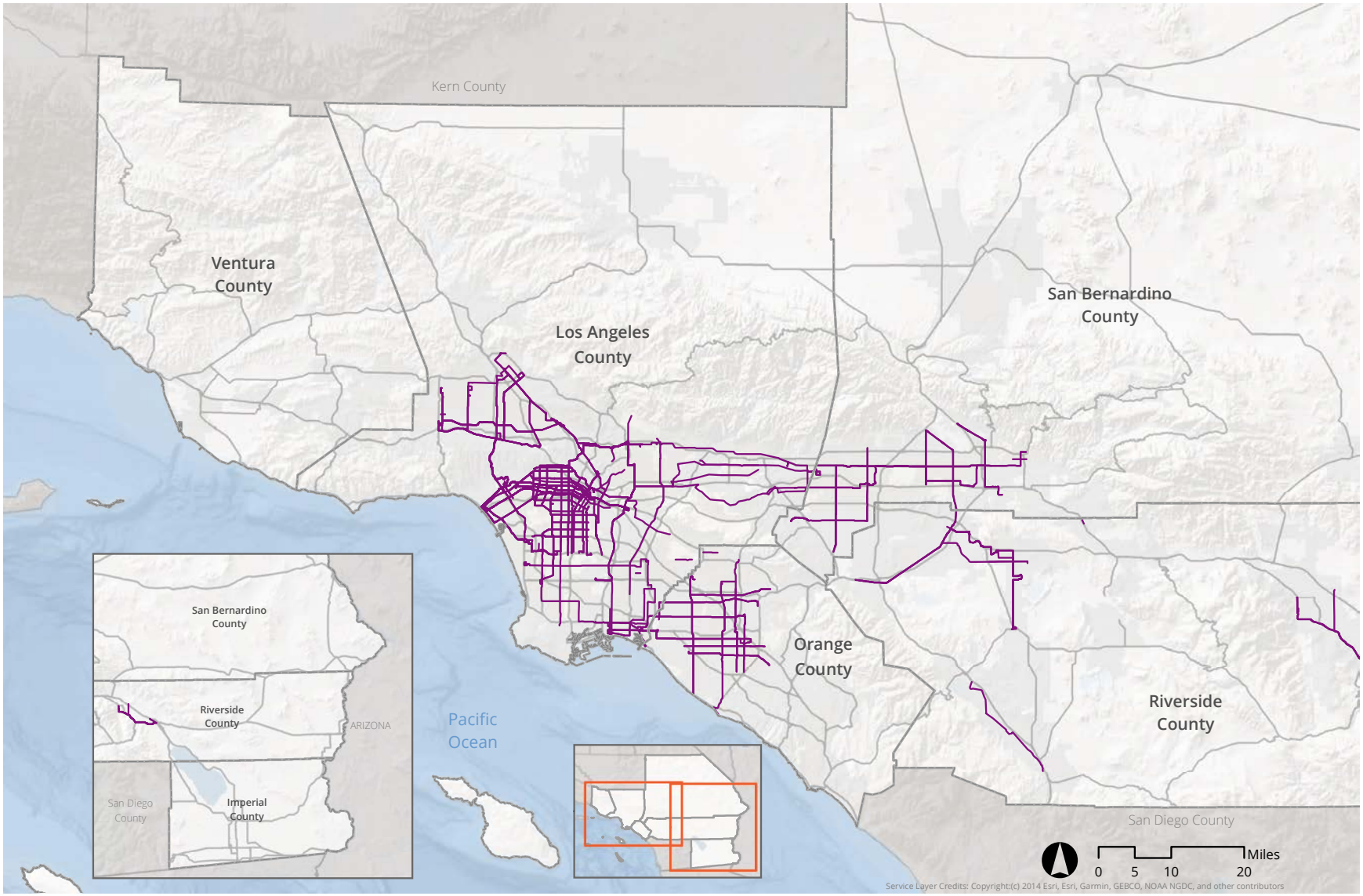

Livable Corridors

Livable Corridors

SOURCE: SCAG, 2019

FIGURE **2.0-13**

Livable Corridors

IMPACT SCIENCES

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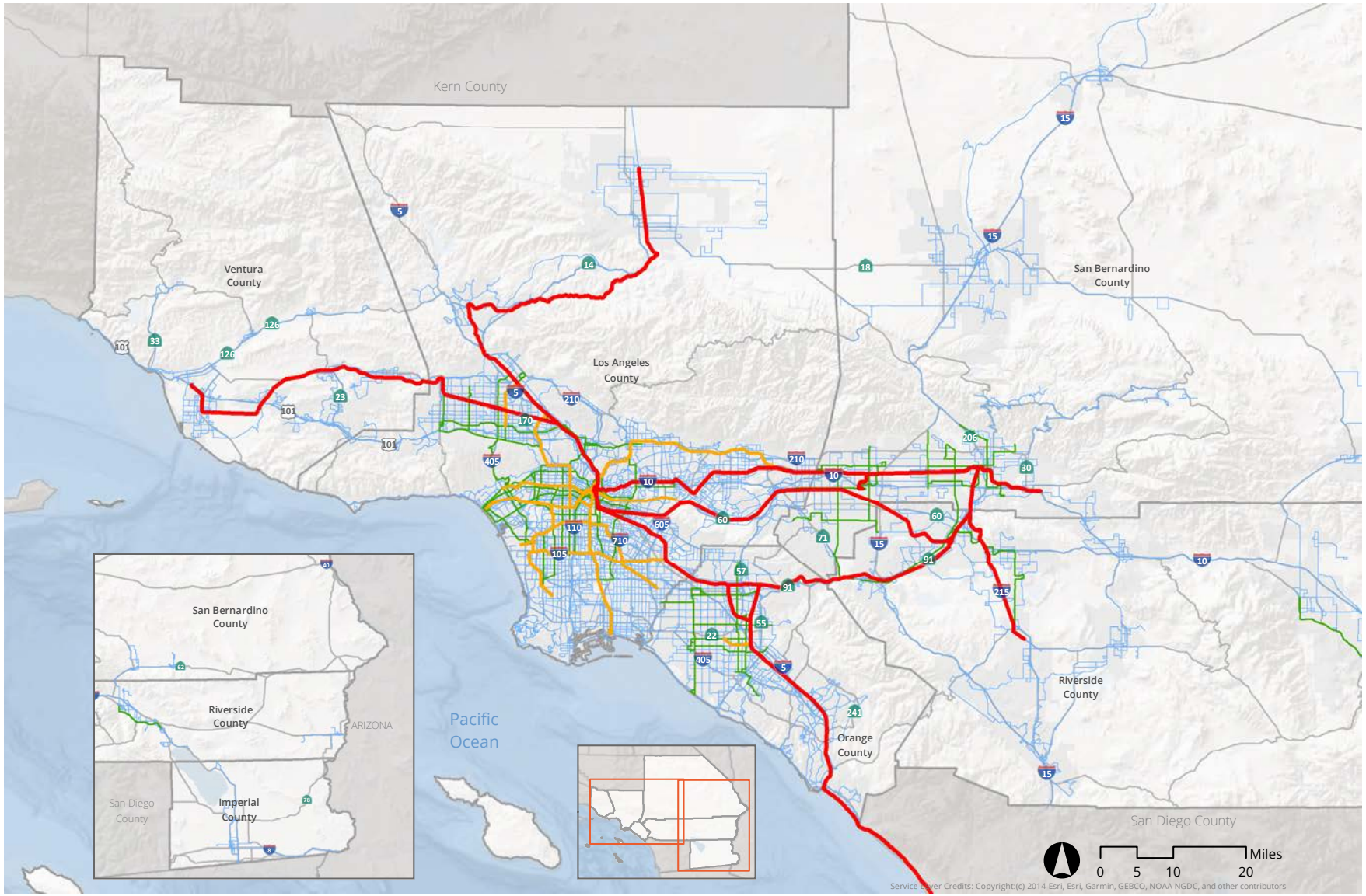

SOURCE: SCAG, 2019

FIGURE **2.0-14**

IMPACT SCIENCES

2045 Plan Transit Network

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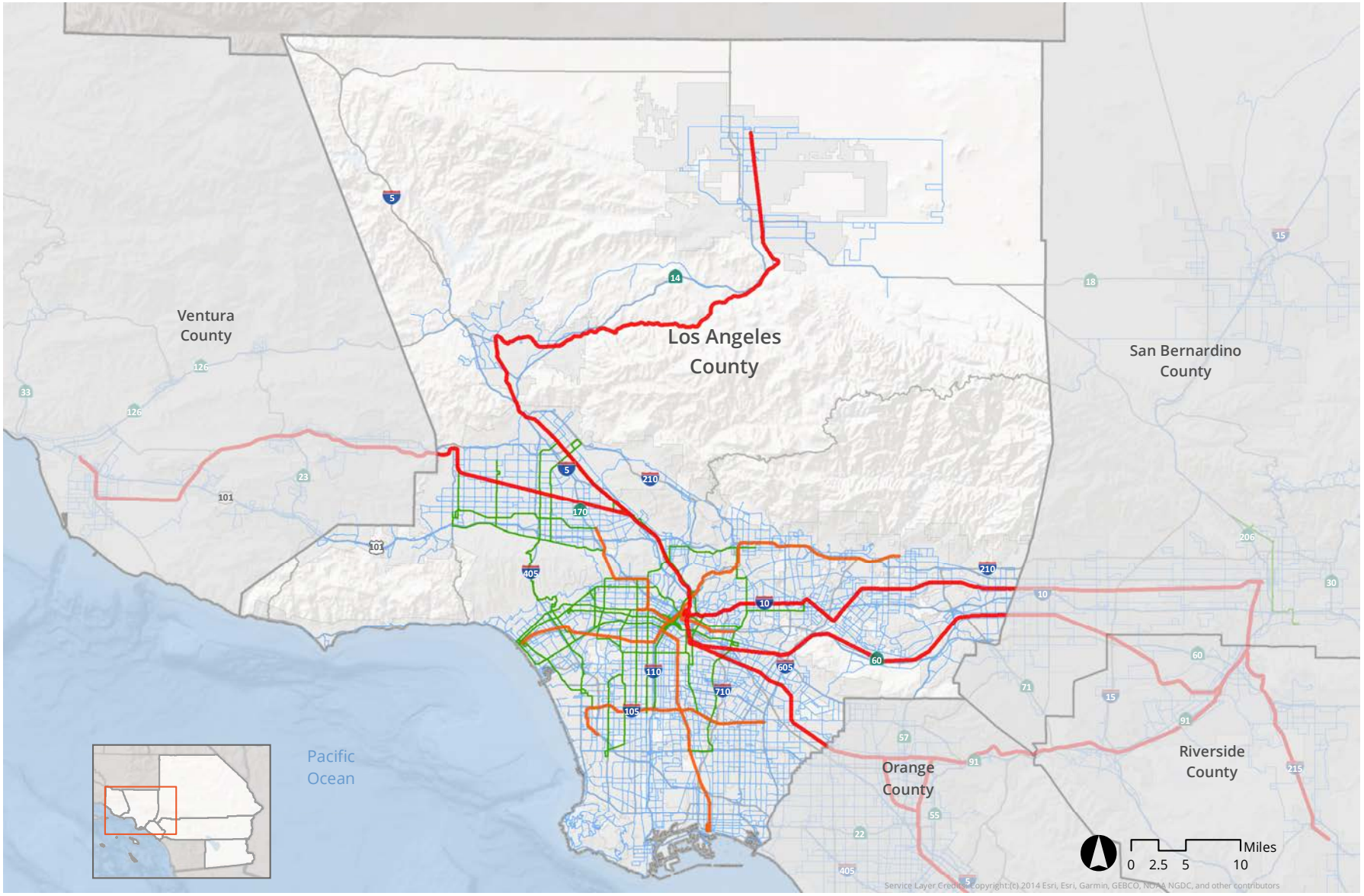

SOURCE: SCAG, 2019

FIGURE **2.0-15**

IMPACT SCIENCES

Major Rail Projects

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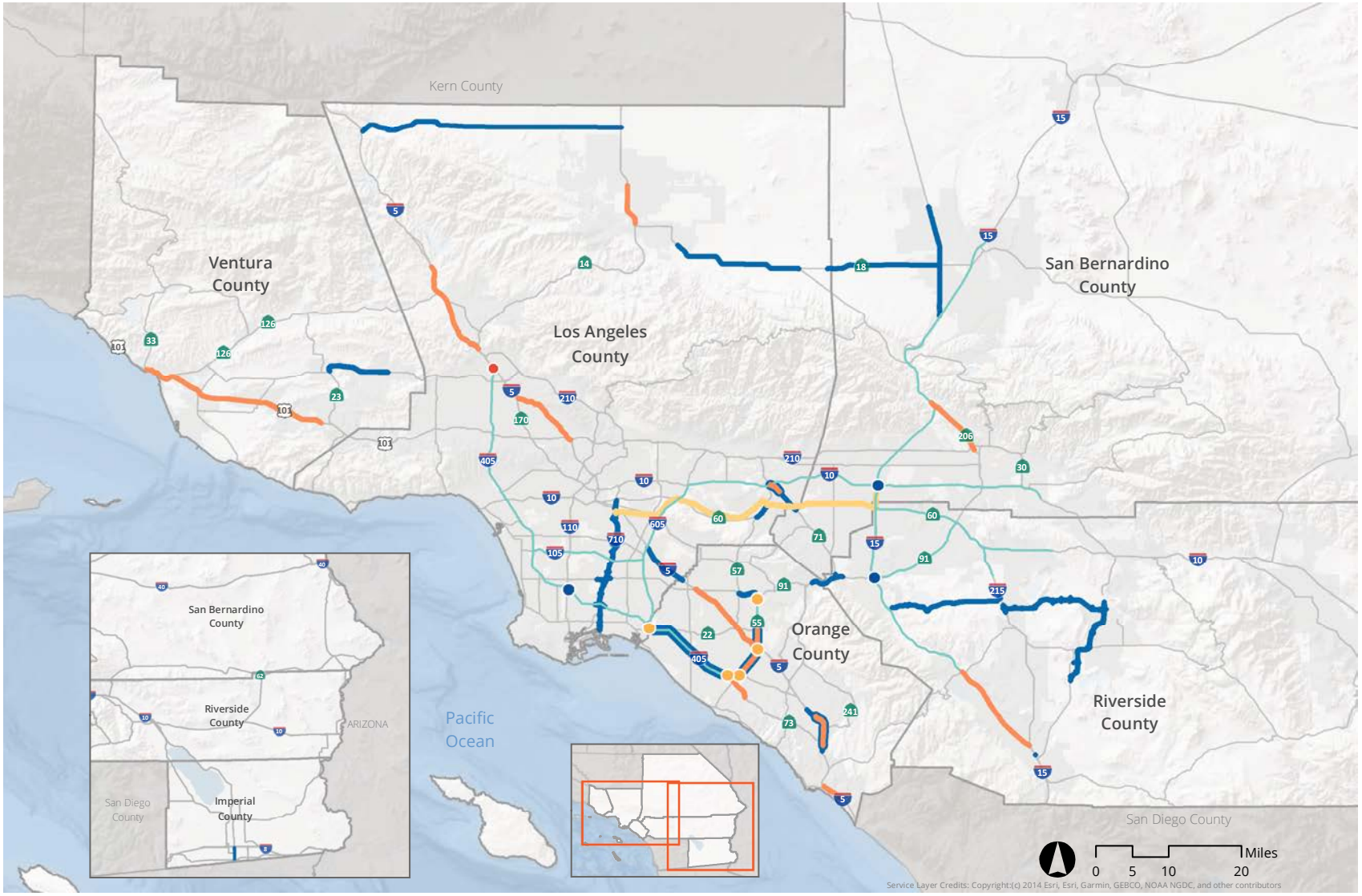


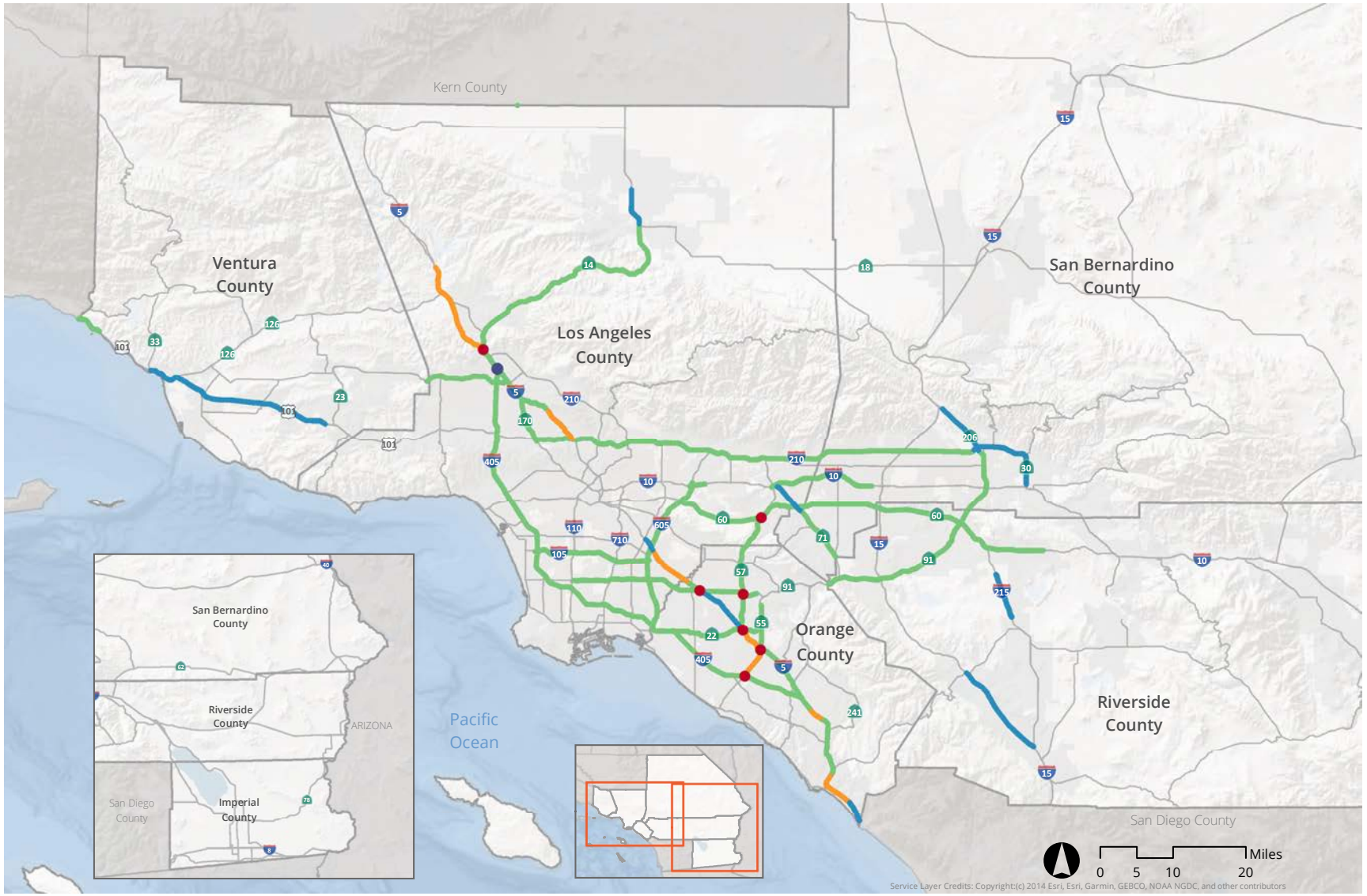
SOURCE: SCAG, 2019

FIGURE **2.0-16**

IMPACT SCIENCES

Major Highway Projects

1329.001•10/19



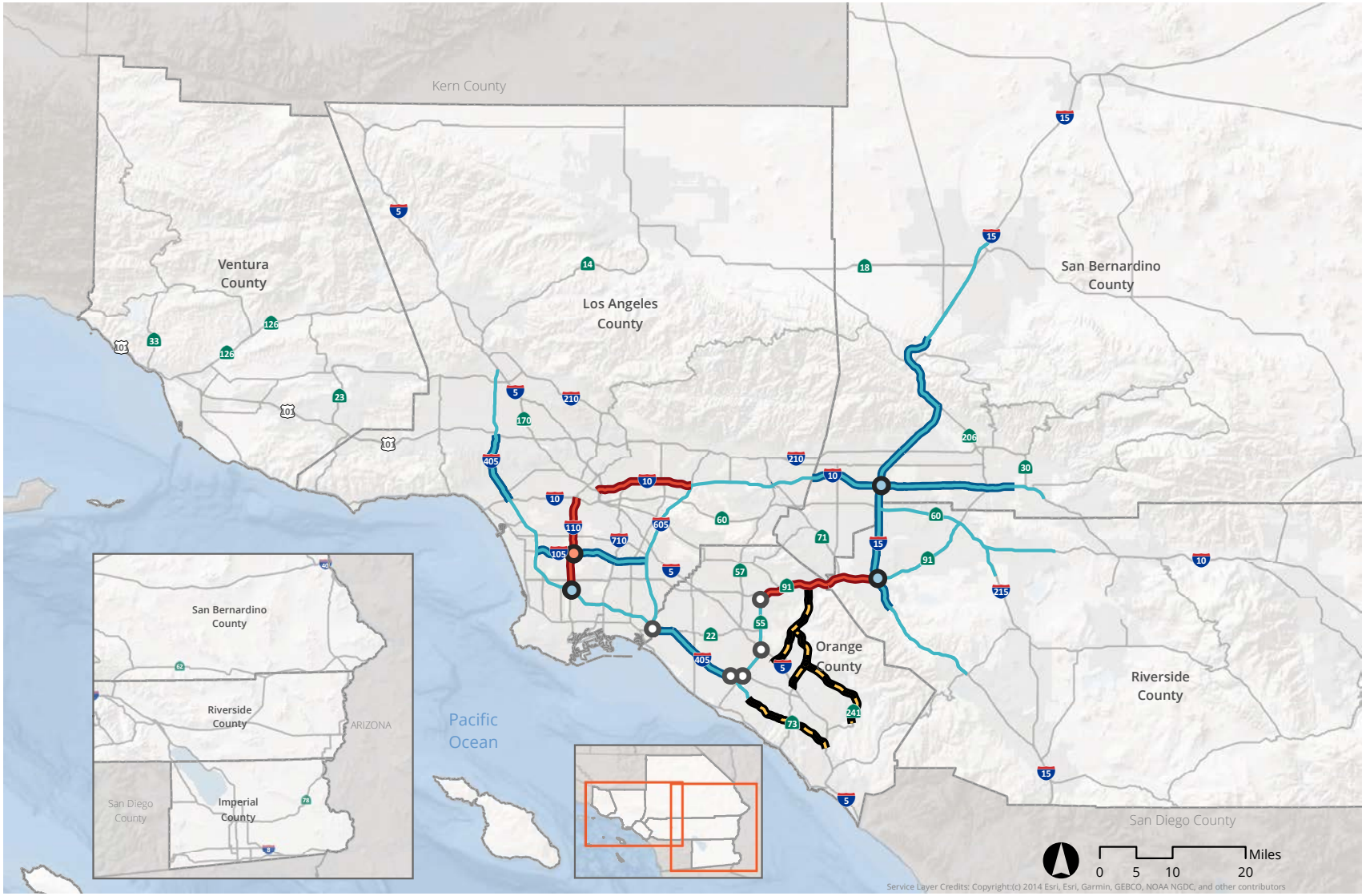
SOURCE: SCAG, 2019

FIGURE **2.0-17**

Major HOV Projects

IMPACT SCIENCES

1329.001•10/19



SOURCE: SCAG, 2019

FIGURE **2.0-18**

IMPACT SCIENCES

Planned Regional Express Lane Network

1329.001•10/19

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3.0 ENVIRONMENTAL IMPACT ANALYSIS AND MITIGATION MEASURES

3.0.1 ENVIRONMENTAL IMPACT ANALYSIS

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

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

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

3.0.2 MITIGATION MEASURES

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

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

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

3.1 AESTHETICS

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

3.1.1 ENVIRONMENTAL SETTING

3.1.1.1 Definitions

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Source: Caltrans. Scenic Highways Program, 1996.

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

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

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

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

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

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

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

3.1.1.2 Existing Conditions

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

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

Geomorphic Regions

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

Basin and Range Province

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

Coast Ranges

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

Colorado Desert Province

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

The Mojave Desert

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

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

Peninsular Ranges

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

Transverse Ranges

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

Visual Character and Quality

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

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

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

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

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

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

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

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

Note: Portions of each County have not been categorized, which means that percentages may not add up to 100 percent.
Source: SCAG Existing Land Uses (03/2017). Land use patterns have been interpreted from the following existing land use categories:

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

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

9 SCAG, 2019 Modeling SPM output September 13, 2019

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

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

Visual Resources

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

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

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

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

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

Scenic Vistas

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

Table 3.1-3
Caltrans Designated Vista Points

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

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

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

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

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

Scenic Resources within Scenic Highway Corridors

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

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

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

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

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

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

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

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

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

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

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

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

Table 3.1-4
Officially Designated State Scenic Highways

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

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

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

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

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

Table 3.1-5
Officially Designated County Scenic Highways

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

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

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

Table 3.1-6
Roadways Eligible for State Scenic Highway Designation

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

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

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

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

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

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

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

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

Transportation Facilities

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

Freeways, Highways, and Roadways

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

- The Pacific Coast Highway 1 (PCH) traverses the entire coastal side of the SCAG region. Proceeding northward, PCH enters the region at Dana Point in Orange County and follows the shoreline of the Pacific Ocean, illuminating its beaches and rugged cliffs, through Los Angeles and Ventura Counties, where it continues on to Northern California.[25]

- The 50-mile Santa Monica Mulholland Scenic Corridor runs westward from the Hollywood Freeway (U.S. 101), winding its way through the Santa Monica Mountains to Leo Carrillo State Beach in Malibu.[26]

- The 15-mile Palos Verdes Scenic Drive begins at Palos Verdes Estates and goes to Point Fermin Park in the community of San Pedro. The cliff-top section of the road offers many scenic views.

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

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

- Orange County: San Joaquin Hills, Anaheim Hills, and Santa Ana Mountains

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

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

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

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

Trains

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

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

Airports

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

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

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

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

Ports

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

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

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

Light and Glare

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

Some communities are becoming more sensitive to sources of nighttime lighting and are adopting dark sky ordinances to encourage lower level lighting in order to facilitate enjoyment of the nighttime sky (as well as avoiding impacting local observatories), avoid impacts to wildlife and natural areas, encourage energy savings (e.g., City of Malibu[27] and County of Los Angeles[28]).

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

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

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

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

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

3.1.2 REGULATORY FRAMEWORK

3.1.2.1 Federal

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

Section 4(f) refers to the original section within the U.S. Department of Transportation Act of 1966 that provided for consideration of park and recreation lands, wildlife and waterfowl refuges, and historic sites during transportation project development.[29] The law, now codified in 49 U.S. Code (USC) §303[30] and 23

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

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

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

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

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

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

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

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

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

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

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

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

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

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

National Trails System Act

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

National Forests Land Management Plans

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

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

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

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

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

3.1.2.2 State

California Department of Transportation (Caltrans) California Scenic Highways Program

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

The state laws governing the Scenic Highway Program are provided in the California Streets and Highways Code, Sections 260 through 263.[41] The State Scenic Highway System includes a list of highways that have been designated by Caltrans as scenic highways or are eligible for designation as scenic highways. These highways are designated in Section 263 of the Streets and Highways Code. Scenic highway designation can offer the following benefits:

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

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

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

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

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

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

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

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

Senate Bill 743

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

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

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

3.1.2.3 Local

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

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

County	County and City Policies and Ordinances
Imperial	**Scenic Vistas:** None designated in County or cities **Scenic Highways:** Circulation and Scenic Highways Element in the Imperial County General Plan[1] **Visual Character/Quality:** Conservation/Open Space Element of the Imperial County General Plan and City General Plans, Imperial County Code of Ordinances Chapters 12.44 Wildlife Protection and 12.48 Wild Flowers and Trees **Light and Glare:** No County-level ordinances, some cities have General Plan policies or Ordinances[2] **Shade and Shadow:** No County-adopted standards
Los Angeles	**Scenic Vistas:** Designated Public Viewing Areas within Santa Monica Mountains Local Coastal Program,[3] some cities have designated scenic views within City General Plans **Scenic Highways:** Conservation and Open Space Element of the Los Angeles County General Plan, some cities have designated scenic highways in Conservation and Open Space Elements and Transportation Elements of City General Plans **Visual Character/Quality:** Conservation and Open Space Element of the Los Angeles County General Plan and City General Plans; County and City Tree and Landscaping Ordinances **Light and Glare:** 2012 Los Angeles County Rural Outdoor Lighting District Ordinance and some City dark sky ordinances **Shade and Shadow:** The City of Los Angeles has established shade and shadow effect guidelines that are referenced by other cities in Los Angeles and Orange Counties in evaluation of impacts[4]
Orange	**Scenic Vistas:** None designated **Scenic Highways:** Transportation Element of the Orange County General Plan, some cities have designated scenic highways identified in General Plans **Visual Character/Quality:** Resources Element of the Orange County General Plan and City General Plans **Light and Glare:** County-level ordinances under review,[5] some cities have General Plan policies or ordinances **Shade and Shadow:** No County-adopted standards. The City of Los Angeles has established shade and shadow effect guidelines that are referenced by other cities in Los Angeles and Orange Counties in evaluation of impacts[6]
Riverside	**Scenic Vistas:** None designated **Scenic Highways:** Multipurpose Open Space Element of the County of Riverside General Plan, some cities have designated scenic highways identified in General Plans **Visual Character/Quality:** Riverside County Ordinance No. 559 Regulating the Removal of Trees, Multipurpose Open Space Element of the County of Riverside General Plan,[7] and City General Plans **Light and Glare:** 1988 Riverside County Ordinance No. 655, some cities have General Plan policies or Ordinances[2] **Shade and Shadow:** No County-adopted standards

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

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

Source:

(1) Imperial County Planning & Development Services. Approved January 29, 2008. Circulation and Scenic Highways Element. Available at: http://www.icpds.com/CMS/Media/Circulation-Scenic-Highway-Element-(2008).pdf

(2) Skykeepers. Outdoor Lighting Regulations in California. Available at: http://www.skykeepers.org/ordsregs/califord.html

(3) Los Angeles County Department of Regional Planning. Santa Monica Mountains Local Coastal Program. Available at: http://planning.lacounty.gov/coastal/smm Santa Monica Mountains Local Coastal Program map with public viewing areas available at: http://planning.lacounty.gov/assets/upl/project/coastal_adopted-map3.pdf

(4) City of Los Angeles. 2006. L.A. CEQA Thresholds Guide. Chapter A, Aesthetics and Visual Resources. Available at: http://planning.lacity.org/Documents/MajorProjects/CEQAThresholdsGuide.pdf

(5) Skykeepers. Outdoor Lighting Regulations in California. Available at: http://www.skykeepers.org/ordsregs/califord.html

(6) City of Los Angeles. 2006. L.A. CEQA Thresholds Guide. Chapter A, Aesthetics and Visual Resources. Available at: planning.lacity.org/Documents/MajorProjects/CEQAThresholdsGuide.pdf

(7) Riverside County. County of Riverside General Plan Chapter 5: Multipurpose Open Space Element. Available at: https://www.riversideca.gov/planning/gp2025program/GP/12_Open_Space_and_Conservation_Element.pdf

(8) San Bernardino County, Land Use Services Division. [Adopted 13 March 2007] Amended 24 April 2014. County of San Bernardino 2007 General Plan. Available at: http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGP.pdf

3.1.3 ENVIRONMENTAL IMPACTS

3.1.3.1 Thresholds of Significance

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

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

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

3.1.3.2 Methodology

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

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

3.1.3.4 Impacts and Mitigation Measures

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

Significant and Unavoidable Impacts - Mitigation required.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Mitigation Measures

SCAG Mitigation Measures

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

Project Level Mitigation Measures

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

a) Use a palette of colors, textures, building materials that are graffiti-resistant, and/or plant materials that complement the surrounding landscape and development.

b) Use contour grading to better match surrounding terrain. Contour edges of major cut-and-fill to provide a more natural looking finished profile.

c) Design new corridor landscaping to respect existing natural and man-made features and to complement the dominant landscaping of the surrounding areas.

d) Replace and renew landscaping along corridors with road widenings, interchange projects, and related improvements.

e) Retain or replace trees bordering highways, so that clear-cutting is not evident.

f) Provide new corridor landscaping that respects and provides appropriate transition to existing natural and man-made features and is complementary to the dominant landscaping or native habitats of surrounding areas.

g) Reduce the visibility of construction staging areas by fencing and screening these areas with low contrast materials consistent with the surrounding environment, and by revegetating graded slopes and exposed earth surfaces at the earliest opportunity;

h) Use see-through safety barrier designs (e.g. railings rather than walls)

Level of Significance after Mitigation

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

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

Significant and Unavoidable Impacts - Mitigation Required.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Mitigation Measures

SCAG Mitigation Measures

See **SMM AES-1**.

Project Level Mitigation Measures

See **PMM AES-1**.

Level of Significance after Mitigation

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

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

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

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

Significant and Unavoidable Impacts - Mitigation required.

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

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

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

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

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

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

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

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

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

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

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

Mitigation Measures

SCAG Mitigation Measures

See **SMM AES-1.**

Project Level Mitigation Measures

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

a) Minimize contrasts in scale and massing between the projects and surrounding natural forms and development, minimize their intrusion into important viewsheds, and use contour grading to better match surrounding terrain in accordance with county and city hillside ordinances, where applicable.

b) Design landscaping along highway corridors to add significant natural elements and visual interest to soften the hard-edged, linear transportation corridors.

c) Require development of design guidelines for projects that make elements of proposed buildings/facilities visually compatible or minimize visibility of changes in visual quality or character through use of hardscape and softscape solutions. Specific measures to be addressed include setback buffers, landscaping, color, texture, signage, and lighting criteria.

d) Design projects consistent with design guidelines of applicable general plans.

e) Require that sites are kept in a blight/nuisance-free condition. Remove blight or nuisances that compromise visual character or visual quality of project areas including graffiti abatement, trash removal, landscape management, maintenance of signage and billboards in good condition, and replace compromised native vegetation and landscape.

f) Where sound walls are proposed, require sound wall construction and design methods that account for visual impacts as follows:

- use transparent panels to preserve views where sound walls would block views from residences;
- use landscaped earth berm or a combination wall and berm to minimize the apparent sound wall height;
- construct sound walls of materials whose color and texture complements the surrounding landscape and development;

g) Design sound walls to increase visual interest, reduce apparent height, and be visually compatible with the surrounding area; and landscape the sound walls with plants that screen the sound wall, preferably with either native vegetation or landscaping that complements the dominant landscaping of surrounding areas.

Level of Significance after Mitigation

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

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

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

Significant and Unavoidable Impacts – Mitigation Required.

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

Mitigation Measures

SCAG Mitigation Measures

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

Project Level Mitigation Measures

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

a) Use lighting fixtures that are adequately shielded to a point below the light bulb and reflector and that prevent unnecessary glare onto adjacent properties.

b) Restrict the operation of outdoor lighting for construction and operation activities to the hours of 7:00 a.m. to 10:00 p.m.

c) Use high pressure sodium and/or cut-off fixtures instead of typical mercury-vapor fixtures for outdoor lighting.

d) Use unidirectional lighting to avoid light trespass onto adjacent properties.

e) Design exterior lighting to confine illumination to the project site, and/or to areas which do not include light-sensitive uses.

f) Provide structural and/or vegetative screening from light-sensitive uses.

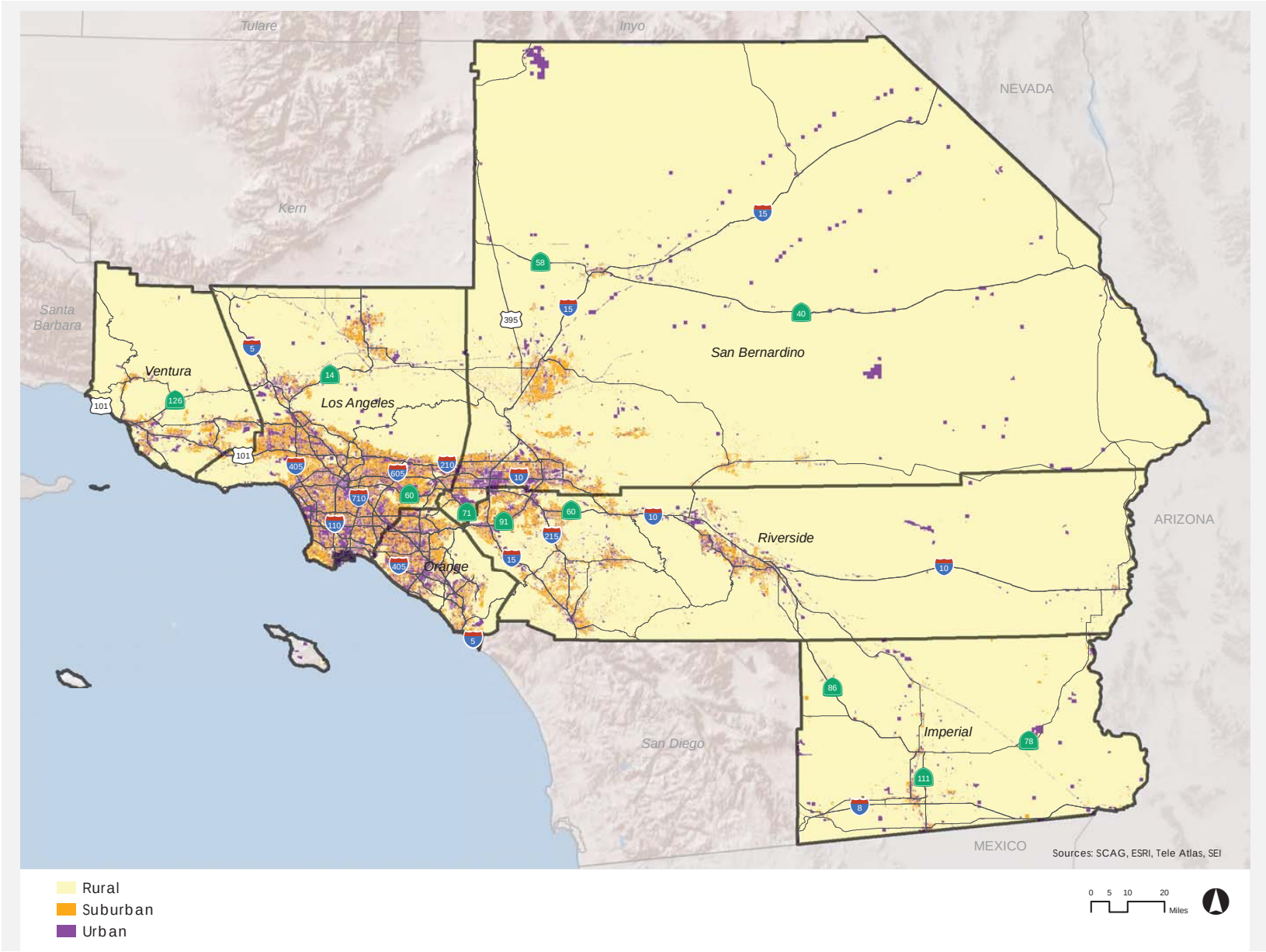
g) Shield and direct all new street and pedestrian lighting away from light-sensitive off-site uses.

h) Use non-reflective glass or glass treated with a non-reflective coating for all exterior windows and glass used on building surfaces.

i) Architectural lighting shall be directed onto the building surfaces and have low reflectivity to minimize glare and limit light onto adjacent properties.

Level of Significance after Mitigation

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



SOURCE: SCAG, 2019

FIGURE **3.1-1**

Land Use Pattern in SCAG Region

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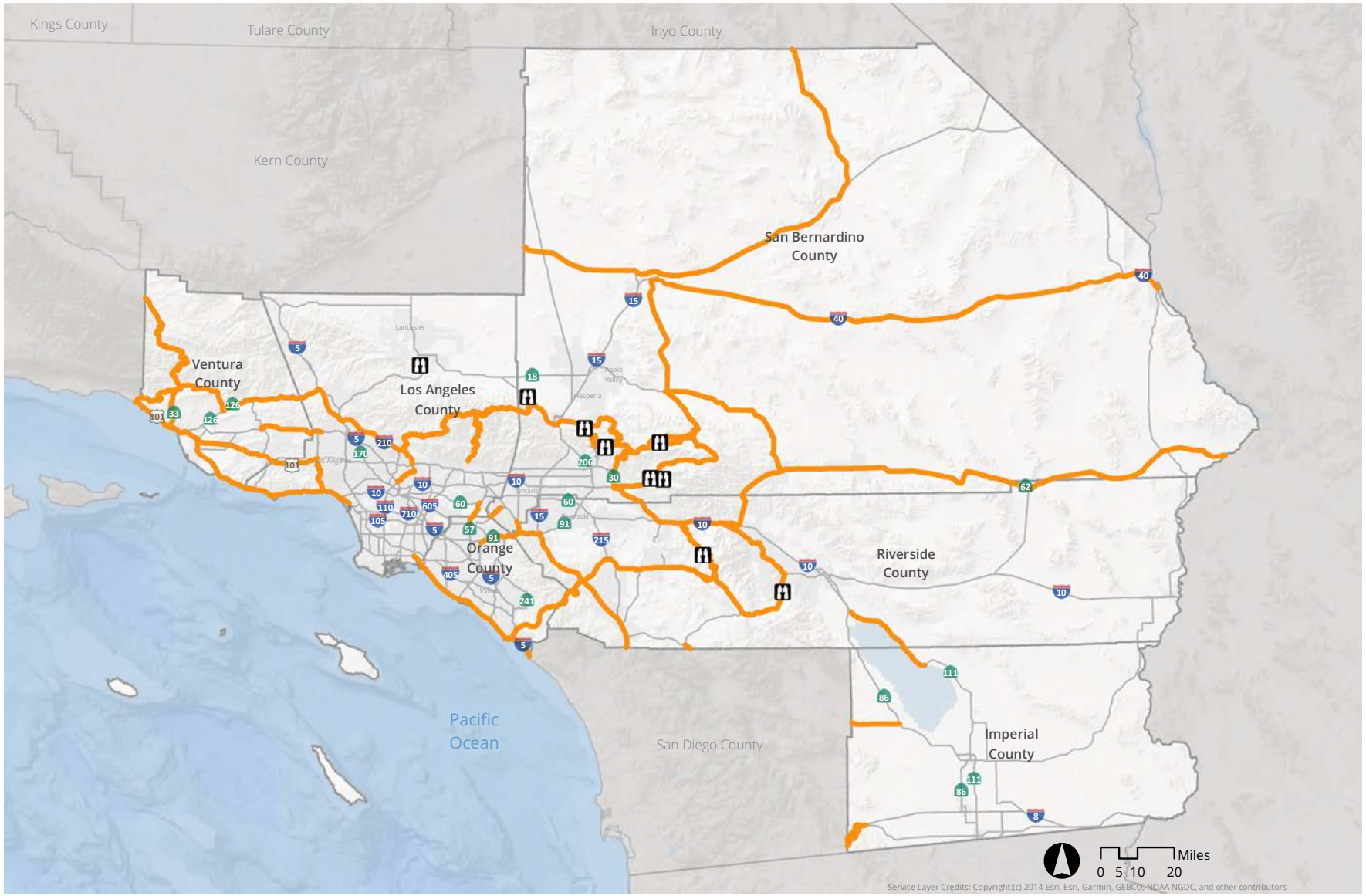

SOURCE: California Department of Transportation, 2013; TomTom Point of Interests, 2018

FIGURE **3.1-2**

IMPACT SCIENCES

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3.2 AGRICULTURE AND FORESTRY

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

3.2.1 ENVIRONMENTAL SETTING

3.2.1.1 Definitions

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

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

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

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

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

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

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

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

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

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

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

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

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

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

3.2.1.2 Existing Conditions

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

Agricultural Lands

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

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

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

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

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

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

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

5 California Department of Conservation. *Farmland Mapping & Monitoring Program*. Available online at: https://www.conservation.ca.gov/dlrp/fmmp/, accessed August 14, 2019.

6 2016 data is the most recently available data for farmland mapping.

SCAG region, which is unsurprising as they contain the most Urban and Built-up Land in the region, in both total acreage and percent acreage relative to their total size.

Table 3.2-1
SCAG Region by Land Use Category (2016)

County	Land Use Category (Acres)						
	Farmland	Grazing Land	Agricultural Land Subtotal	Urban and Built-up Land	Other Land	Water Area	Total Area Inventoried
Imperial	528,471	0	528,471	37,413	461,892	749	1,028,525
Los Angeles	27,390	239,037	266,427	182,442	671,873	3,318	1,124,060
Orange	5,715	37,114	42,829	292,689	173,173	1,026	509,717
Riverside	419,835	110,203	530,038	334,445	1,017,635	62,361	1,944,479
San Bernardino	20,393	898,633	919,026	286,407	243,604	510	1,449,547
Ventura	118,508	197,859	316,367	105,966	129,688	3,938	555,959
Totals	**1,120,312**	**1,482,826**	**2,603,158**	**1,239,362**	**2,697,865**	**71,902**	**6,612,287**

Source: California Department of Conservation, Farmland Mapping and Monitoring, 2016.

Agricultural lands in the SCAG region represent a declining trend, with the exception of Ventura County that increased marginally from 2014-2016. The conversion of irrigated farmland to urban land[7,8] is primarily due to urbanization. Non-irrigated and other land that was converted to urban land were primarily due to the construction of new homes, commercial and industrial buildings and groundwater recharge or water control ponds.[9]

Table 3.2-2, Important Farmland within the SCAG Region (2016),[10] shows the breakdown of Important Farmland in the SCAG region. Nearly 17 percent of the area inventoried by the FMMP classifies as Important Farmland.

7 Urban Land includes residential, industrial, recreational, infrastructure and institutional uses.

8 Irrigated Farmland includes most irrigated crops grown in California. When combined with soil data, these farmed areas become the Important Farmland (IFL) categories of Prime Farmland, Farmland of Statewide Importance & Unique Farmland. Because of the nature of the IFL definitions, some irrigated uses, such as irrigated pastures or nurseries, may not be eligible for all three IFL categories.

9 Non-irrigated land uses include grazing areas, land used for dryland crop farming, and formerly irrigated land that has been left idle for three or more update cycles.

10 2016 is the most recently available data as of August 2019

Table 3.2-2
Important Farmland within the SCAG Region (2016)

County	Farmland Designation (Acres)					
	Prime Farmland	Farmland of Statewide Importance	Unique Farmland	Farmland of Local Importance	Important Farmland Total	Percent of Total Area Inventoried
Imperial	190,205	297,272	2,070	38,924	528,471	51.4
Los Angeles	22,613	770	962	3,045	27,390	2.4
Orange	2,391	411	2,913	0	5,715	1.1
Riverside	117,484	43,757	32,565	226,029	419,835	21.6
San Bernardino	11,323	5,770	2,738	562	20,393	1.4
Ventura	40,976	32,992	28,950	15,590	118,508	21.3
Totals	**384,992**	**380,972**	**70,198**	**284,150**	**1,120,312**	**100**

Source: California Department of Conservation, Division of Land Resource Protection, 2016.
Notes:
(1) Figures are generated from the GIS data. Files dating from 1990-2016.

As shown above, in **Table 3.2-2**, Imperial County contains the most Prime Farmland and Farmland of Statewide Importance, due to a favorable climate, productive soils, and irrigation water from the All-American Canal. The County produced approximately $2.1 billion in agricultural crops and commodities in 2016. Major crops grown in Imperial County include vegetables, melons, and fruit and nut crops. Although Imperial County does not contain state-designated Important Grazing Land, cattle are the County's number one commodity, and livestock produced approximately $400 million (19 percent) of the county's agricultural income in 2016.[11] **Figure 3.2-1, Farmland in the SCAG Region**, displays the regional distribution of Important Farmlands within the SCAG region.

As shown in **Table 3.2-3, SCAG Region Average Annual Acreage Change (1984-2016)**, the SCAG region lost an average of 9,148 acres of farmland per year of Important Farmland from 1984 to 2016.[12]

11 Imperial County. 2017. *2016 Imperial County Agricultural Crop and Livestock Report*. Available online at: https://www.co.imperial.ca.us/ag/docs/spc/crop_reports/2016_Imperial_County_Crop_and_Livestock_Report.pdf, accessed October 25, 2018.

12 California Department of Conservation, *Farmland Mapping and Monitoring Program: County Data*. Historic land use data for all six counties in the SCAG region. 1984-present (2016). Available at: https://www.conservation.ca.gov/dlrp/fmmp/Pages/county_info.aspx

Table 3.2-3
SCAG Region Average Annual Acreage Change (1984-2016)

County	1984 Important Farmland Acreage	2016 Important Farmland Acreage	1984-2016 Net Acreage Lost	1984-2016 Net Acreage Lost (percent)	Average Annual Acreage Lost
Imperial	562,132	528,471	33,661	6%	1,052
Los Angeles	60,877	27,390	33,487	55%	1,046
Orange	26,535	5,715	20,820	78%	651
Riverside	561,542	419,835	141,707	25%	4,428
San Bernardino	69,575	20,393	49,182	71%	1,537
Ventura	132,388	118,508	13,880	10%	434
Totals	**1,413,049**	**1,120,312**	**292,737**	**21%**	**9,148**

Source:
California Department of Conservation, Farmland Mapping and Monitoring Program: County Data. Historic land use conversion data for all six counties in the SCAG region, 1984-present (2016). Available at: https://www.conservation.ca.gov/dlrp/fmmp/Pages/county_info.aspx

Los Angeles County is the most urbanized county in the SCAG region and contains only 2.4 percent of Important Farmland. Despite this, the County reaped over $135 million from agricultural commodities in 2017 (the most recent data available). Nursery products are the number one commodity in Los Angeles County, followed by vegetable crops, and field crops.[13]

Orange County was once a rural community that relied primarily on its agricultural economy that included oranges, apricots, and walnuts. Similar to Los Angeles County, Orange County has become heavily urbanized and now contains the lowest acreage of Important Farmland of any county in the SCAG region. Despite this, Orange County produced $114 million from agricultural crops and commodities, the majority of which was generated by nursery crops, as well as tree fruit and berry crops.[14]

Riverside County contains the most Unique Farmland and Farmland of Local Importance within the region, due to its soil quality, moisture, and growing season that sustain high value crops. In 2016,

13 Los Angeles County. 2018. *2017 Los Angeles County Crop and Livestock Report*. Available online at: http://file.lacounty.gov/SDSInter/acwm/1052741_2017FINALCROPREPORT.pdf, accessed July 29, 2019

14 Orange County. 2017. *Orange County 2016 Annual Crop Report.* Available online at: http://www.ocagcomm.com/documents/2016OrangeCountyCropReport.pdf, accessed March 19, 2019.

Riverside County grossed approximately $1.3 billion from agricultural production, down 2 percent from 2015. Major crops in Riverside County include summer squash, okra, eggplant, and melon.[15]

San Bernardino, despite having the most agricultural land in the SCAG region, has almost the least amount of Important Farmland, second only to Orange County. This is due to the massive amount of Grazing Land that constitutes most of the agricultural land in San Bernardino County. In 2017, the County's gross value of agricultural production totaled approximately $465 million. Milk is the number one commodity and the meat from cattle and calves is the number two commodity for the County.[16]

Ventura County has some of the most productive Prime and Unique Farmlands in the nation. Over 21 percent of inventoried land in the County is designated as Important Farmland and in 2016, the County generated $2.1 billion from agricultural commodities. Strawberries and lemons are the top crops in the County, followed by nursery stock, celery, and raspberries.[17]

Forestry Resources

Forest lands within the SCAG region include the Angeles National Forest (Los Angeles and San Bernardino counties), San Bernardino National Forest (San Bernardino and Riverside counties), Los Padres National Forest (Los Angeles and Ventura County), and the Cleveland National Forest (Orange County and Riverside County), as well as forest lands within the open space zones of Imperial and Los Angeles counties (**Figure 3.2-2, Forest Lands in SCAG Region)**.

Within the SCAG region, forests growing at higher elevations (approximately 3,000 feet and above) are dominated by conifers. Montane conifer forests are often comprised of white fir and sugar pine, while mountain juniper and lodgepole pine thrive on open slopes and flats, respectively. Interior and Canyon live oak is also found in areas of higher elevation, as are big cone-fir trees, and Coulter, ponderosa and Jeffrey pines. The San Bernardino Mountains maintain the highest elevation forests in the region, which are dominated by limber pine.

Forests and woodlands in lower elevations of the SCAG region are largely oak-dominated, supporting Engelmann and valley oak. Lower woodlands also consist of a mix of Coulter pine, canyon live oak, black

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15 Riverside County. 2017. *Agricultural Production Report 2016*. Available online at: https://www.rivcoawm.org/Portals/0/Publications/Crop-Reports-EntireCounty/2016-crop-report.pdf, accessed March 19, 2019.

16 San Bernardino County. 2017. *Annual Crop Report 2016*. Available online at: http://cms.sbcounty.gov/Portals/13/CropReports/2016CropReport.pdf, accessed August 14, 2019.

17 Ventura County. 2016. 2016 Crop and Livestock Report. Available online at: http://vcportal.ventura.org/AgComm/docs/crop-reports/Ag%20Crop%20Report%202016%2001-08-18%20lr.pdf, accessed March 19, 2019.

oak, ponderosa pine, and Jeffrey pine, as well as understory grasses and herbs, most of which are non-native. Coast live oak woodland forms along coastal slopes and is often found associated with California walnut. In the vicinity of Sierra Peak in Orange County is the Tecate cypress forest, which thrives on low-fertility soils. The fire-adapted conifer species is listed by the California Native Plant Society and the forest is considered a special-status natural community by the California Natural Diversity Database (CNDDB).[18]

The California Department of Fish and Wildlife (CDFW) recognizes valley oak woodland, Engelmann oak woodland, and California walnut woodland as sensitive woodland communities in the SCAG region. These communities as well as others have declined dramatically due to urban and agricultural development over the past 100 years. Wildfires have also negatively affected forests and woodlands, many of which can be attributed to humans. It is estimated that 4,150 human-caused fires have burned approximately 296,281 acres of Southern California between 2000 and 2017.[19] Fire management and protection professionals now face longer fire seasons, bigger fires, and more acres burned on average each year, and more extreme fire behavior as climate change intensifies fire conditions.

Timberland

"Timberland" means privately or publicly owned land which is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses, and which is capable of growing an average annual volume of wood fiber of at least 15 cubic feet per acre. "Timber" means trees of any species maintained for eventual harvest for forest products purposes, whether planted or of natural growth, standing or down, on privately or publicly owned land, including Christmas trees, but does not mean nursery stock. Timber is permitted in the A-2 and A-3 agricultural zones in Imperial County, the Open Space zone in Los Angeles County with a Conditional Use Permit (CUP), and the Open Space Overlay in San Bernardino County with a CUP. Riverside County permits timberland production within the R-R (rural residential) zone and W-2 (controlled development areas) zone if a CUP has been obtained. Some counties designate areas of timberland as Timberland Preserves. These areas zoned as Timberland Production Zones (TPZs) are restricted in use to the production of timber for at least ten years. There is no TPZ land in the SCAG region.[20]

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18 SCAG. 2015. *2016 Regional Transportation Plan/ Sustainable Communities Strategy (RTP/SCS) Draft Program Environmental Impact Report*. December.

19 National Interagency Fire Center. 2017. *Fire Info*. Available online at: https://www.nifc.gov/fireInfo/fireInfo_stats_human.html, accessed January 14, 2019.

20 California Land Conservation Assistance Network. 2013. *Timberland Production Zones*. Available online at: https://www.californialandcan.org/#regionMap, accessed January 14, 2019.

3.2.2 REGULATORY FRAMEWORK

3.2.2.1 Federal

United States Forest Service (USFS) National Forest Management Act of 1976

The USFS manages approximately 2.3 million acres of national forests in the SCAG region, which is subject to the National Forest Management Act of 1976 (Public Law 94-588),[21] a federal law that governs the administration of national forests. There are four national forests in the SCAG region, each of which is managed in accordance with a Forest Management Plan: the Angeles National Forest,[22] San Bernardino National Forest,[23] Los Padres National Forest,[24] and Cleveland National Forest.[25]

Farmland Protection Policy Act of 1981 (FPPA)

Congress passed the Agriculture and Food Act of 1981 (Public Law 97-98)[26] containing the FPPA subtitle I of Title XV, Section 1539-1549. Pursuant to the FPPA of 1981 Sections 1539–1549, the Secretary of Agriculture is directed to establish and carry out a program to "minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses, and to the extent practicable, will be compatible with state, unit of local government, and private programs and policies to protect farmland" (7 U.S. Code [USC] 4201–4209 & 7 USC 658).[27] Projects are subject to FPPA requirements if they may irreversibly convert farmland (directly or indirectly) to nonagricultural use and are completed by a federal agency or with assistance from a federal agency. The purpose of the FPPA to minimize the impacts federal programs have on the unnecessary and irreversible

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21 U.S. Senate Committee on Agriculture, Nutrition, & Forestry. *National Forest Management Act of 1976*. Available at: https://www.agriculture.senate.gov/imo/media/doc/National%20Forest%20Management%20Act%20Of%201976.pdf, accessed August 14, 2019.

22 U.S. Department of Agriculture, Forest Service. *Angeles National Forest: Planning*. Available at: http://www.fs.usda.gov/main/angeles/landmanagement/planning, Accessed November 2, 2018.

23 U.S. Department of Agriculture, Forest Service. *San Bernardino National Forest: Planning.* Available at: http://www.fs.usda.gov/main/sbnf/landmanagement/planning, Accessed November 2, 2018.

24 U.S. Department of Agriculture, Forest Service. *Los Padres National Forest: Planning*. Available at: http://www.fs.usda.gov/main/lpnf/landmanagement/planning, accessed November 2, 2018.

25 U.S. Department of Agriculture, Forest Service. *Cleveland National Forest: Planning.* Available at: http://www.fs.usda.gov/main/cleveland/landmanagement/planning, accessed November 2, 2018.

26 United States Senate Committee on Agriculture, Nutrition, & Forestry. *Agriculture and Food Act of 1981.* Available at: https://www.agriculture.senate.gov/imo/media/doc/97-98%20-%20Agriculture%20And%20Food%20Act%20Of%201981.pdf, accessed August 14, 2018.

27 U.S. Department of Agriculture, Natural Resources Conservation Service. *Farmland Protection Policy Act* (FPPA). Available at: http://www.nrcs.usda.gov/wps/portal/nrcs/detail/ca/home/?cid=nrcs144p2_063934, accessed November 2, 2018.

conversion of farmland to nonagricultural uses. It ensures that to the extent possible, federal programs are administered to be compatible with state, local units of government, and private programs and policies to protect farmland. Federal agencies are required to develop and review their policies and procedures to implement the FPPA every two years. The FPPA does not authorize the federal government to regulate the use of private or nonfederal land or, in any way, affect the property rights of owners. For the purpose of FPPA, farmland includes Prime Farmland, Unique Farmland, and Land of Statewide or Local Importance. Farmland subject to FPPA requirements does not have to be currently used for cropland. It can be forest land, pastureland, cropland, or other land, but not water or urban built-up land.

Federal Farm and Ranchland Protection Program

The Federal Farm and Ranchland Protection Program (FRPP) is a voluntary easement purchase program that helps farmers and ranchers keep their land in agriculture.[28] Pursuant to Sections 1539-1549 of the Farmland Protection Policy Act (FPPA) of 1981 Sections, the Secretary of Agriculture is directed to establish and carry out a program to "minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses, and to the extent practicable, will be compatible with state, unit of local government, and private programs and policies to protect farmland." (7 USC 4201-4209 & 7 USC 658). The program provides matching funds to state, tribal, or local governments and nongovernmental organizations with existing farmland protection programs to purchase conservation easements or other interests in land.

The FRPP is re-authorized in the Farm Security and Rural Investment Act of 2002 (Farm Bill).[29] The NRCS manages the program. Technical Committee, awards funds to qualified entities to conduct their farmland protection programs. Although a minimum of 30 years is required for conservation easements, priority is given to applications with perpetual easements.

Federal Forest Legacy Program

The Forest Legacy Program (FLP) (16 USC § 2103c)[30] was part of the 1990 Federal Farm Bill.[31] The purpose of the FLP is to protect environmentally important forestland under private ownership from

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28 U.S. Department of Agriculture. *Farm and Ranch Lands Protection Program*. Available at: https://www.nrcs.usda.gov/wps/portal/nrcs/detail/null/?cid=nrcs141p2_018768, accessed August 14, 2019.

29 Farm Security and Rural Investment Act of 2002. Available at: https://www.congress.gov/107/plaws/publ171/PLAW-107publ171.pdf, accessed August 14, 2019.

30 U.S. Department of Agriculture. 2017. *Forest Legacy Program Implementation Guidelines*. Available at: https://www.fs.fed.us/sites/default/files/fs_media/fs_document/15541-forest-service-legacy-program-508.pdf, accessed August 14, 2019.

conversion to non-forest uses, such as residential or commercial development. The FLP promotes the use of voluntary conservation easements on these properties. Landowners who wish to participate may sell or transfer particular rights, such as the right to develop the property or to allow public access, while retaining ownership of the property and the right to use it in any way consistent with the terms of the easement. The agency or organization holding the easement is responsible for managing the rights it acquires and for monitoring compliance by the landowner. Forest management activities, including timber harvesting, hunting, fishing, and hiking are encouraged, provided they are consistent with the program's purpose.

Agricultural Improvement Act of 2018

The Agricultural Improvement Act of 2018, or 2018 Farm Bill, which was signed on December 20, 2018 (and will remain in effect through 2023), builds upon and continues to implement many of the crucial programs that serve agricultural producers. The US Department of Agriculture is charged with implementing the bill, which reauthorized previous programs in the 2014 Farm Bill to serve producers now while they seek public input for future programs.[32] The 2018 Farm Bill continued funding for major programs but did include some changes to Natural Resources Conservation Programs such as expanding support to producers who address significant natural resources concerns through adoption of conservation practices and activities.[33] All major conservation programs are continued, although some have been modified.

Federal Environmental Quality Incentives Program (EQIP)

The Environmental Quality Incentives Program (EQIP) is a voluntary program that provides financial and technical assistance through contracts up to 10 years in length to farmers and ranchers who face threats to soil, water, air, and related natural resources on their land. These contracts provide financial assistance to help plan and implement conservation practices that address natural resource concerns and for opportunities to improve soil, water, plant, animal, air and related resources on agricultural land and non-industrial private forestland. In addition, another purpose of EQIP is to help producers meet federal, State, Tribal and local environmental regulations.

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31 Food, Agriculture, Conservation, and Trade Act of 1990. Available at: https://www.congress.gov/bill/101st-congress/senate-bill/2830, accessed August 14, 2019.

32 U.S. Department of Agriculture, Farmers.gov, *2018 Farm Bill*. Available at: https://www.farmers.gov/farmbill, accessed June 12, 2019.

33 U.S. Department of Agriculture. *What's New: Natural Resources Conservation Service (NRCS) and the 2018 Farm Bill*. Available at: https://www.farmers.gov/sites/default/files/documents/NRCS-FarmBill2018_WhatsNew-19.pdf, accessed June 12, 2019.

3.2.2.2 State

The California Land Conservation Act (Williamson Act)

The California Land Conservation Act (Williamson Act) of 1965 was enacted by the California State Legislature in 1965 to encourage the preservation of agricultural lands.[34] The California Department of Conservation administers the Williamson Act, for the conservation of farmland and other resource-oriented laws. The Williamson Act program permits property tax adjustments for landowners who contract with a city or county to keep their land in agricultural production or approved open space uses for at least 10 years. Lands covered by Williamson Act contracts are assessed on the basis of their agricultural value instead of their potential market value under nonagricultural uses. In return for the preferential tax rate, the landowner is required to contractually agree to not develop the land for a period of at least 10 years.[35]

Williamson Act contracts are renewed annually for 10 years unless a party to the contract files for non-renewal.[36] The filing of a non-renewal application by a landowner ends the automatic annual extension of a contract and starts a nine-year phase-out of the contract. During the phase-out period, the land remains restricted to agricultural and open-space uses, but property taxes gradually return to levels associated with the market value of the land.[37] At the end of the nine-year non-renewal process, the contract expires, and the owner's uses of the land are restricted only by applicable local zoning.

The Williamson Act defines compatible use of contracted lands as any use determined by the county or city administering the preserve to be compatible with the agricultural, recreational, or open-space use of land within the preserve and subject to contract.[38] However, uses deemed compatible by a county or city government must be consistent with the principles of compatibility set forth in Government Code section 51231, 51238, or 51238.1.[39]

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34 California Department of Conservation. 2019. *Williamson Act Program Overview*. Available online at: https://www.conservation.ca.gov/dlrp/wa/Pages/wa_overview.aspx, accessed August 14, 2019.

35 California Department of Conservation. 2019. *Williamson Act Contracts*. Available at: https://www.conservation.ca.gov/dlrp/wa/Pages/contracts.aspx, accessed August 14, 2019.

36 Ibid.

37 California Department of Conservation. 2019. *Williamson Act Contract Removal.* Available at: https://www.conservation.ca.gov/dlrp/wa/Pages/removing_contracts.aspx, accessed August 14, 2019.

38 Gov. Code, § 51201[e].

39 California Legislative Information. *ARTICLE 1. General Provisions [51200-51207].*

Within the SCAG region, Imperial, Los Angeles, Riverside, San Bernardino and Ventura counties have land under a Williamson Act contract, although Santa Catalina Island is the only contracted area in Los Angeles County. Orange County no longer has any land under a Williamson Act contract.[40]

Open Space Subvention Act

The Open Space Subvention Act (OSSA) of 1972 (Gov. Code, § 16140 *et seq.*) was enacted on January 1, 1972 to provide for the partial replacement of local property tax revenue foregone as a result of participation in the Williamson Act and other enforceable open space restriction programs. Participating local governments receive annual payment on the basis of the quantity (number of acres), quality (soil type and agricultural productivity), and, for Farmland Security Zone contracts, location (proximity to a city) of land enrolled under eligible, enforceable open space restrictions.[41]

The Right to Farm Act of 1981

The Right to Farm Act of 1981 (Civ. Code, § 3482.5) is designed to protect commercial agricultural operations from nuisance complaints that may arise when an agricultural operation is conducting business in a "manner consistent with proper and accepted customs." The code specifies that established operations that have been in business for three or more years that were not nuisances at the time they began shall not be considered a nuisance as a result of new land use.[42]

Farmland Security Zone Act

The Farmland Security Zone Act (California Government Code Sections 51296–51297.4) is similar to the Williamson Act and was passed by the California State Legislature in 1999 to ensure that long-term farmland preservation is part of public policy.[43] Farmland Security Zone Act contracts are sometimes referred to as "Super Williamson Act Contracts." Under the provisions of this act, a landowner already under a Williamson Act contract can apply for Farmland Security Zone status by entering into a contract with the county. Farmland Security Zone classification automatically renews each year for an additional 20 years. In return for a further 35 percent reduction in the taxable value of land and growing improvements (in addition to Williamson Act tax benefits), the owner of the property promises not to

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40 California Department of Conservation (DOC). 2017. *Williamson Act Contract Land by County*. Available online at: ftp://ftp.consrv.ca.gov/pub/dlrp/WA/, accessed January 15, 2019.

41 CA Department of Conservation. *Open Space Subvention Act*. Available at: https://www.conservation.ca.gov/dlrp/wa/Pages/Open-Space-Subvention.aspx, accessed August 15, 2019.

42 California Civil Code § 3482.5, "The Right to Farm Act." Available at: http://www.farmlandinfo.org/sites/default/files/California_RTF_Act_1.pdf, accessed August 15, 2019.

43 California Department of Conservation. Accessed 02 November 2018. *Farmland Security Zones*. Available at: http://www.conservation.ca.gov/dlrp/wa/Pages/Farmland-Security-Zones.aspx, accessed November 2, 2018.

develop the property into non-agricultural uses. Currently, Ventura County is the only county in the SCAG region with lands designated as Farmland Security Zones.

The Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000

The Cortese-Knox-Hertzberg Local Government Reorganization Act (Cortese-Knox-Hertzberg Act) of 2000 (Gov. Code, § 56000 *et seq*.) established procedures for local government changes of organization, including city incorporations, annexations to a city or special district, and city and special district consolidations. This act requires that development or use of land for other than open space shall be guided away from existing prime agricultural lands in open space use toward areas containing nonprime agricultural lands, unless that action would not promote that planned, orderly, efficient development of an area.[44]

California Farmland Conservancy Program Act

The California Farmland Conservancy Program Act of 2010 (Pub. Resources Code, § 10200 *et seq.*), also known as Sen. Bill No. 1142 (Stats. 2010, ch. 323) (SB 1142), established the California Farmland Conservancy Program (CFCP), which provides grants for agricultural conservation easements.[45] An agricultural conservation easement aims to maintain agricultural land in active production by removing the development pressures from the land. Such an easement prohibits practices that would damage or interfere with the agricultural use of the land. Because the easement is a restriction on the deed of the property, the easement remains in effect even when the land changes ownership. Agricultural conservation easements are created specifically to support agriculture and prevent development on the subject parcels. While other benefits may accrue because the land is not developed (scenic and habitat values, for example), the primary use of the land is agricultural. Easements funded by the CFCP must be of a size and nature suitable for viable commercial agriculture.

The Forest Practice Act

The California Department of Forestry and Fire Protection (CALFIRE) enforces the laws that regulate logging on privately-owned lands in California. The Forest Practice Act was enacted in 1973 to ensure that logging is done in a manner that will preserve and protect fish, wildlife, forests and streams. CALFIRE reviews and approves plans for timber harvesting on private lands. In addition, through its

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44 California State Assembly. 2018. *Guide to the Cortese-Knox Hertzberg Local Government Reorganization Act*. Available online at: https://calafco.org/sites/default/files/resources/CKH%20Guide%20Update%202018.pdf, accessed August 15, 2019.

45 California Legislative Information. 2010. *Senate Bill No. 1142.*

responsibility for fighting wildland fires, the CDF plays a role in planning development in forested areas.[46]

California Department of Conservation (CDC) Farmland Mapping and Monitoring Program (FMMP)

The FMMP was established in 1982 to assess the location, quality, and quantity of agricultural lands in the State of California and conversion of these lands over time.[47] The goal of the FMMP is to provide consistent and impartial data to decision makers for use in planning for the future of California's agricultural land resources.[48] The CDC applies the Natural Resources Conservation Service (NRCS) soil classifications to identify agricultural lands, and these agricultural designations are used in planning for the present and future of California's agricultural land resources. The CDC has a minimum mapping unit of 10 acres, with parcels that are smaller than 10 acres being absorbed into the surrounding classifications. The following are categories mapped by the CDC: Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, Grazing Land, Urban and Built Up Land, and Other Land.[49]

California Farmland Conservancy Program (CFCP)

The CFCP seeks to encourage the long-term, private stewardship of agricultural lands through the voluntary use of agricultural conservation easements. The CFCP provides grant funding for projects which use and support agricultural conservation easements for protection of agricultural lands. The CFCP has funded more than 58,000 acres of easement projects in California, in more than a dozen counties between 1996 and 2016.[50,51] CFCP has also funded a number of planning grants, including some

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46 California Department of Forestry and Fire Protection. 2019. Available at: https://www.fire.ca.gov/, accessed August 15, 2019.

47 California Department of Conservation. *Farmland Mapping and Monitoring Program – Program Overview*. Available at: http://www.conservation.ca.gov/dlrp/fmmp/Pages/Program_Overview.aspx, accessed November 2, 2018.

48 Ibid.

49 California Department of Conservation, Division of Land Resource Protection. 2004. A Guide to the Farmland Mapping and Monitoring Program. Available at: http://www.conservation.ca.gov/dlrp/fmmp/Documents/fmmp_guide_2004.pdf, accessed November 2, 2018.

50 California Department of Conservation. *Project Profiles – CFCP Projects*. Available at: http://www.conservation.ca.gov/dlrp/Pages/Project%20Profiles.aspx, accessed November 2, 2018.

51 California Department of Conservation. *California Farmland Conservancy Program Easements Completed 1996-2016*. Available at: http://www.conservation.ca.gov/dlrp/grant-programs/Documents/stories/CFCP_CompletedEasementsMap_1996_2016.pdf, accessed November 2, 2018.

with regional or statewide value. CFCP did not award any new grants for planning and policy projects in the SCAG region between 1996 and 2016.[52]

California Forest Legacy

Similar to the Federal Forest Legacy Program, the California Forest Legacy Act of 2007 (Pub. Resources Code, § 12220(G)) is a program of the California Department of Forestry and Fire Protection (CAL FIRE) to promote conservation easements in environmentally sensitive forest areas. Money to fund the Program is obtained from gifts, donations, federal grants and loans, other appropriate funding sources, and from the sale of bonds pursuant to Proposition 12, the Safe Neighborhood Parks, Clean Water, Clean Air, and Coastal Protection Bond Act (The Villaraigosa-Kelley Act) of 2000 (Pub. Resources Code, div. 5, ch. 1.692). This act defines "forest land" as "land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits."[53]

3.2.2.3 Local

General Plans

The SCAG region spans six counties, each of which has a general plan containing policies related to protection of agriculture and typically forestry resources:

- **Imperial County:** Agricultural Element[54] (no policies for forestry resources)
- **Los Angeles County:** Chapter 9: Conservation and Natural Resources Element[55]
- **Orange County:** Chapter VI. Resources Element[56]
- **Riverside County:** Chapter 5: Multipurpose Open Space Element[57]

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52 California Department of Conservation. *Project Profiles – CFCP Projects*. Available at: http://www.conservation.ca.gov/dlrp/Pages/Project%20Profiles.aspx, accessed November 2, 2018.

53 California Legislative Information. *ARTICLE 3. Definition [12220-12220.].*

54 Imperial County Planning and Development Services. [Adopted November 9, 1993] Revised October 6, 2015. *Imperial County General Plan: Agricultural Element*. Available at: http://www.icpds.com/CMS/Media/Agricultural-Element-2015.pdf, accessed August 15, 2019.

55 Los Angeles County Department of Regional Planning. Adopted October 6, 2015. *Los Angeles County General Plan 2035*. Available at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan.pdf, accessed August 15, 2019.

56 Orange County Public Works Development Services. *General Plan: Chapter VI. Resources Element*. Available at: http://ocplanning.net/civicax/filebank/blobdload.aspx?blobid=40235, accessed August 15, 2019.

- **San Bernardino County:** Chapter V. Conservation Element[58]
- **Ventura County:** Resources Appendix[59]

Additional plans and ordinances at the master plan level, city-level, and specific plan level may also apply within the SCAG region.

Zoning

City and county zoning codes provide the set of detailed requirements that implement general plan policies at the level of the individual parcel. Zoning codes present standards for different uses and identifies which uses are allowed in the various zoning districts of the jurisdiction, including zones for agricultural use and timberland production. Since 1971, state law has required the city or county zoning code to be consistent with the jurisdiction's general plan. The purpose of agricultural zoning is to protect farmland and farming activities from incompatible non-farm uses.

Land Conservation Trust

A land trust is a nonprofit organization that, as all or part of its mission, actively works to conserve land by undertaking or assisting in land or conservation easement acquisition, or by its stewardship of such land or easements. A land conservation trust is another type of organization devoted to protecting open space, agricultural lands, wildlife habitats, and natural resource lands. There are approximately 80 established trusts in California, 14 of which are located at least partially within the SCAG region.[60] Local and regional land trusts, organized as charitable organizations under federal tax laws, are directly involved in conserving land for its natural, recreational, scenic, historical, and productive values. Local governments and special districts, either on their own or working with land trusts and conservancies, can acquire fee title to agricultural and open space lands or purchase development rights to preserve rural and agricultural areas, watersheds, or critical habitat, or to create public parks and recreational areas.

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57 Riverside County Planning Department. December 8, 2015. *Riverside General Plan – Multipurpose Open Space Element*. Available at: https://planning.rctlma.org/Portals/14/genplan/general_plan_2016/elements/Ch05_MOSE_120815.pdf?ver=2016-04-01-100801-367, accessed August 15, 2019.

58 County of San Bernardino Land Use Service Division. Amended 24 April 2014. *County of San Bernardino 2007 General Plan*. Available at: http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGP.pdf, accessed August 15, 2019.

59 County of Ventura Resource Management Agency, Planning Division. Amended 28 June 2011. *Ventura County General Plan: resources appendix.* Available at: https://docs.vcrma.org/images/pdf/planning/plans/General-Plan-Resources-Appendix.pdf, accessed August 15, 2019.

60 California Council of Land Trusts. 2019. *Map of CA Land Trusts*. Available at: https://www.calandtrusts.org/map-ca-land-trusts/, accessed January 23, 2019.

Regional Conservation Plans

Local agencies throughout the region have worked together to form Regional Conservation Plans (RCPs). These plans recognize that important habitats do not routinely line up with jurisdictional borders, so designation of conservation lands can span multiple jurisdictions. Additionally, RCPs efficiently address mitigation mandates from the California Environmental Quality Act (CEQA) by anticipating transportation projects and "banking" potentially threatened endangered-species habitats. The following are adopted major conservation plans made up of multiple jurisdictions within SCAG's boundaries; The Coachella Valley Multiple Species Habitat Conservation Plan (MSHCP), the Western Riverside MSHCP, the Orange County Transportation Authority Measure M2 Natural Communities Conservation Plan/Habitat Conservation Plan (NCCP/HCP), and the Orange County Central Coastal NCCP/HCP.

The following RCPs are in the planning phase, although conservation and restoration efforts for most of them are well underway; City of Rancho Palos Verdes NCCP/HCP, Imperial Irrigation District NCCP/HCP, Town of Apple Valley MSHCP/NCCP, and the San Bernardino County Regional Conservation Investment Strategy (RCIS).

Local Agency Formation Commissions

The Local Agency Formation Commission (LAFCO) is the agency that has the responsibility to create orderly local government boundaries, with the goal of encouraging "planned, well-ordered, efficient urban development patterns," the preservation of open-space lands, and the discouragement of urban sprawl. While LAFCO has no direct land use authority, its actions determine which local government will be responsible for planning new areas. LAFCO addresses a wide range of boundary actions, including creation of spheres of influence for cities, adjustments to boundaries of special districts, annexations, incorporations, detachments of areas from cities, and dissolution of cities.

Mitigation Bank or Conservation Bank

A conservation or mitigation bank is privately or publicly owned land managed for its natural resource values. In exchange for permanently protecting, managing, and monitoring the land, the bank sponsor is allowed to sell or transfer habitat credits to permittees who need to satisfy legal requirements and compensate for the environmental impacts of developmental projects.

A privately-owned conservation or mitigation bank is a free-market enterprise that:

- Offers landowners economic incentives to protect natural resources; Saves permittees time and money by providing them with the certainty of pre-approved compensation lands;

- Consolidates small, fragmented wetland mitigation projects into large contiguous sites that have much higher wildlife habitat values;
- Provides for long-term protection and management of habitat.

A publicly owned conservation or mitigation bank:

- Offers the sponsoring public agency advance mitigation for large projects or multiple years of operations and maintenance.[61]

3.2.3 ENVIRONMENTAL IMPACTS

3.2.3.1 Thresholds of Significance

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland.[62] In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

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

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use;
- Conflict with existing zoning for agricultural use, or a Williamson Act contract;

61 *See e.g.*, Bunn, David; Lubell, Mark; Johnson, Christine. 2013. *Reforms could boost conservation banking by landowners*. Available at: http://calag.ucanr.edu/Archive/?article=ca.v067n02p86, accessed August 15, 2019.

62 California Department of Conservation. 2019. *Land Evaluation & Site Assessment (LESA) Model*. Available at: https://www.conservation.ca.gov/dlrp/Pages/qh_lesa.aspx, accessed August 15, 2019.

- Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)),[63] timberland (as defined by Public Resources Code section 4526),[64] or timberland zoned Timberland Production (as defined by Government Code section 51104(g));[65]

- Result in the loss of forest land or conversion of forest land to non-forest use;

- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.

3.2.3.2 Methodology

The methodology for determining the significance of agricultural, timberland, and forest impacts compares the existing conditions to conditions in 2045 with the Connect SoCal Plan, as required by *State CEQA Guidelines* Section 15126.2(a). The known agricultural, timberland, and forest resources located within the region were evaluated using the criteria set forth by the California Department of Conservation and the *State CEQA Guidelines*. The analysis was limited to state-recognized agricultural, timberland, and forest resources. In general, the potential to impact agricultural, timber, and forest resources varies by the development area type (or location of transportation improvement).

Impacts are assessed in terms of changes to both land use and transportation infrastructure using data from the six counties within the SCAG region and SCAG forecasts related to projected population, housing, and employment growth. The methodology for determining the significance of these impacts applies the significance criteria above to the future (2045) land use pattern and transportation network. The development of new transportation facilities may affect agricultural, timber and forest resources, through both direct and indirect effects, including traversing agricultural, timberland, and forest lands. SCAG used a 500-foot buffer for transportation projects and land use development to represent where impacts could occur with respect to mapped resources such as agricultural lands.

The mitigation measures in the PEIR are divided into two categories: SCAG mitigation and project-level mitigation measures. SCAG mitigation measures shall be implemented by SCAG over the lifetime of the Plan. For projects proposing to streamline environmental review pursuant to SB 375, SB 743, or SB 226 (as described in **Section 1.0, Introduction**), or for projects otherwise tiering off this PEIR, the project-level mitigation measures described below (or comparable measures) can and should be considered and implemented by Lead Agencies and Project Sponsors during the subsequent, project- or site-specific

63 California Legislative Information. *Article 3. Definitions [12220-12220.].*

64 California Legislative Information. *Article 2. Definitions [4521-4529.5].*

65 California Legislative Information. *Article 1. General Provisions [51100-51104].*

environmental reviews for transportation and development projects as applicable and feasible. However, SCAG cannot require implementing agencies to adopt mitigation, and it is ultimately the responsibility of the implementing agency to determine and adopt project-specific mitigation.

3.2.3.3 Impacts and Mitigation Measures

Impact AG-1 **Potential for the Plan to convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use.**

Significant and Unavoidable Impacts - Mitigation Required.

Implementation of transportation projects as well as growth anticipated under the Plan would have the potential to convert the following to non-agricultural use: Prime Farmland, Farmland of Statewide Importance, Unique Farmland and Farmland of Local Importance. Farmland may be located within 500-feet of the transportation projects and anticipated land use development in the Plan, which would result in the conversion of lands and constitute a significant impact (**Table 3.2-4, Estimated Maximum Direct Potential Loss of Important Agricultural Land**). Based on this scenario, approximately 15,903 acres, or 0.06 percent, of combined existing Important Farmland and Grazing Land would be directly converted to non-agricultural use as a result of the transportation projects and strategies included in the Plan.

Implementation of the transportation projects and strategies considered in the Connect SoCal Plan could result in long-term impacts to farmland by adding transportation projects to parts of the region in use as agricultural lands or through development on agricultural lands, which are interspersed throughout urban areas and are also located in less developed portions of the counties. Where there would be new transportation facilities constructed outside of the region's urbanized areas, undisturbed/vacant land could be utilized for transportation purposes. Transportation projects that are most likely to result in significant impacts to agricultural lands include highway expansion, highway widening projects, and potential connectors. Other transportation projects such as roadway improvements, toll road improvements and connections, grade separated facilities for busways, goods movement roadway facilities, high speed rail and commuter rail projects, and regional express lane network improvements in areas that currently serve as agricultural could also result in significant impacts, requiring mitigation measures.

Table 3.2-4
Estimated Maximum Direct Potential Loss of Important Agricultural Land

County	Important Farmland (Acres)				Subtotal of Important Farmland (Acres)	Grazing Land (Acres)	Total Important Agricultural Land (Acres)	Percent Potentially Lost by County
	Prime Farmland	Farmland of Statewide Importance	Unique Farmland	Farmland of Local Importance				
Imperial	262	202	0	102	566	0	566	0.02%
Los Angeles	78	69	4	110	260	3,390	3,650	0.14%
Orange	74	20	7	0	101	0	101	0.02%
Riverside	638	692	202	3,520	5,052	814	5,866	0.13%
San Bernardino	9	4	54	0	67	4,874	4,941	0.04%
Ventura	156	202	18	77	454	326	779	0.07%
Totals	**1,217**	**1,189**	**285**	**3,809**	**6,499**	**9,404**	**15,903**	**0.06%**

Source: California Department of Conservation, Division of Land Resource Protection, 2016

The Plan includes policies and strategies to help protect natural and farmlands and reduce overall land consumption. The Plan includes policies such as encouraging regional conservation planning, improving natural corridor connectivity, and expanding data sharing among agencies. The Plan also promotes a more compact growth pattern, which would help preserve agricultural lands. While the Plan includes the land use strategies that would focus new growth in the region's urbanized areas (primarily HQTAs), development anticipated to accommodate population growth could result in the consumption of agricultural lands, which would constitute a significant impact requiring mitigation measures.

Mitigation Measures

SCAG Mitigation Measures

SMM AG-1: SCAG shall host a Natural & Farm Lands Conservation Working Group which will provide a forum for stakeholders to share best practices and develop recommendations for natural and agricultural land conservation throughout the region, including the development of a Natural Lands Conservation Strategy for the Connect SoCal Plan.

SMM AG-2: SCAG shall expand on the Natural Resource Inventory Database and Conservation Framework & Assessment by incorporating strategic mapping layers to build the database and further refine the priority conservation areas by (1) further investing in

mapping and farmland data tracking and (2) working with County Transportation Commissions (CTCs) and SCAG's subregions to support their county-level efforts at data building. SCAG shall encourage CTCs to develop advanced mitigation programs or include them in future transportation measures by (1) funding pilot programs that encourage advance mitigation including data and replicable processes, (2) participating in state-level efforts that would support regional advanced mitigation planning in the SCAG region, and (3) supporting the inclusion of advance mitigation programs at county level transportation measures.

SMM AG-3: SCAG shall align with funding opportunities and pilot programs to begin implementation of conservation strategies through (1) seeking planning funds, such as cap and trade auction proceeds that could help prepare for local action on acquisition and restoration, (2) supporting CTCs and other partners, and (3) continuing policy alignment with the State Wildlife Action Plan 2015 Update and its implementation.

SMM AG-4: SCAG shall provide incentives to jurisdictions that cooperate across county lines to protect and restore natural habitat corridors, especially where corridors cross county boundaries, as detailed in the Natural & Farm Lands Appendix strategies of Connect SoCal. SCAG will work with stakeholders to identify incentives and leverage resources that help protect habitat corridors.

Project Level Mitigation Measures

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

a) Require project sponsors to mitigate for loss of farmland by providing permanent protection of in-kind farmland in the form of easements, fees, or elimination of development rights/potential.

b) Project relocation or corridor realignment to avoid Prime Farmland, Unique Farmland, or Farmland of Local or Statewide Importance.

c) Maintain and expand agricultural land protections such as urban growth boundaries.

d) Provide for mitigation fees to support a mitigation bank[66] that invests in farmer education, agricultural infrastructure, water supply, marketing, etc. that enhance the commercial viability of retained agricultural lands.

e) Minimize severance and fragmentation of agricultural land by constructing underpasses and overpasses at reasonable intervals to provide property access.

f) Use berms, buffer zones, setbacks, and fencing to reduce conflicts between new development and farming uses and protect the functions of farmland.

Level of Significance after Mitigation

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

Impact AG-2 Potential for the Plan to conflict with existing zoning for agricultural use, or a Williamson Act contract.

Significant and Unavoidable- Mitigation Required.

Implementation of the transportation projects and growth anticipated under the Plan would have the potential to conflict with land managed pursuant to Williamson Act contracts constituting a significant impact. Prime Agricultural Land in Riverside County, Mixed Enrollment Agricultural Land in Ventura County, and Non-Renewal land in Imperial and Riverside counties under a Williamson Act contract are located within the 500-foot construction radius of the transportation projects in the Plan. Thus, there is a potential for the Plan to result in significant impacts to lands managed under Williamson Act contracts.

Implementation of the transportation projects included in the Plan could also directly affect existing zoning for agricultural use. Land zoned for agricultural use within Imperial, Orange, Riverside, San

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

Bernardino, and Ventura Counties is located within 500 feet of projects in the Plan. While the land use strategies in the Plan are intended to encourage growth in urbanized areas, some growth would occur in areas that would potentially conflict with existing zoning for agricultural use or Williamson Act contracts which constitutes a significant impact requiring mitigation measures.

Mitigation Measures

SCAG Mitigation Measures

See **SMM AG-1** through **SMM AG-4.**

Project Level Mitigation Measures

See **PMM AG-1.**

PMM AG-2: Project level mitigation measures can and should be considered by Lead Agencies as applicable and feasible. Measures to reduce substantial adverse effects on Williamson Act contracts to the maximum extent practicable, as determined appropriate by each Lead Agency, may include the following, or other comparable measures:

a) Project relocation or corridor realignment to avoid lands in Williamson Act contracts.

b) Establish conservation easements consistent with the recommendations of the Department of Conservation, or 20-year Farmland Security Zone contracts (Government Code Section 51296 et seq.), 10-year Williamson Act contracts (Government Code Section 51200 et seq.), or use of other conservation tools available from the California Department of Conservation Division of Land Resource Protection.

Level of Significance after Mitigation

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

this PEIR finds impacts related to conflicts with existing agricultural zoning and Williamson Act contract lands could be significant and unavoidable even with implementation of mitigation..

Impact AG-3 **Potential for the Plan to conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)).**

Significant and Unavoidable – Mitigation Required.

Implementation of the transportation projects and anticipated growth under the Plan has the potential to conflict with existing zoning for forest land, timberland, or timberland zoned Timberland Production. Within the SCAG region, forest industries are permitted in open space zones in Imperial County and Ventura County, while national forest lands are protected from future development. Two of the transportation projects included in the Plan would cross through the SCAG region's national forests. Although there are very few existing trees along the I-15 freeway within the San Bernardino National Forest (predominantly characterized by shrubland adjacent to the freeway, with trees in riparian areas), roadway widening associated with HOV lanes has the potential to affect existing lands zoned as forest land. Similarly, the preferred alignment for HSR is currently expected to be along the SR 14 and would continue underground through Angeles National Forest, preserving the wilderness and the forest at ground surface along the route.[67] However, it is possible the alignments could change or that in areas where projects intersect with forest lands impacts could occur. These projects would likely require a Forest Management Plan amendment regarding the preservation of scenic integrity objectives which would reduce potential impacts, however, impacts may not be reduced to below a level of significance. Therefore, impacts related to forest land are considered significant requiring consideration of mitigation measures.

The harvesting of timberland is only permitted in two agricultural zones in Imperial County, in the open space zone in Los Angeles County only if a Conditional Use Permit (CUP) has been obtained, in the rural residential zone and controlled development areas in Riverside County only if a CUP has been obtained, in the open space zone in San Bernardino County, and only Christmas tree farms are permitted in the Timberland Preserve zone in Ventura County. Although implementation of the transportation projects considered in the Plan could result in long-term impacts to land zoned for timberland use, timberland harvesting does not currently occur in the SCAG region. Therefore, the Plan would result in no impact to

67 Vartabedian, Ralph, Sept 19, 2018. https://www.latimes.com/local/california/la-me-high-speed-rail-palmdale-burbank-20180919-story.html

timberland. Furthermore, there would also be no impact to Timberland Production Zones, as none have been established in the six-county SCAG region. As described above, impacts to forestry would be significant and unavoidable. Mitigation measures are required.

Mitigation Measures

SCAG Mitigation Measures

See **SMM AG-1** through **SMM AG-2**.

Project Level Mitigation Measures

PMM AG-3: Project level mitigation measures can and should be considered by Lead Agencies as applicable and feasible. Measures to reduce substantial adverse effects, through the conversion of Farmland to maximum extent practicable, as determined appropriate by each Lead Agency, may include the following, or other comparable measures:

a) Minimize construction related impacts to agricultural and forestry resources by locating materials and stationary equipment in such a way as to prevent conflict with agriculture and forestry resources**.**

Impact AG-4 Potential for the Plan to result in the loss of forest land or conversion of forest land to non-forest use.

Significant and Unavoidable - Mitigation Required.

Implementation of transportation projects and anticipated growth under the Plan would result in significant impacts with regards to the loss of forest land or conversion of forest land to non-forest use. Forestry resources within the SCAG region are primarily concentrated in the four national forests in the SCAG region, which are protected from future development. However, small patches of forest land and sensitive woodland communities near the wildland-urban interface are not protected. Despite land use strategies included in the Plan aim to concentrate future development in the region's urbanized areas, existing suburban town centers, and walkable, mixed-use communities (primarily the HQTAs), some of the new transportation facilities would inevitably be constructed outside of such areas. Additionally, development associated with new urban uses could also be located on forest land, resulting in the conversion of small patches of forest land to non-forest use.

Transportation projects that are most likely to result in minor impacts to forest lands include highway expansion, highway widening projects, and potential connectors. Other transportation projects such as

roadway improvements, toll road improvements and connections, grade separated facilities for busways, goods movement roadway facilities, high speed rail and commuter rail projects, and high-occupancy vehicle (HOV) / high-occupancy toll (HOT) connectors in areas that are currently forest land could also result in minor impacts. As mentioned in AG-3 above, two projects in the Plan have the potential to result in the conversion of forestry resources. As such, impacts related to forestry would be significant and mitigation measures are required. As described above, impacts to forestry would be significant and unavoidable. Mitigation measures are required.

Mitigation Measures

SCAG Mitigation Measures

See SMM AG-1 through **SMM AG-2**.

Project Level Mitigation Measures

See **PMM AG-3.**

Impact AG-5 **Potential for the Plan to involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.**

Significant and Unavoidable Impact – Mitigation Required.

Implementation of transportation projects and anticipated growth under the Plan would result in significant impacts with regards to the conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use.

Although the Plan would include the land use strategies that focus new anticipated development in the region's urbanized areas, some new development is anticipated to occur in agricultural areas on forest land outside the national forests (where forest land is protected from future development), and/or near the wildland-urban interface. As described under Impact AG-1, the Plan would potentially directly impact up to 0.06 percent of combined existing Important Farmland and Grazing Land in the SCAG region based on a 500 foot buffer, which could indirectly result in the conversion of additional farmland or forest land as a result of increased development due to transit and/or passenger rail projects included in the Plan. Furthermore, implementation of the Plan would result in the conversion of approximately 6,499 acres of Important Farmland (15,903 acres of total agricultural lands). Lands that remain agricultural but located adjacent to urban uses, may feel pressure to develop, as nearby land values increase or as nuisances from urban development spread to agricultural lands. In addition, urban uses,

especially newly urbanized areas, can lead to pressure on adjacent farms to change their farming practices (to reduce noise, decrease spraying of fertilizers and pesticides, etc.).

Forestry resources are concentrated in the four national forests in the SCAG region, which are protected from future development. However, as discussed in Connect SoCal, climate change associated with greenhouse gas emissions would be expected to contribute to the loss of agricultural and forest land caused by increased drought conditions and wildfires.[68] As climate change studies suggest that Southern California will continue to experience more extreme weather scenarios, including longer and hotter heat waves that would increase the threat of wildfire in parts of the SCAG region already prone to wildfires, forested areas in the region are expected to experience greater threats from wildfires as conditions grow drier and hotter.[69] Agricultural areas in Southern California are "moderately" vulnerable to climate change (i.e., loss of winter chill hours, increased invasive pests, changes to plant and pest interactions, and increased plant and animal diseases in agriculture have the potential to result in the loss of agricultural land).[70] As described in **Section 3.8, Greenhouse Gases Emissions**, the proposed project could result in a significant impact with respect to greenhouse gas emissions (GHGs) and GHGs are considered a primary cause of global climate change. However, the relationship between development in any given region or country and measurable changes in forest land is not possible to determine and is therefore considered too speculative to be analyzed any further in this environmental document.

As previously mentioned, implementation of the Plan would convert a total of 15,903 acres from agricultural land to urban land use. A range of local conservation plans, habitat conservation agencies and state/federal park designated areas provide protection for a significant amount of natural and farm land in the SCAG region. However, a substantial amount of land on the urban and suburban fringe is vulnerable to development if not within the boundaries of protected lands and face additional development pressure as adjacent lands are converted. Therefore, transportation projects and development projects anticipated to occur under Connect SoCal could have the potential to cause other changes in the existing environment that could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use, constituting a significant impact requiring the consideration of mitigation measures.

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68 SCAG. 2019. *Natural & Farm Lands Conservation Technical Report*.

69 Intergovernmental Panel on Climate Change. 2018. *Global Warming of 1.5° Celsius Climate Change Summary Report for Policymakers*. Available at: https://www.ipcc.ch/site/assets/uploads/sites/2/2018/07/SR15_SPM_version_stand_alone_LR.pdf, accessed May 14, 2019.

70 California Department of Food and Agriculture. 2018. *Agriculture and Climate Change Adaptation*. Available at: https://www.climatechange.ca.gov/adaptation/agriculture.html, accessed May 14, 2019.

Mitigation Measures

SCAG Mitigation Measures

See **SMM AG-1** through **SMM AG-2** and **SMM-GHG-1** through **SMM-GHG-5.**

Project Level Mitigation Measures

See **PMM AG-2** through **PMM AG-3** and **PMM GHG-2.**

PMM AG-4: Project level mitigation measures can and should be considered by Lead Agencies as applicable and feasible. Measures to reduce substantial adverse effects, through the conversion of Farmland, to the maximum extent practicable, as determined appropriate by each Lead Agency, may include the following, or other comparable measures:

a) Design proposed projects to minimize, to the greatest extent feasible, the loss of the highest valued agricultural land.

b) Redesign project features to minimize fragmenting or isolating Farmland. Where a project involves acquiring land or easements, ensure that the remaining non-project area is of a size sufficient to allow economically viable farming operations. The project proponents shall be responsible for acquiring easements, making lot line adjustments, and merging affected land parcels into units suitable for continued commercial agricultural management.

c) Reconnect utilities or infrastructure that serve agricultural uses if these are disturbed by project construction. If a project temporarily or permanently cuts off roadway access or removes utility lines, irrigation features, or other infrastructure, the project proponents shall be responsible for restoring access as necessary to ensure that economically viable farming operations are not interrupted.

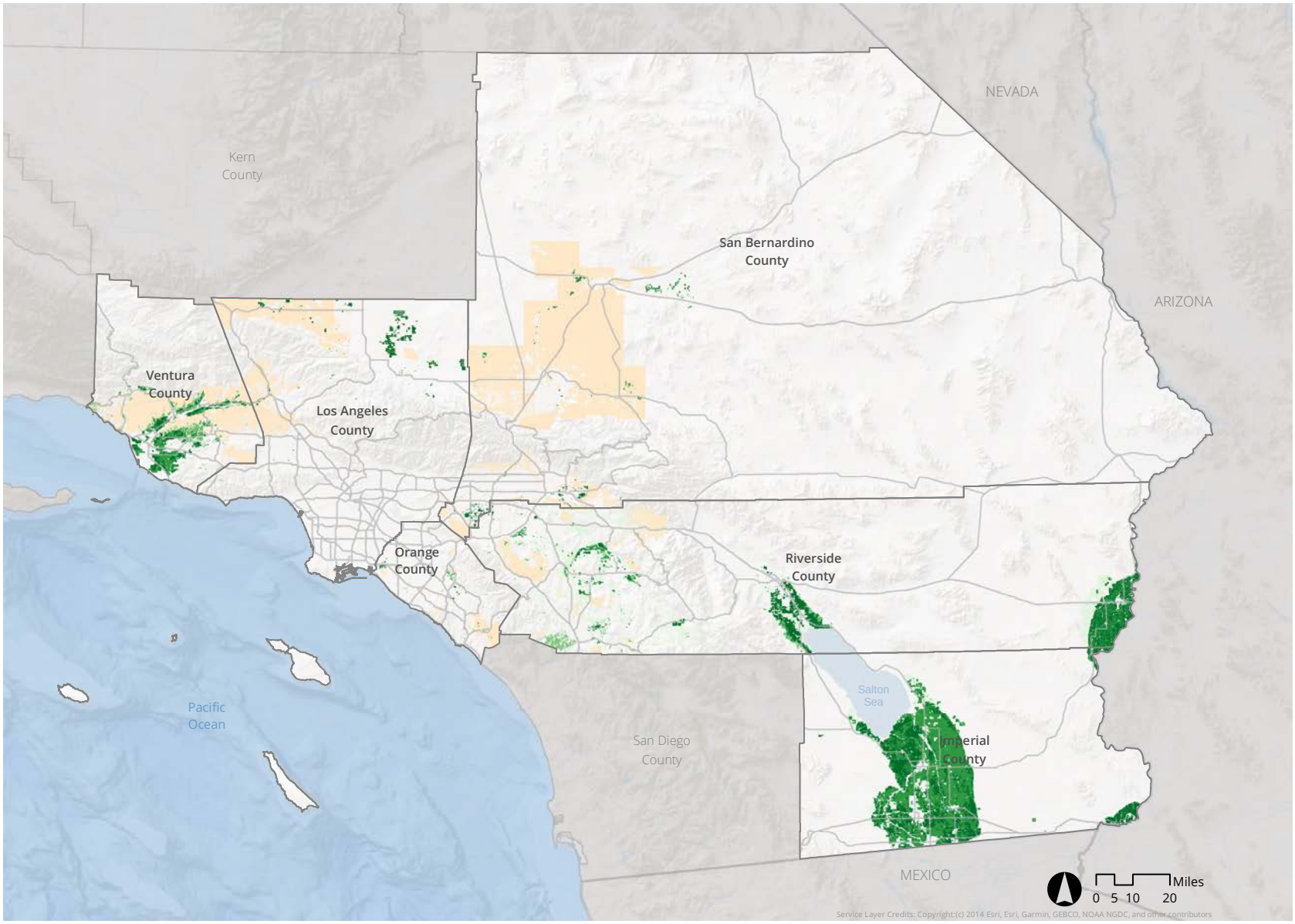
PMM AG-5: Project level mitigation measures can and should be considered by Lead Agencies as applicable and feasible. Measures to reduce substantial adverse effects, through the conversion of Farmland, to the maximum extent practicable, as determined appropriate by each Lead Agency, may include the following, or other comparable measures:

a) Manage project operations to minimize the introduction of invasive species or weeds that may affect agricultural production on adjacent agricultural land.

Where a project has the potential to introduce sensitive species or habitats or have other spill-over effects on nearby agricultural lands, the project proponents shall be responsible for acquiring easements on nearby agricultural land and/or financially compensating for indirect effects on nearby agricultural land. Easements (e.g., flowage easements) shall be required for temporary or intermittent interruption in farming activities (e.g., because of seasonal flooding or groundwater seepage). Acquisition or compensation would be required for permanent or significant loss of economically viable operations.

Level of Significance after Mitigation

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



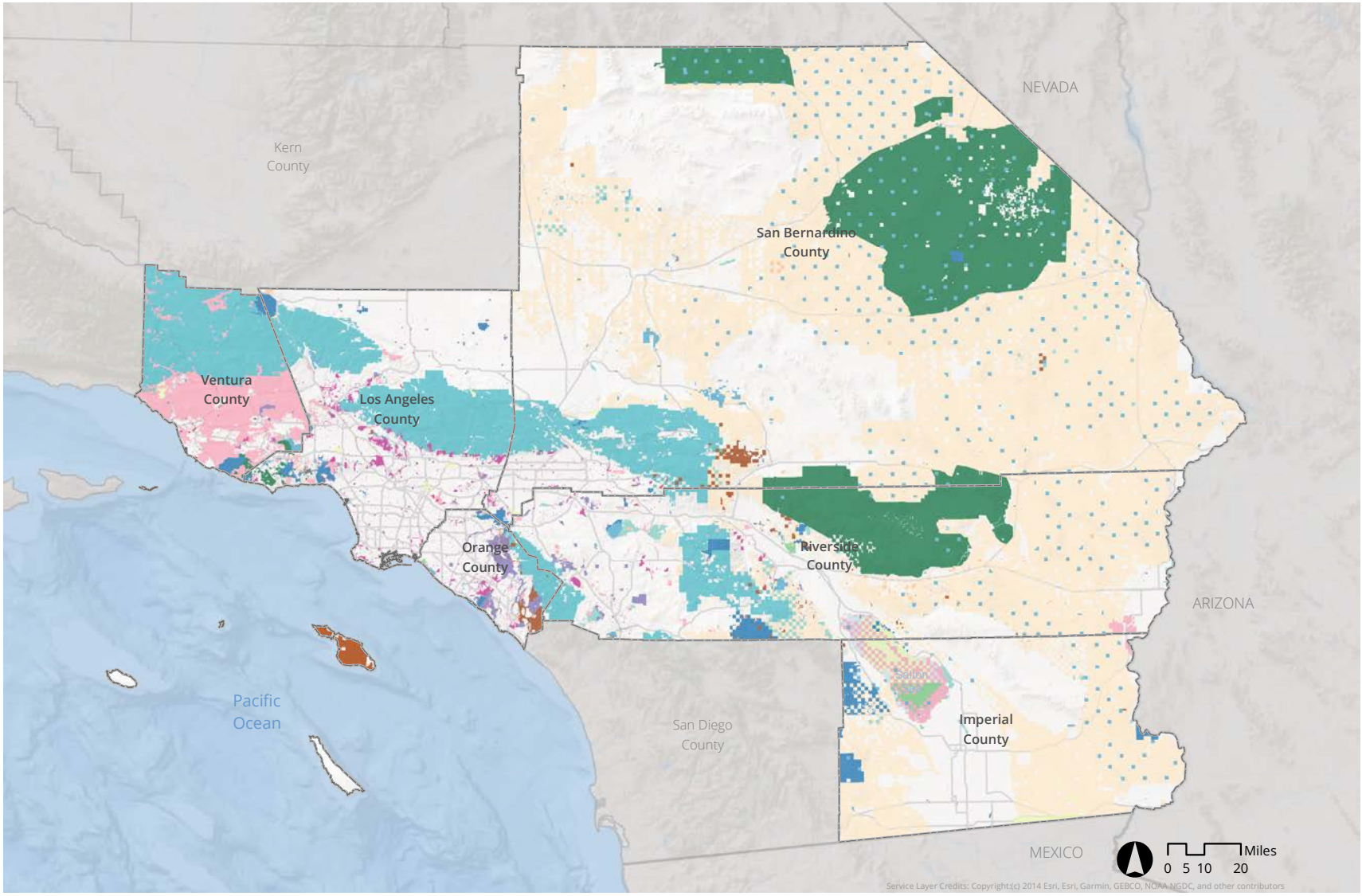
SOURCE: SCAG, CA Department of Conservation, 2019

FIGURE **3.2-1**

IMPACT SCIENCES

Farmland in the SCAG Region

1329.001•10/19



SOURCE: SCAG, California Protected Areas Database, 2017; California Conservation Easement Database, 2016

FIGURE **3.2-2**

IMPACT SCIENCES

Forest Lands in the SCAG Region

1329.001•11/19

3.2.4 SOURCES

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3.3 AIR QUALITY

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

3.3.1 DEFINITIONS

Air Dispersion*:* Air dispersion is defined as how air pollutants travel through ambient air. Toxic Air Contaminants/Mobile Source Air Toxics (TACs/MSATs) impact those located closest to the emission sources more than those located further away. A California law passed in 2003 (Public Resources Code Section 21151.8) prohibits the siting of a school within 500 feet of a freeway unless "the school district determines, through analysis based on appropriate air dispersion modeling, that the air quality at the proposed site is such that neither short-term nor long-term exposure poses significant health risks to pupils." The U.S. EPA has issued a number of regulations that will dramatically decrease MSATs through cleaner fuels and cleaner engines.

Concentrations: The amount of pollutant material per volumetric unit of air, measured in parts per million (ppm) or micrograms per cubic meter ($\mu g/m^3$). The following discussion identifies the pollutants included in this analysis.

Criteria Pollutants: Criteria air pollutants are defined as pollutants for which the federal and State governments have established ambient air quality standards for outdoor concentrations. The federal and State standards have been set at levels above which concentrations could be harmful to human health and welfare. These standards are designed to protect the most sensitive persons from illness or discomfort. Pollutants of concern include carbon monoxide (CO), ozone (O_3), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter 2.5 microns or less in diameter (PM2.5), particulate matter ten microns or less in diameter (PM10), and lead (Pb). These pollutants are discussed below. [1]

- Carbon Monoxide (CO) is a colorless and odorless gas formed by the incomplete combustion of fossil fuels. It is emitted primarily from motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, and trains. In urban areas, automobile exhaust accounts for the majority of emissions. CO is a non-reactive air pollutant that dissipates relatively quickly, so ambient concentrations generally

[1] U.S. Environmental Protection Agency. *NAAQS*. Available online at: https://www.epa.gov/criteria-air-pollutants/naaqs-table, accessed November 6, 2019.

follow the spatial and temporal distributions of vehicular traffic. Concentrations are influenced by local meteorological conditions; primarily wind speed, topography, and atmospheric stability. CO from motor vehicle exhaust can become locally concentrated when surface-based temperature inversions are combined with calm atmospheric conditions, a typical situation at dusk in urban areas between November and February. Inversions are an atmospheric condition in which a layer of warm air traps cooler air near the surface of the earth, preventing the normal rising of surface air. The highest concentrations occur during the colder months of the year when inversion conditions are more frequent. CO is a health concern because it competes with oxygen, often replacing it in the blood and reducing the blood's ability to transport oxygen to vital organs. Excess CO exposure can lead to dizziness, fatigue, and impair central nervous system functions.[2]

- Ozone (O_3) is a colorless gas that is formed in the atmosphere when reactive organic gases (ROG) and nitrogen oxides (NO_X) react in the presence of ultraviolet sunlight. O_3 is not a primary pollutant; rather, it is a secondary pollutant formed by complex interactions of two pollutants directly emitted into the atmosphere. The primary sources of ROG and NO_X, the components of O_3, are automobile exhaust and industrial sources. Meteorology and terrain play major roles in O_3 formation. Ideal conditions occur during summer and early autumn, on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies. The greatest source of smog-producing gases is the automobile. Short-term exposure (lasting for a few hours) to O_3 at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes.[3]

- Nitrogen Dioxide (NO_2) like O_3, is not directly emitted into the atmosphere but is formed by an atmospheric chemical reaction between nitric oxide (NO) and atmospheric oxygen. NO and NO_2 are collectively referred to as NO_X and are major contributors to O_3 formation. NO_2 also contributes to the formation of PM10. High concentrations of NO_2 can cause breathing difficulties and result in a brownish-red cast to the atmosphere with reduced visibility. There is some indication of a

2 U.S. Environmental Protection Agency. *Basic Information about Carbon Monoxide (CO) Outdoor Air Pollution*. Available online at: https://www.epa.gov/co-pollution/basic-information-about-carbon-monoxide-co-outdoor-air-pollution#What is CO, accessed November 6, 2019.

3 U.S. Environmental Protection Agency. *Ground-level Ozone Basics*. Available online at: https://www.epa.gov/ground-level-ozone-pollution/ground-level-ozone-basics#wwh, accessed November 6, 2019.

relationship between NO_2 and chronic pulmonary fibrosis. Some increase of bronchitis in children (2-3 years old) has been observed at concentrations below 0.3 parts per million (ppm).[4]

- Sulfur Dioxide (SO_2) is a colorless, pungent gas formed primarily by the combustion of sulfur-containing fossil fuels. Main sources of SO_2 are coal and oil used in power plants and industries. Generally, the highest levels of SO_2 are found near large industrial complexes. In recent years, SO_2 concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of SO_2 and limits on the sulfur content of fuels. SO_2 is an irritant gas that attacks the throat and lungs. It can cause acute respiratory symptoms and diminished ventilator function in children. SO_2 can also yellow plant leaves and erode iron and steel.[5]

- Particulate Matter (PM) consists of small liquid and solid particles floating in the air, including smoke, soot, dust, salts, acids, and metals and can form when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. Fine particulate matter, or PM2.5, is roughly 1/28 the diameter of a human hair and results from fuel combustion (e.g. motor vehicles, power generation, industrial facilities), residential fireplaces, and wood stoves. In addition, PM2.5 can be formed in the atmosphere from gases such as SO_2, NO_X, and VOC. Inhalable particulate matter, or PM10, is about 1/7 the thickness of a human hair. Major sources of PM10 include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions.

  PM2.5 and PM10 pose a greater health risk than larger-size particles. When inhaled, they can penetrate the human respiratory system's natural defenses and damage the respiratory tract. PM2.5 and PM10 can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Very small particles of substances, such as lead, sulfates, and nitrates can cause lung damage directly. These substances can be absorbed into the blood stream and cause damage elsewhere in the body. These substances can transport absorbed gases, such as chlorides or ammonium, into the lungs and cause injury. Whereas PM10 tends to collect in the upper portion of the respiratory system, PM2.5 is so tiny that it can

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4 U.S. Environmental Protection Agency. *Basic Information about NO_2*. Available online at: https://www.epa.gov/no2-pollution/basic-information-about-no2, accessed November 6, 2019.

5 U.S. Environmental Protection Agency. *Sulfur Dioxide Basics*. Available online at: https://www.epa.gov/so2-pollution/sulfur-dioxide-basics, accessed November 6, 2019.

penetrate deeper into the lungs and damage lung tissues. Suspended particulates also damage and discolor surfaces on which they settle, as well as produce haze and reduce regional visibility.[6]

- Lead (Pb) in the atmosphere occurs as particulate matter. Sources of lead include leaded gasoline; the manufacturers of batteries, paint, ink, ceramics, and ammunition; and secondary lead smelters. Prior to 1978, mobile emissions were the primary source of atmospheric lead. Between 1978 and 1987, the phase-out of leaded gasoline reduced the overall inventory of airborne lead by nearly 95 percent. With the phase-out of leaded gasoline, secondary lead smelters, battery recycling, and manufacturing facilities have become lead-emission sources of greater concern.

  Prolonged exposure to atmospheric lead poses a serious threat to human health. Health effects associated with exposure to lead include gastrointestinal disturbances, anemia, kidney disease, and in severe cases, neuromuscular and neurological dysfunction. Of particular concern are low-level lead exposures during infancy and childhood. Such exposures are associated with decrements in neurobehavioral performance, including intelligence quotient performance, psychomotor performance, reaction time, and growth. [7]

- Toxic Air Contaminants (TAC) are airborne pollutants that may increase a person's risk of developing cancer or other serious health effects. TACs include more than 700 chemical compounds that are identified by State and federal agencies based on a review of available scientific evidence. In California, TACs are identified through a two-step process established in 1983 that includes risk identification and risk management.[8]

Diesel Particulate Matter (DPM)*:* According to the California Air Resources Board (CARB), most toxic air emissions are from motor vehicles and the particulate matter from the exhaust of diesel-fueled engines.[9] In 1998, the OEHHA completed a comprehensive health assessment of diesel exhaust. This assessment formed the basis for a decision by the CARB to formally identify particles in diesel exhaust as a TAC that may pose a threat to human health.[10]

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6 U.S. Environmental Protection Agency. *Particulate Matter (PM) Basics*. Available online at: https://www.epa.gov/pm-pollution/particulate-matter-pm-basics, accessed November 6, 2019.

7 U.S. Environmental Protection Agency. *Basic Information about Lead Air Pollution*. Available online at: https://www.epa.gov/lead-air-pollution/basic-information-about-lead-air-pollution, accessed November 6, 2019.

8 OEHHA. 2019. *Toxic Air Contaminants*. Available online at: https://oehha.ca.gov/air/toxic-air-contaminants, accessed November 6, 2019.

9 California Air Resources Board. Accessed 8 September 2015. *Reducing Toxic Air Pollutants in California's Communities*. Available at: http://www.arb.ca.gov/toxics/brochure.pdf

10 Office of Environmental Health Hazard Assessment. Accessed 8 September 2015. *Health Effects of Diesel Exhaust*. Available at: http://oehha.ca.gov/public_info/facts/dieselfacts.html

DPM is part of a complex mixture that makes up diesel exhaust. Diesel exhaust is commonly found throughout the environment and is estimated by EPA's National Scale Assessment to contribute to the human health risk in New England. Diesel exhaust is composed of two phases, either gas or particle, and both phases contribute to the risk. The gas phase is composed of many of the urban hazardous air pollutants, such as acetaldehyde, acrolein, benzene, 1,3-butadiene, formaldehyde, and polycyclic aromatic hydrocarbons. The particle phase also has many different types of particles that can be classified by size or composition. The size of diesel particulates that are of greatest health concern are those that are in the categories of fine, and ultra-fine particles. The composition of these fine and ultrafine particles may be composed of elemental carbon with absorbed compounds such as organic compounds, sulfate, nitrate, metals, and other trace elements. Diesel exhaust is emitted from a broad range of diesel engines: the on-road diesel engines of trucks, buses, and cars and the off-road diesel engines that include locomotives, marine vessels, and heavy-duty equipment.[11] People living and working in urban and industrial areas are more likely to be exposed to this pollutant. Those spending time on or near roads and freeways, truck loading and unloading operations, operating diesel-powered machinery, or working near diesel equipment face exposure to higher levels of diesel exhaust and face higher health risks.[12]

The most common exposure pathway is breathing the air that contains the DPM. The fine and ultrafine particles are respirable, which means that they can avoid many of the human respiratory system defense mechanisms and enter deeply into the lung. In the National Scale Assessment, there are several steps used to characterize public health risks. For diesel particulate matter, not all of the steps could be completed but a qualitative assessment was provided that provided modeling estimates of population exposures. The estimated population exposure concentrations for diesel particulate matter were the highest exposure concentrations in all of the New England states. EPA has medium confidence in the overall NATA estimate for diesel particulate exposure based on the emissions and exposure modeling. Exposure to DPM comes from both on road and off-road engine exhaust that is either directly emitted from the engines or aged through lingering in the atmosphere.[13]

Diesel exhaust causes health effects from both short-term or acute exposures and also long-term chronic exposures, such as repeated occupational exposures. The type and severity of health effects depends upon several factors including the amount of chemical you are exposed to and the length of time you are

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11 U.S. Environmental Protection Agency. 24 April 2014. *Diesel Particulate Matter*. April 24, 2014. Available at: http://www.epa.gov/region1/eco/airtox/diesel.html

12 Office of Environmental Health Hazard Assessment. Accessed 8 September 2015. *Health Effects of Diesel Exhaust*. Available at: http://oehha.ca.gov/public_info/facts/dieselfacts.html

13 U.S. Environmental Protection Agency. 24 April 2014. *Diesel Particulate Matter*. April 24, 2014. Available at: http://www.epa.gov/region1/eco/airtox/diesel.html

exposed. Individuals also react differently to different levels of exposure. There is limited information on exposure to just diesel particulate matter but there is enough evidence to indicate that inhalation exposure to diesel exhaust causes acute and chronic health effects.[14]

Acute exposure to diesel exhaust may cause irritation to the eyes, nose, throat, and lungs and some neurological effects such as lightheadedness. Acute exposure may also elicit a cough or nausea as well as exacerbate asthma. Chronic exposure in experimental animal inhalation studies have shown a range of dose-dependent lung inflammation and cellular changes in the lung, and there are also diesel exhaust immunological effects. Based upon human and laboratory studies, there is considerable evidence that diesel exhaust is a likely carcinogen. Human epidemiological studies demonstrate an association between diesel exhaust exposure and increased lung cancer rates in occupational settings.[15] The elderly and people with emphysema, asthma, and chronic heart and lung disease are especially sensitive to fine-particle pollution. Numerous studies have linked elevated particle levels in the air to increased hospital admissions, emergency room visits, asthma attacks and premature deaths among those suffering from respiratory problems. Because children's lungs and respiratory systems are still developing, they are also more susceptible than healthy adults to fine particles. Exposure to fine particles is associated with increased frequency of childhood illnesses and can also reduce lung function in children. For the average Californian, 70 percent of cancer risk from breathing toxic air pollutants stem from diesel exhaust particles.[16]

EPA's National Scale Assessment uses several types of health hazard information to provide a quantitative "threshold of concern" or a health benchmark concentration at which it is expected that no adverse health effects occur at exposures to that level. Health effects information on carcinogenic, short- and long term non-carcinogenic end points are used to establish selective protective health levels to compare to the modeled exposures levels. The exposure response data in human studies are considered too uncertain to develop a carcinogenic unit risk for EPA's use. There is a Reference Concentration (RFC) that is used as a health benchmark protective of chronic noncarcinogenic health effects, but it is for diesel exhaust and not specifically set for DPM, which is what was modeled in NATA. The RFC for diesel

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14 U.S. Environmental Protection Agency. 24 April 2014. *Diesel Particulate Matter*. April 24, 2014. Available at: http://www.epa.gov/region1/eco/airtox/diesel.html

15 U.S. Environmental Protection Agency. 24 April 2014. *Diesel Particulate Matter*. April 24, 2014. Available at: http://www.epa.gov/region1/eco/airtox/diesel.html

16 Office of Environmental Health Hazard Assessment. Accessed 8 September 2015. *Health Effects of Diesel Exhaust*. Available at: http://oehha.ca.gov/public_info/facts/dieselfacts.html

exhaust, which includes DPM is 5 μg/m^3. This value is similar to the National Ambient Air Quality Standard established for fine particulate matter, which is 15 μ/m^3.[17]

Emissions: The quantity of pollutants released into the air, measured in pounds per day (ppd) or tons per day (tpd).

GHG Greenhouse Gases – Components of the atmosphere that contribute to the greenhouse effect. The principal greenhouse gases that enter the atmosphere because of human activities are carbon dioxide, methane, nitrous oxide, and fluorinated gases.

Visibility*:* With the exception of Lake County, which is designated in attainment, all of the air districts in California are currently designated as unclassified with respect to the California Ambient Air Quality Standards (CAAQS) for visibility reducing particles. (A pollutant is designated unclassified if the data are incomplete and do not support a designation of attainment or nonattainment.)

Since deterioration of visibility is one of the most obvious manifestations of air pollution and plays a major role in the public's perception of air quality, the state of California has adopted a standard for visibility or visual range. Until 1989, the standard was based on visibility estimates made by human observers. The standard was changed to require measurement of visual range using instruments that measure light scattering and absorption by suspended particles. The visibility standard is based on the distance that atmospheric conditions allow a person to see at a given time and location. Visibility reduction from air pollution is often due to the presence of sulfur and nitrogen oxides, as well as particulate matter. Visibility degradation occurs when visibility reducing particles are produced in sufficient amounts such that the extinction coefficient is greater than 0.23 inverse kilometers (to reduce the visual range to less than 10 miles) at relative humidity less than 70 percent, 8-hour average (from 10:00 a.m. to 6:00 p.m.) according to the state standard.

3.3.2 ENVIRONMENTAL SETTING

The SCAG region encompasses a population exceeding 19 million persons in an area of more than 38,000 square miles within the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura.

Air quality in the four air basins in the SCAG region—South Coast Air Basin (SCAB), Mojave Desert Air Basin (MDAB), Salton Sea Air Basin (SSAB), and South Central Coast Air Basin (SCCAB) (Ventura

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17 U.S. Environmental Protection Agency. 24 April 2014. *Diesel Particulate Matter*. April 24, 2014. Available at: http://www.epa.gov/region1/eco/airtox/diesel.html

County portion)—is a function of the topography, climate, population, and land use. While improved from the 1970s, Southern California consistently ranks as some of the worst air quality in the nation. The American Lung Association's *State of the Air Report 2018*, ranks the Los Angeles-Long Beach metropolitan area as seventh worst in the nation for people at risk for 24-hour PM2.5, fourth worst for annual PM2.5, and worst for most ozone-polluted cities.[18]

Topography, Climate, and Meteorology

The SCAG region has a greatly varied topography from lakes to mountains, valleys, hills, basins, and urban areas. The topography and meteorological conditions define the climate of the region because air quality is a function of the rate and location of pollutant emissions. Atmospheric conditions such as wind speed, wind direction, and air temperature gradients, along with local topography, influence the movement and dispersal of pollutants and thereby provide the link between air pollutant emissions and air quality. Southern California has strong temperature inversions in the lower atmosphere that can trap pollutants near the surface. Meteorology affects air quality trends that may mask emission reduction benefits. Meteorology also affects different pollutants differently. Warm and sunny weather, which is typical of Southern California, leads to higher ozone days because sunlight aids the chemical reactions that form ozone. On the other hand, windy weather will spread primary particulate matter from direct emissions leading to high PM concentrations in the air. Secondary PM, including particulate nitrates and sulfates, is more prevalent in the air during cold, calm, and humid weather conditions. Rain and wind reduce PM concentration in the air.[19] The local topography and climate conditions are described in greater detail specific to each air basin as listed below. These air basins are geographically defined because the travel of air pollution can be trapped by natural barriers like mountains unless the prevailing winds are powerful enough to disperse it to other areas.[20]

South Coast Air Basin (SCAB)

The SCAB incorporates approximately 12,000 square miles, consisting of Orange County and the urbanized areas of San Bernardino, Riverside, and Los Angeles Counties. In May 1996, the boundaries of the SCAB were changed by CARB to include the Beaumont-Banning area. The distinctive climate of the

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18 American Lung Association. 2018. *State of the Air 2018*. Available online at: https://www.lung.org/assets/documents/healthy-air/state-of-the-air/sota-2018-full.pdf, accessed March 25, 2019.

19 The California Almanac of Emissions and Air Quality. 2013. *The California Almanac of Emissions and Air Quality*. Available online at: http://www.arb.ca.gov/aqd/almanac/almanac13/almanac2013all.pdf, accessed March 25, 2019.

20 South Coast Air Quality Management District. *Southern California Air Basins.* Available online at: http://www.aqmd.gov/docs/default-source/default-document-library/map-of-jurisdiction.pdf, accessed March 25, 2019.

SCAB is determined by its terrain and geographic location. The SCAB is a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean to the southwest and high mountains around the rest of its perimeter. The general region lies in the semi-permanent high-pressure zone of the eastern Pacific, resulting in a mild climate tempered by cool sea breezes with light average wind speeds. The usually mild climatological pattern is interrupted occasionally by periods of extremely hot weather, winter storms, or Santa Ana winds.[21]

The vertical dispersion of air pollutants in the SCAB is hampered by the presence of persistent temperature inversions. High-pressure systems, such as the semi-permanent high-pressure zone in which the SCAB is located, are characterized by an upper layer of dry air that warms as it descends, restricting the mobility of cooler marine-influenced air near the ground surface, and resulting in the formation of subsidence inversions. Such inversions restrict the vertical dispersion of air pollutants released into the marine layer and, together with strong sunlight, can produce worst-case conditions for the formation of photochemical smog. The basin-wide occurrence of inversions at 3,500 feet above sea level or less averages 191 days per year.[22]

The atmospheric pollution potential of an area is largely dependent on winds, atmospheric stability, solar radiation, and terrain. The combination of low wind speeds and low inversions produces the greatest concentration of air pollutants. On days without inversions, or on days of winds averaging over 15 miles per hour, smog potential is greatly reduced.[23]

Mojave Desert Air Basin (MDAB)

The MDAB encompasses approximately 21,480 square miles and includes the desert portions of San Bernardino County, Palo Verde Valley, Palmdale, and Lancaster in the Antelope Valley. The MDAB is bordered by the SCAB and the Riverside County line to the south, Kern County line to the west, the Arizona and Nevada borders to the north and east, and the eastern portion of Riverside County to the southeast.[24] The Kern County portion of MDAB is not in the SCAG region.

The MDAB is an assemblage of mountain ranges interspersed with long broad valleys that often contain dry lakes.[25] Many of the lower mountains that dot the vast terrain rise from 1,000 to 4,000 feet above the

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21 South Coast Air Quality Management District. April 1993. CEQA Air Quality Handbook. P. A8-1.

22 Ibid.

23 Ibid.

24 California Air Resources Board, *California Air Basin Map.* Available online at: https://ww3.arb.ca.gov/ei/maps/statemap/abmap.htm, accessed August 9, 2019.

25 Mojave Desert Air Quality Management District. August 2016. *CEQA and Federal Conformity Guidelines*. Available online at: http://mdaqmd.ca.gov/home/showdocument?id=192, accessed August 23, 2019.

valley floor. Prevailing winds in the MDAB are out of the west and southwest. These prevailing winds are due to the proximity of the MDAB to coastal and central regions and the blocking nature of the Sierra Nevada Mountains to the north; air masses pushed onshore in Southern California by differential heating are channeled through the MDAB. The MDAB is separated from the Southern California coastal and central California valley regions by mountains (highest elevation approximately 10,000 feet), whose passes form the main channels for these air masses. The Antelope Valley is bordered in the northwest by the Tehachapi Mountains, separated from the Sierra Nevada in the north by the Tehachapi Pass (3,800 feet elevation). The Antelope Valley is bordered in the south by the San Gabriel Mountains, bisected by Soledad Canyon (3,300 feet). The Mojave Desert is bordered in the southwest by the San Bernardino Mountains, separated from the San Gabriel Mountains by the Cajon Pass (4,200 feet). A lesser channel lies between the San Bernardino Mountains and the Little San Bernardino Mountains (the Morongo Valley).

The Palo Verde Valley portion of the Mojave Desert lies in the low desert, at the eastern end of a series of valleys (notably the Coachella Valley) whose primary channel is the San Gorgonio Pass (2,300 feet) between the San Bernardino and San Jacinto Mountains.

During the summer, the MDAB is generally influenced by a Pacific subtropical high cell that sits off the coast, inhibiting cloud formation and encouraging daytime solar heating. The MDAB is rarely influenced by cold air masses moving south from Canada and Alaska, as these frontal systems are weak and diffuse by the time the reach the desert. Most desert moisture arrives from infrequent warm, moist, and unstable air masses from the south. The MDAB averages between 3 and 7 inches of precipitation per year (from 16 to 30 days with at least 0.01 inch of precipitation).[26] The MDAB is classified as a dry-hot desert climate, with portions classified as dry-very hot desert, to indicate at least three months have maximum average temperatures over 100.4 degrees Fahrenheit (°F).

Salton Sea Air Basin (SSAB)

The SSAB includes Imperial County and the desert portion of Riverside County between the SCAB and the MDAB (known as the Coachella Valley). Imperial County extends over 4,284 square miles in the southeastern corner of California, bordering on Mexico to the south, Riverside County to the north, San Diego County on the west, and the State of Arizona on the east. The Salton Trough runs northwest to southeast through the center of Imperial County and extends into Mexico. The elevation in Imperial

26 County of Riverside. 2015. *County of Riverside General Plan Air Quality Element*. Available online at: https://planning.rctlma.org/Portals/14/genplan/general_plan_2018/elements/Ch09_AQE_071718.pdf, accessed March 25, 2019.

County ranges from about 230 feet below sea level at the Salton Sea in the north to more than 2,800 feet on the mountain summits to the east.[27]

Climatic conditions in the SSAB are governed by the large-scale sinking and warming of air in the semi-permanent subtropical high-pressure center of the Pacific Ocean. The high-pressure ridge blocks out most mid-latitude storms except in the winter when the high is weakest and farthest south. The coastal mountains prevent the intrusion of any cool, damp marine air found in California coastal environs. Because of the weakened storms and the orographic barrier, the SSAB experiences clear skies, very low humidity, extremely hot summers, mild winters, and little rainfall. The flat terrain of the valley and the strong temperature differentials created by intense solar heating produce moderate winds and deep thermal convection.[28]

The combination of subsiding air, protective mountains, and distance from the ocean severely limits precipitation. Rainfall is highly variable, with heavy precipitation occurring from single storms followed by periods of dry air. Humidity is typically low throughout the year, ranging from 28 percent in summer to 52 percent in winter.[29]

The wind in Imperial County follows two general patterns. Prevailing winds are from the west-northwest through southwest. Also evident is a secondary flow maximum from the southeast. The prevailing winds from the west and northwest occur seasonally from fall through spring and are known to be from the Los Angeles area. Imperial County experiences periods of extremely high wind speeds. Wind speeds can exceed 31 miles per hour, and this occurs primarily during April and May. However, wind speeds of less than 6.8 miles per hour account for more than half of the observed wind measurements.[30]

South Central Coast Air Basin (SCCAB)

The SCAG region includes the Ventura County portion of the SCCAB. Ventura County is made up of coastal mountain ranges, the coastal shore, the coastal plain, and several inland valleys.[31] The northern half of the county (Los Padres National Forest) is extremely mountainous with altitudes up to 8,800 feet. Consequently, the climate in the northern half of the county varies a great deal depending on elevation.

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27 Imperial County Air Pollution Control District. 2017. *Imperial County 2017 State Implementation Plan for the 2008 8-Hour Ozone Standard.* September.

28 Ibid.

29 Ibid.

30 Ibid.

31 Ventura County Air Pollution Control District. 2017. *Final 2016 Ventura County Air Quality Management Plan*. Available online at: http://www.vcapcd.org/pubs/Planning/AQMP/2016/Final/Final-2016-Ventura-County-AQMP.pdf, accessed September 6, 2019.

Therefore, the climatological and meteorological description presented for Ventura County focuses on the southern half of the county where violations of federal and state ozone standards occur. In the winter, low-pressure systems originating in the northern Pacific Ocean bring clouds, rain, and wind into Ventura County.

The average annual temperature in the coastal and inland valleys of the southern half of Ventura County ranges from the upper 50s at the coast (Point Mugu) to the mid-60s in Simi Valley. The difference between the maximum and minimum temperatures becomes greater as the distance increases from the coast. The average minimum and maximum temperatures at Point Mugu are 50°F and 60°F, respectively, while at the inland location of Simi Valley, the averages are 52°F and 77°F. The smaller range of temperatures at Point Mugu demonstrates the moderating influence of the ocean on air temperature. The ocean's ability to warm and cool the air while its temperature remains relatively unchanged produces the moderating effect. Inland area temperatures are more prone to rapid fluctuations. Almost all rainfall in Ventura County falls during the winter and early spring (November through April). Summer rainfall is normally restricted to scattered thundershowers in lower elevations and somewhat heavier activity in the mountains. Humidity levels vary throughout the County. The range of humidity is primarily influenced by proximity to the ocean. Although the County's climate is semiarid, average humidity levels are relatively high due to the marine influence. Coastal areas are more humid than inland areas during typical fair weather. The reverse is true during stormy periods. The lowest humidity levels are recorded during Santa Ana wind conditions.

Ventura County winds are dominated by a diurnal land-sea breeze cycle. The land-sea breeze regime is broken only by occasional winter storms and infrequent strong northeasterly Santa Ana wind flows. Since the sea breeze is stronger than the land breeze, the net wind flow during the day is from west to east. Under light land-sea breeze regimes, recirculation of pollutants can occur as emissions move westward during morning hours, and eastward during the afternoon. This can cause a buildup of pollutants over several days.

The vertical dispersion of air pollutants in Ventura County is limited by the presence of persistent temperature inversions. Approximately 60 percent of all inversions measured at Point Mugu are surface based, with most occurring during the morning hours.

Regional Air Quality

In Southern California, the American Lung Association consistently gives counties within the SCAG region failing grades in the amount of ozone and particulate pollution in the air. The American Lung Association has assigned grades to each of the Counties in the SCAG region for 2018 (**Table 3.3-1,**

American Lung Association Report Card for SCAG Region). Grades were calculated from a weighted average based on the total number of days in each air quality index level. The weighted average was derived by counting the number of days in each unhealthful range in each year (2014–2016), multiplying the total in each range by the assigned standard weights, and calculating the average. All six counties in the SCAG region received a failing grade for ozone, which means there were a significant number of unhealthy air days relative to the ozone standard. For ozone, an "F" grade was set to generally correlate with the number of unhealthy air days that would place a county in nonattainment for the ozone standard. For short-term particle pollution, fewer unhealthy air days are required for an F than for nonattainment under the PM2.5 standard. For PM2.5, the national standard allows 2 percent of days in a three-year period to exceed 35 μg/m3, which is roughly 21 unhealthy days in three years, but the American Lung Association uses a more restrictive 1 percent or 99th percentile limit to protect the public from short term spikes in pollution.

Table 3.3-1
American Lung Association Report Card for SCAG Region

County	Ozone Grade	Particle Pollution Grade
Imperial	F	F
Los Angeles	F	F
Orange	F	D
Riverside	F	F
San Bernardino	F	F
Ventura	F	A

Source: American Lung Association. 2018. State of the Air 2018. Available at: https://www.lung.org/assets/documents/healthy-air/state-of-the-air/sota-2018-full.pdf

Particle Pollution

In December 2009, the U.S. EPA linked fine particle pollution (PM2.5) to public health impacts. The U.S. EPA determined that fine particle pollution could cause early death, cardiovascular harm, respiratory harm, cancer, and reproductive and developmental harm. In the short term, particle pollution reduces lung function and increases lung tissue inflammation in young, healthy adults. Short-term exposure increases emergency room visits for patients with acute respiratory illnesses, increases number of heart attacks, increases school absenteeism, increases hospitalization of children with asthma, and can even result in deaths on days of high levels of particle pollution.[32] Asthma in the SCAG region ranges from 32

[32] American Lung Association. 2018. *State of the Air 2018*. Available online at: https://www.lung.org/assets/documents/healthy-air/state-of-the-air/sota-2018-full.pdf, accessed March 25, 2019.

to 89 per 10,000 people (**Table 3.3-2, Population-Weighted Asthma Rate per 10,000**). Asthma rates are a good indicator of population sensitivity to environmental stressors because asthma is both caused by and exacerbated by pollutants.

Table 3.3-2
Population Weighted Asthma Rate per 10,000

County	Asthma Rate per 10,000
Imperial	89
Los Angeles	52
Orange	32
Riverside	47
San Bernardino	67
Ventura	38
SCAG region	**49**

Source: CalEnviroScreen3.0 - age-adjusted rate of emergency department (ED) visits for asthma per 10,000 (2018 Update).

In 2014, the World Health Organization's International Agency for Research on Cancer linked long-term exposure to particle pollution to increased risk of developing lung cancer.[33] Other studies have shown long-term particle pollution exposure increases hospitalization of children with asthma living near busy roads with heavy truck traffic, reduces lung function in children and teenagers, damages small airways of the lungs, increases risk of death from cardiovascular disease, and increases risk of lower birth weight and infant mortality.[34]

Particle pollution particularly has a detrimental effect on sensitive populations including children, elderly, and those with respiratory or cardiovascular illnesses. In March 2015, the Office of Environmental Health Hazard Assessment (OEHHA) amended their Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments to consider the impact of age, breathing rates, and exposure levels into their cancer risk calculation methodology.[35]

Particulate matter pollution is anticipated to increase due to climate change, which can lead to worsening asthma symptoms, chronic obstructive pulmonary disease (COPD), and respiratory infections associated

33 World Health Organization International Agency for Research on Cancer. 2014. *World Cancer Report 2014*.

34 American Lung Association. 2018. *State of the Air 2018*. Available online at: https://www.lung.org/assets/documents/healthy-air/state-of-the-air/sota-2018-full.pdf, accessed March 25, 2019.

35 Office of Environmental Health Hazard Assessment. *Air Toxics Hot Spots Program: Risk Assessment Guidelines for Guidance Manual for Preparation of Health Risk Assessments*. Available online at: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf, accessed March 25, 2019.

to premature mortality. Increasing temperatures due to climate change are also anticipated to lead to an increase in wildfires across California. Wildfires are a significant source of smoke and particulate matter exposure. The risk from fires persists even after a wildfire is extinguished because particulate matter from fire ash can be picked up by the winds.[36]

Figure 3.3-1, Annual Average Concentration of PM2.5, shows the average annual exposure to PM2.5 in the SCAG region for years 2012 to 2014. South Los Angeles County, northeast Orange County, southwest San Bernardino County, and northwest Riverside County experienced the highest average annual exposure to PM2.5. The metropolitan area by El Centro and Calexico in Imperial County also show high average annual exposure to PM2.5. Average concentrations in these high exposure areas range from 10.1 to 14.6 micrograms of PM2.5 per cubic meter of air. This is below the federal 15 μg/m3 standard, but above the state standard of 12 μg/m3.

Ozone

Ozone is formed when sunlight reacts with NO_x, VOCs, and/or CO. These compounds are typically found in vehicle exhaust but can also be released into the atmosphere from other sources like chemical solvents, power plants, gas stations, paints, and refineries. In February 2013, the U.S. EPA published the "Integrated Science Assessment for Ozone and Related Photochemical Oxidants." The report concluded that ozone pollution causes respiratory harm, is likely to cause early death and cardiovascular harm, may cause harm to the central nervous system, and may cause reproductive and developmental harm.[37] High levels of ozone can result in premature death and stroke, acute breathing problems like shortness of breath, wheezing, and coughing, asthma attacks, increase in risk of respiratory infection, increase susceptibility to pulmonary inflammation, and increase in hospitalization and emergency room visits for those with asthma, chronic obstructive pulmonary disease, cardiovascular disease and lung disease. Long term ozone exposure is connected to higher risk of death from respiratory diseases, higher risk of hospitalization for children with asthma especially those that are also low income, higher risk of developing asthma, lower birth weight and decreased lung function in newborns.[38] Similar to particle pollution, ozone has a detrimental effect on sensitive populations including children, elderly, and those with respiratory or cardiovascular illnesses.

Figure 3.3-2, Maximum 8-Hour Ozone Concentrations (ppm), shows the average daily O_3 exposure in the SCAG region that is in excess of the national 8-hour standard (0.070 ppm) in the SCAG region for years 2012 to 2014. Although the region largely experiences average daily ozone exposure exceeding the

36 Southern California Association of Governments. 2019. *Public Health Draft Technical Report*.

37 Ibid.

38 Ibid.

federal standard, the highest concentration of ozone exposure can be seen mostly in southwest San Bernardino and northwest Riverside Counties, and also in northwest Los Angeles County.

Sensitive Receptors

There are many sensitive receptors located throughout the SCAG region. Some persons, such as those with respiratory illnesses or impaired lung function due to other illnesses, people with cardiovascular diseases or diabetes, the elderly over 65 years of age, and children under 14 years of age, can be particularly sensitive to emissions of criteria pollutants. These are the populations most at risk to poor air quality. Facilities and structures where sensitive people live or spend considerable amounts of time are known as sensitive receptors. Land uses identified by SCAQMD in the CEQA Air Quality Handbook to be sensitive receptors include residences, schools, playgrounds, childcare centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes.

Attainment Status

NAAQS

The federal CAA sets NAAQS for the main criteria air pollutants: NO_x, VOC, PM2.5, PM10, SO_x, CO, and lead. Attainment and nonattainment of the NAAQS is variable throughout the counties within the SCAG region (**Table 3.3-3, 2019 Nonattainment in Counties in the SCAG Region for All Criteria Pollutants by County by NAAQS**).

CAAQS

CAAQS are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations. California has set standards for certain pollutants, such as particulate matter and ozone, which are more protective of public health than respective federal standards. California has also set standards for some pollutants that are not addressed by federal standards such as visibility reducing particles and vinyl chloride (**Table 3.3-4, CAAQS Area Designations**).

Table 3.3-3
2019 Nonattainment Areas in the SCAG Region
for all Criteria Pollutants by County by NAAQS

Imperial County	
PM-10 (1987)	Imperial Valley, CA - (Serious)
PM-2.5 (2006)	Imperial Co, CA - (Moderate)
PM-2.5 (2012)	Imperial Co, CA - (Moderate)
8-Hr Ozone (2015)	Imperial Co, CA - (Marginal)
Los Angeles County	
Lead (2008)	Los Angeles County-South Coast Air Basin, CA
PM-2.5 (1997)	Los Angeles-South Coast Air Basin, CA - (Moderate)
PM-2.5 (2006)	Los Angeles-South Coast Air Basin, CA - (Serious)
PM-2.5 (2012)	Los Angeles-South Coast Air Basin, CA - (Moderate)
8-Hr Ozone (2015)	Los Angeles-San Bernardino Counties (West Mojave Desert), CA - (Severe 15)
8-Hr Ozone (2015)	Los Angeles-South Coast Air Basin, CA - (Extreme)
Orange County	
PM-2.5 (1997)	Los Angeles-South Coast Air Basin, CA - (Moderate)
PM-2.5 (2006)	Los Angeles-South Coast Air Basin, CA - (Serious)
PM-2.5 (2012)	Los Angeles-South Coast Air Basin, CA - (Moderate)
8-Hr Ozone (2015)	Los Angeles-South Coast Air Basin, CA - (Extreme)
Riverside County	
PM-10 (1987)	Coachella Valley, CA - (Serious)
PM-2.5 (1997)	Los Angeles-South Coast Air Basin, CA - (Moderate)
PM-2.5 (2006)	Los Angeles-South Coast Air Basin, CA - (Serious)
PM-2.5 (2012)	Los Angeles-South Coast Air Basin, CA - (Moderate)
8-Hr Ozone (2015)	Los Angeles-South Coast Air Basin, CA - (Extreme)
8-Hr Ozone (2015)	Riverside Co, (Coachella Valley), CA - (Severe 15)
San Bernardino County	
PM-10 (1987)	San Bernardino Co, CA - (Moderate)
PM-10 (1987)	Trona, CA - (Moderate)
PM-2.5 (1997)	Los Angeles-South Coast Air Basin, CA - (Moderate)
PM-2.5 (2006)	Los Angeles-South Coast Air Basin, CA - (Serious)
PM-2.5 (2012)	Los Angeles-South Coast Air Basin, CA - (Moderate)
8-Hr Ozone (2015)	Los Angeles-San Bernardino Counties (West Mojave Desert), CA - (Severe 15)
8-Hr Ozone (2015)	Los Angeles-South Coast Air Basin, CA - (Extreme)
Ventura County	
8-Hr Ozone (2015)	Ventura County, CA - (Serious)

Source:
U.S. Environmental Protection Agency. 2019. U.S. EPA Green Book. Current nonattainment counties for all criteria pollutants. Available online at: https://www.epa.gov/green-book, accessed March 27, 2019.

Table 3.3-4
CAAQS Area Designations

Air Basin	Ozone	PM2.5	PM10	CO	NO_2	SO_2	Sulfates	Hydrogen Sulfide (HS)	Pb	Visibility Reducing Particles
Mojave Desert	Nonattainment	San Bernardino County portion of federal Southeast Desert Modified AQMA for Ozone (N); Remainder of Air Basin (U)	Nonattainment	Kern County (MDAB) (U); Los Angeles County (MBAB) (A); Riverside County (MDAB) (U); San Bernardino County (MDAB) (A)	Attainment	Attainment	Attainment	Kern County (MDAB) (U); Los Angeles County (MDAB)(U); Riverside County (MDAB)(U); San Bernardino County Searles Valley Planning Area (MDAB)(N)	Attainment	Unclassified
Salton Sea	Nonattainment	City of Calexico (N), Remainder of County (A)	Nonattainment	Attainment	Attainment	Attainment	Attainment	Unclassified	Attainment	Unclassified
South Central Coast (Ventura County)	Nonattainment	Attainment	Nonattainment	Attainment	Attainment	Attainment	Attainment	Unclassified	Attainment	Unclassified
South Coast	Nonattainment	Nonattainment	Nonattainment	Attainment	Attainment	Attainment	Attainment	Unclassified	Attainment	Unclassified

Source: California Air Resources Board. 2017. Area Designations (Activities and Maps). Available online at: http://www.arb.ca.gov/desig/changes.htm#summaries, accessed March 27, 2019.

Existing Criteria Pollutant Emissions

The existing conditions (base year 2019) of the criteria pollutant emissions for the six counties in the SCAG region are shown in **Table 3.3-5, Criteria Pollutant Emissions by County—Existing Conditions (2019)**.

Table 3.3-5
Criteria Pollutant Emissions by County—Existing Conditions (2019)

County	(Tons/Day)								
	ROG		NOx			CO	PM10	PM2.5	SOx
	Summer	Annual	Summer	Annual	Winter	Winter	Annual	Annual	Annual
Imperial	3	3	6	7	7	19	0.5	0.2	0.0
Los Angeles	52	50	88	95	93	397	14.2	6.3	1.1
Orange	15	15	22	23	23	111	4.7	2.1	0.3
Riverside	14	12	32	34	34	87	3.9	1.7	0.3
San Bernardino	16	14	38	40	39	99	4.1	1.8	0.3
Ventura	4	4	6	7	7	30	1.1	0.5	0.1

Source: SCAG Transportation Modeling, 2019.

The SCAG region is encompassed by CARB's air quality monitoring program. The air monitoring stations collect ambient level measurements for criteria pollutants. The data generated are used to define the nature and severity of pollution in California; determine which areas of California are in attainment or non-attainment; identify pollution trends in the state; support agricultural burn forecasting; and develop air models and emission inventories.[39] There are 64 active air monitoring stations in the SCAG region: nine in Imperial County, 15 in Los Angeles County, five in Orange County, 15 in Riverside County, 14 in the San Bernardino County, and six in Ventura County. These monitoring stations are shown in **Figure 3.3-3, Air Quality Basins and Monitoring Stations**.[40]

Health Risk Assessment

The Health Risk Assessment (HRA) (**Appendix 3.3**) assesses the potential carcinogenic risk to persons potentially exposed to harmful diesel exhaust emissions near freeways within the SCAG region. Using EMFAC2014, exhaust diesel particulate matter (DPM, modeled as PM2.5 and PM10) is modeled because DPM has carcinogenic health effects. Cancer risk is used as a proxy for overall health effects in this

39 California Air Resources Board. 2015. *Ambient Air Quality Monitoring*. Available online at: http://www.arb.ca.gov/aaqm/aaqm.htm, accessed March 25, 2019.

40 California Air Resources Board. *Quality Assurance Air Monitoring Site Information*. Available online at: https://ww3.arb.ca.gov/qaweb/site.php, accessed March 20, 2019.

assessment. Discussed in more detail in **Appendix 3.3** and **Chapter 4.0, Alternatives**, of this PEIR, the model simulates five conditions: existing conditions, 2045 No Project, 2045 under Connect SoCal, and 2045 under project alternatives (Local Input, Intensified Land Use) alternative scenarios containing variations on land use and transportation projects and strategies. Comparison between the existing conditions and the Plan is described in **Section 3.3.4, Environmental Impacts.**

Emissions and cancer risk are evaluated along 16 transportation corridors. The corridors were determined in prior RTP/SCS PEIRs primarily based on highest traffic volumes, highest heavy duty diesel truck volumes (HDDT) as well as proximity to sensitive receptors. Quantitative modeling of the entire length of each freeway corridor (some of which extend more than 90 miles) is impractical and therefore representative high-volume segments were selected.

For this analysis, 16 transportation segments (previously evaluated in the 2016 RTP/SCS PEIR) were evaluated. By selecting the same 16 segments as evaluated in 2016, it affords an opportunity to view progress since the adoption of the 2016 RTP/SCS. Eight of the sixteen segments were also previously evaluated in the 2012 RTP/SCS. When selecting the additional eight segments for analysis in 2016, SCAG ranked potential transportation segments by the volume of HDDT traffic. Segments were then ranked again based on the density of sensitive receptors. Using these rankings, one segment was chosen in each county and an additional two segments in Los Angeles and Riverside Counties were chosen based on heavy-duty diesel traffic. These sixteen segments were then quantitatively modeled for increased cancer risk (see **Table 3.3.-16, Summary Maximum Exposed Individual Residential 30-Year Exposure Cancer Risk**).

HDDT comprise the majority of DPM emissions. An AERMOD dispersion model was used to calculate the anticipated DPM concentrations at identified receptors out to 1,000 meters away from each freeway segment. Risk calculations were undertaken for worker, residential, and school sensitive receptors. **Table 3.3-17, Summary Maximum Exposed Individual Residential 30-year Exposure Cancer Risk** presents a summary of the cancer risk per million exposed persons for each of the six scenarios and 16 freeway segments. The HRA (see **Appendix 3.3**) also includes a discussion comparing the health risk calculations at each segment under Connect SoCal as well as the plans from the 2012 RTP/SCS and 2016 RTP/SCS.

Ambient Air Quality

The five air districts in the SCAG region each monitor air quality conditions in their region. The characterization of the ambient air quality in relation to criteria pollutants was based on peak readings of criteria pollutants in the SCAG air basins (**Table 3.3-6, Peak Criteria Pollutants Readings for the SCAG Region Air Basins**). The data shows that O_3, PM2.5, and PM10 readings consistently exceeded the standards in each of the air basins.

Table 3.3-6
Peak Criteria Pollutants Readings for the SCAG Region Air Basins

Pollutant	Period	Pollutant Standards		2016 Peak Criteria Reading		Days in Excess of Standards 2016		2017 Peak Criteria Reading		Days in Excess of Standards 2017		2018 Peak Criteria Reading		Days in Excess of Standards 2018	
		CA	Federal			CA	Federal			CA	Federal			CA	Federal
South Coast Air Basin															
Ozone (O_3)	1-hour	0.09 ppm (180 µg/m³)	—	0.163		83	10	0.158		109	14	0.142		84	7
	8-hour	0.07 ppm (137 µg/m³)	0.07 ppm (137 µg/m³)	0.121		132	132	0.136		148	145	0.125		141	141
Respirable Particulate Matter (PM10)	24-hour	50 µg/m³	150 µg/m³	CA 277.8	Federal 277.0	152 (Estimated)	1*	CA 137.6	Federal 258.2	115	2	CA 126.0	Federal 230.2	139	1
Fine Particulate Matter (PM2.5)	24-hour	—	35 µg/m³	CA 110.5	Federal 58.8	—	10	CA 109.6	Federal 85.4	—	18	CA 111.0	Federal 103.8	—	17
Carbon Monoxide (CO)	8-hour	9 ppm (10 mg/m³)	9 ppm (10 mg/m³)	3.96		0	0	0		0	0	—		0	0
Nitrogen Dioxide (NO_2)	1-hour	0.18 ppm (339 µg/m³)	100 ppb (188 µg/m³)	CA 95	Federal 95.3	0	0	CA115	Federal 115.5	0	1	CA 90	Federal 90.3	0	0

Pollutant	Period	Pollutant Standards		2016 Peak Criteria Reading		Days in Excess of Standards 2016		2017 Peak Criteria Reading		Days in Excess of Standards 2017		2018 Peak Criteria Reading		Days in Excess of Standards 2018	
		CA	Federal			CA	Federal			CA	Federal			CA	Federal
Mojave Desert Air Basin															
Ozone (O_3)	1-hour	0.09 ppm (180 µg/m3)	—	0.132		34	3	0.156		47	4	0.126		39	1
	8-hour	0.07 ppm (137 µg/m³)	0.07 ppm (137 µg/m³)	CA 0.110	Federal 0.109	103	98	CA 0.119	Federal 0.118	103	99	CA 0.107	Federal 0.107	129	123
Respirable Particulate Matter (PM10)	24-hour	50 µg/m³	150 µg/m³	CA 203.5	Federal 246.9	19	2	CA 85.7	Federal 262.3	10*	1*	CA 103.2	Federal 165.2	19*	1
Fine Particulate Matter (PM2.5)	24-hour	—	35 µg/m³	CA 64.8	Federal 64.8	—	3	CA 29.3	Federal 27.2	—	0	CA 40.4	Federal 40.4	—	3
Carbon Monoxide (CO)	8-hour	9 ppm (10 mg/m³)	9 ppm (10 mg/m³)	0		0	0	1.83		0	0	—		0	0
Nitrogen Dioxide (NO_2)	1-hour	0.18 ppm (339 µg/m³)	100 ppb (188 µg/m³)	CA 223	Federal 223.1	2	4	CA 61	Federal 61.3	0	0	CA 59	Federal 59.2	0	0
Salton Sea Air Basin															
Ozone (O_3)	1-hour	0.09 ppm (180 µg/m³)	—	0.108		6	0	0.122		18	0	0.111		11	0
	8-hour	0.07 ppm (137 µg/m³)	0.07 ppm (137 µg/m³)	CA 0.092	Federal 0.092	61	58	CA 0.097	Federal 0.097	78	73	CA 0.099	Federal 0.099	81	77

Pollutant	Period	Pollutant Standards		2016 Peak Criteria Reading		Days in Excess of Standards 2016		2017 Peak Criteria Reading		Days in Excess of Standards 2017		2018 Peak Criteria Reading		Days in Excess of Standards 2018	
		CA	Federal			CA	Federal			CA	Federal			CA	Federal
Respirable Particulate Matter (PM10)	24-hour	50 µg/m³	150 µg/m³	CA 265.8	Federal 732.9	136	18	CA 410.2	Federal 477.6	152	5	CA 419.0	Federal 422.3	176	2
Fine Particulate Matter (PM2.5)	24-hour	—	35 µg/m³	CA 57.9	Federal 57.9	—	6	CA 187.5	Federal 49.1	—	6	CA 90.6	Federal 90.6	—	6
Carbon Monoxide (CO)	8-hour	9 ppm (10 mg/m³)	9 ppm (10 mg/m³)	4.47		0	0	0		0	0	—		0	0
Nitrogen Dioxide (NO_2)	1-hour	0.18 ppm (339 µg/m³)	100 ppb (188 µg/m³)	CA 84	Federal 84.5	0	0	CA 73	Federal 73.6	0	0	CA 73	Federal 73.0	0	0
South Central Coast Air Basin															
Ozone (O_3)	1-hour	0.09 ppm (180 µg/m³)	—	0.096		1	0	0.111		4	0	0.103		3	0
	8-hour	0.07 ppm (137 µg/m³)	0.07 ppm (137 µg/m³)	CA 0.088	Federal 0.088	20	16	CA 0.095	Federal 0.094	29	25	CA 0.093	Federal 0.092	21	19
Respirable Particulate Matter (PM10)	24-hour	50 µg/m³	150 µg/m³	CA 263.9	Federal 436.1	77	10	CA 410.0	Federal 399.8	99	10	CA 208.4	Federal 209.0	55	2
Fine Particulate Matter (PM2.5)	24-hour	—	35 µg/m³	CA 35.3	Federal 35.2	—	0	CA 557.0	Federal 557.0	—	13	CA 46.8	Federal 46.8	—	4

Pollutant	Period	Pollutant Standards		2016 Peak Criteria Reading		Days in Excess of Standards 2016		2017 Peak Criteria Reading		Days in Excess of Standards 2017		2018 Peak Criteria Reading		Days in Excess of Standards 2018	
		CA	Federal			CA	Federal			CA	Federal			CA	Federal
Carbon Monoxide (CO)	8-hour	9 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	1.11		0	0	0		0	0	—		0	0
Nitrogen Dioxide (NO_2)	1-hour	0.18 ppm (338 µg/m^3)	100 ppb (190 µg/m^3)	CA 52	Federal 52.1	0	0	CA 46	Federal 46.0	0	0	CA 49	Federal 49.0	0	0

Source:
California Air Resources Board. Accessed 1 October 2019. Top 4 summary: select pollutant, years, & area. Available at: http://www.arb.ca.gov/adam/topfour/topfour1.php
** Insufficient data available to determine the value. Measured days equal to* number presented.

3.3.3 REGULATORY FRAMEWORK

3.3.3.1 Federal

Federal Clean Air Act

Congress passed the first major Clean Air Act (CAA) in 1970 (42 U.S. Code [USC] Sections 7401 et seq.). This Act gives the EPA broad responsibility for regulating motor vehicle emissions from many sources of air pollution from mobile to stationary sources. Pursuant to the CAA, the EPA is authorized to regulate air emissions from mobile sources like heavy-duty trucks, agricultural and construction equipment, locomotives, lawn and garden equipment, and marine engines; and stationary sources such as power plants, industrial plants, and other facilities. The CAA sets National Ambient Air Quality Standards (NAAQS) for the six most common air pollutants to protect public health and public welfare. These pollutants include particulate matter, ozone, carbon monoxide, sulfur oxides, nitrogen oxides, and lead. For each pollutant, the EPA designates an area as attainment for meeting the standard or nonattainment for not meeting the standard. A maintenance designation entails an area that was previously designated as nonattainment but is currently designated as attainment. The CAA directs states to develop state implementation plans (SIPs), applicable to appropriate industrial sources in the state, in order to achieve these standards.[41]

CAA Section 112(f) and 112(d): National Emission Standards for Hazardous Air Pollutants (NESHAPs)

Section 112 of the CAA addresses emissions of hazardous air pollutants. Prior to 1990, CAA established a risk-based program under which only a few standards were developed. The 1990 CAAA revised Section 112 to first require issuance of technology-based standards for major sources and certain area sources. "Major sources" are defined as a stationary source or group of stationary sources that emit or have the potential to emit 10 tons per year or more of a hazardous air pollutant or 25 tons per year or more of a combination of hazardous air pollutants. An "area source" is any stationary source that is not a major source.[42]

For major sources, Section 112 requires that EPA establish emission standards that require the maximum degree of reduction in emissions of hazardous air pollutants. These emission standards are commonly referred to as "maximum achievable control technology" or MACT standards. Eight years after the technology-based MACT standards are issued for a source category, EPA is required to review those

41 U.S. Environmental Protection Agency. *Summary of the Clean Air Act 42 U.S.C. §7401 et seq. (1970).* Available online at: https://www.epa.gov/laws-regulations/summary-clean-air-act, accessed August 23, 2019.

42 Ibid.

standards to determine whether any residual risk exists for that source category and, if necessary, revise the standards to address such risk.[43]

The Risk and Technology Review (RTR) is a combined effort to evaluate both risk and technology as required by the CAA after the application of MACT standards. Section 112(f) of the CAA requires EPA to complete a report to Congress that includes a discussion of methods the EPA would use to evaluate the risks remaining after the application of MACT standards. These are known as residual risks. EPA published the Residual Risk Report to Congress (PDF) in March 1999. Section 112(f)(2) directs EPA to conduct risk assessments on each source category subject to MACT standards, and to determine if additional standards are needed to reduce residual risks. Section 112(d)(6) of the CAA requires EPA to review and revise the MACT standards, as necessary, taking into account developments in practices, processes and control technologies.[44]

National Ambient Air Quality Standards (NAAQS)

The federal CAA required the U.S EPA to establish NAAQS. The NAAQS set primary standards and secondary standards for specific air pollutants**.** Primary standards define limits for the intention of protecting public health, which include sensitive populations such as asthmatics, children, and the elderly. Secondary Standards define limits to protect public welfare to include protection against decreased visibility, damage to animals, crops, vegetation, and buildings. A summary of the federal ambient air quality standards is shown in **Table 3.3-7, National Ambient Air Quality Standards**.

43 Ibid.

44 Ibid.

Table 3.3-7
National Ambient Air Quality Standards

Pollutant		Primary/Secondary	Averaging Time	Level
Carbon Monoxide		Primary	8 hours	9 ppm
			1 hour	35 ppm
Lead		Primary and secondary	Rolling 3-month average	0.15 μg/m^3
Nitrogen dioxide		Primary	1 hour	100 ppb
		Primary and secondary	Annual	0.053 ppm
Ozone		Primary and secondary	8 hours	0.070 ppm
Particulate Matter	PM2.5	Primary	Annual	12 μg/m^3
		Secondary	Annual	15 μg/m^3
		Primary and secondary	24 hours	35 μg/m^3
	PM10	Primary and secondary	24 hours	150 μg/m^3
Sulfur dioxide		Primary	1 hour	75 ppb
		Secondary	3 hours	0.5 ppm

Source: California Air Resources Board. May 2016. Ambient Air Quality Standards. Available online at: https://www.arb.ca.gov/research/aaqs/aaqs2.pdf, accessed November 16, 2018.

State Implementation Plan (SIP)/ Air Quality Management Plans (AQMPs)

A SIP is required by the EPA to ensure compliance with the NAAQS. States must develop a general plan to maintain air quality in areas of attainment and a specific plan to improve air quality for areas of nonattainment. SIPs are a compilation of new and previously submitted plans, programs (such as monitoring, modeling, permitting, etc.), district rules, state regulations, and federal controls. The SIP verifies that the state has a proper air quality management program that adheres to or strives to reach the most up to date emissions requirements.[45] The 1990 amendments to the federal CAA set deadlines for attainment based on the severity of an area's air pollution problem. In adherence to CAA Section 172, states must adopt additional regulatory programs for nonattainment areas.[46] Particularly in California, the SIP not only complies with NAAQS, but also the more stringent CAAQS.

AQMPs are required to ensure compliance with the state and federal requirements. AQMPs contain scientific information and use analytical tools to demonstrate a pathway towards achieving attainment for the criteria air pollutants. Within the SCAG region, five air districts—SCAQMD, Mojave Desert Air

45 U.S. Environmental Protection Agency. *Basic Information about Air Quality SIPs*. Available online at: https://www.epa.gov/sips/basic-information-air-quality-sips, accessed August 23, 2019.

46 U.S. Environmental Protection Agency. *The Clean Air Act – Highlights of the 1990 Amendments*. Available online at: https://www.epa.gov/sites/production/files/2015-11/documents/the_clean_air_act_-_highlights_of_the_1990_amendments.pdf, accessed August 23, 2019.

Quality Management District (MDAQMD), Imperial County Air Pollution Control District (ICAPCD), Antelope Valley Air Quality Management District (AVAQMD), and the Ventura County Air Pollution Control District (VCAPCD)—are responsible for developing the AQMPs.[47] The approval process begins when the regional air districts submit their AQMPs to the CARB. CARB is the lead agency and responsible agency for submitting the SIP to the EPA. CARB forwards SIP revisions to the EPA for approval and publication in the Federal Register. The Code of Federal Regulations Title 40, Chapter I, Part 52, Subpart F, Section 52.220, lists all of the items included in the California SIP.[48]

Transportation Conformity

Transportation conformity is required under federal CAA Section 176(c) to ensure that federally supported highway and transit project activities are consistent with ("conform to") the purpose and requirements of the SIP. Conformity currently applies to areas that are designated nonattainment, and those redesignated to attainment after 1990 ("maintenance areas" with plans developed under CAA Section 175A) for the following transportation-related criteria pollutants: ozone, particulate matter (PM2.5 and PM10), CO, and NO_2. Conformity to the purpose of the SIP means that transportation activities will not cause new air quality violations, worsen existing violations, or delay timely attainment of the relevant NAAQS. The transportation conformity regulation is found in 40 CFR Part 93. Conformity requires reporting on the timely implementation of Transportation Control Measures (TCMs) in ozone nonattainment areas designated as serious or worse, thus reinforcing the link between AQMP/SIPs and the transportation planning process. TCMs are expected to be given funding priority and to be implemented on schedule, and in the case of any delays, any obstacles to implementation have been or are being overcome. In the SCAG region, there are two areas for which the ozone SIPs contain TCMs: SCAB and the Ventura County portion of SCCAB. (It is noted that the Ventura County SIP does not claim emission reduction credits from TCM projects. They have been included to assist transportation and air quality agencies to identify projects that have the potential of reducing vehicle emissions, vehicle trips, and vehicle miles traveled.)[49]

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47 Southern California Association of Governments. *Air Quality Management Plans*. Available online at: http://www.scag.ca.gov/programs/Pages/ManagementPlans.aspx, accessed November 12, 2018.

48 Government Publishing Office. *40 CFR 52.220*. Available online at: https://www.govinfo.gov/app/details/CFR-2013-title40-vol3/CFR-2013-title40-vol3-sec52-220, accessed August 23, 2019.

49 U.S. Environmental Protection Agency. 2009. *Guidance for Implementing the Clean Air Act Section 176(c)(8) Transportation Control Measure Substitution and Addition Provision*. Available online at: https://nepis.epa.gov/Exe/ZyPDF.cgi/P1002W66.PDF?Dockey=P1002W66.PDF, accessed August 23, 2019.

Federal CAA Rules

The mobile and stationary sources of emissions are subject to different rules and regulations. For the mobile sources, the rules apply to cars, trucks, buses, recreational vehicles, engines, generators, farm and construction machines, lawn and garden equipment, marine engines, and locomotives. In addition, the compositions of fuels used to operate mobile sources are regulated to help reduce harmful emissions. For stationary resources including factories and chemical plants, pollution control equipment are installed to meet specific emission limits set under the CAA. The New Source Review (NSR) and Prevention of Significant Deterioration (PSD) require large industrial operators such as coal-fired power, acid, glass, and cement plants and petroleum refineries to make modifications to existing facilities or install new controls resulted in emissions of pollutants on new facilities to reduce degradation and harm against public health. EPA works with its federal partners through CAA to ensure compliance with rules through active monitoring and to make sure that the regulated community obeys environmental laws/regulations through on-site inspections and record reviews that lead to enforcement in order to meet environmental regulatory requirements.[50]

Clean Air Act Waiver for California's GHG Emission Standards for New Motor Vehicles

Due to the unique topography and rapid population increase within the Los Angeles basin, federal standards may not be effective enough to meet clean air standards, therefore the state was granted the ability to create stricter standards than set by the CAA. Utilizing the ability to set stricter emission standards, California was granted a waiver of the CAA in July 2009 so that the state may set its own vehicle emission standards for new motor vehicles in order to reduce GHG and ozone emissions.[51] In 2018, the Trump administration announced that the government would ease the federal vehicle fuel standards. As a response, and as a result of the autonomy provided by this waiver, California along with four major antimanufacturing companies pledged to produce vehicle fleets averaging approximately 50 miles per gallon (mpg) by 2026.

On September 19, 2019, under the Safer, Affordable, Fuel-Efficient (SAFE) Vehicles Rule, the U.S. Department of Transportation's National Highway Traffic Safety Administration (NHSTA) and the U.S. EPA issued the final "One National Program Rule." The rule states that federal law preempts state and local laws regarding tailpipe GHG emissions standards, zero emissions vehicle mandates, and fuel

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50 U.S. Environmental Protection Agency. 2019. *New Source Review (NSR) Permitting*. Available online at: https://www.epa.gov/nsr/prevention-significant-deterioration-basic-information, accessed August 23, 2019.

51 Federal Register. 2009. *Environmental Protection Agency: California State Motor Vehicle Pollution Control Standards; Notice of Decision Granting a Waiver of Clean Air Act Preemption for California's 2009 and Subsequent Model Year Greenhouse Gas Emission Standards for New Motor Vehicles; Notice*. Available online at: https://www.govinfo.gov/content/pkg/FR-2009-07-08/pdf/E9-15943.pdf, accessed September 18, 2019.

economy for automobiles and light duty trucks. The rule revokes California's Clean Air Act waiver and preempts California's Advanced Clean Car Regulations and may potentially impact SCAG's Connect SoCal and transportation projects in the SCAG region.[52, 53] On September 20, 2019, a lawsuit was filed by California and a coalition of 22 other states, and the cities of Los Angeles, New York and Washington, D.C., in the United States District Court for the District of Columbia (Case 1:19-cv-02826) challenging the SAFE Rule and arguing that EPA lacks the legal authority to withdraw the California waiver. At the time of this PEIR, it is unclear whether the SAFE Rule will remain in place.[54]

Mobile Source Air Toxics (MSAT) Modeling and Programs

MOVES2014. In 2010, the EPA released the emission model, the Motor Vehicle Emissions Simulator (MOVES). On February 8, 2011, EPA issued guidance on "Using the MOVES and Emission Factors (EMFAC) Models in NEPA Evaluation" that recommended a two-year grace period be applied to project-level emissions analysis for NEPA purposes. At the end of this grace period, that is, beginning December 20, 2012, Lead Agencies should use MOVES to conduct emissions analysis for NEPA purposes. To prepare for this transition, FHWA is updating the September 2009 Interim Guidance to incorporate the analysis conducted using MOVES. Based on FHWA's analysis using MOVES2010 diesel particulate matter (diesel PM) has become the dominant MSAT of concern. MOVES2014, the latest version of MOVES, was released in October 2014, and incorporates the Tier 3 Rule and other EPA rulemakings since the last MOVES release.

The U.S. EPA has adopted several mobile source emission control programs such as:[55]

Control of Hazardous Air Pollutants from Mobile Sources. In February 2007, EPA finalized this rule to reduce hazardous air pollutants from mobile sources. The rule limits the benzene content of gasoline and reduces toxic emissions from passenger vehicles and gas cans. EPA estimates that in 2030 this rule would

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52 U.S. Department of Transportation and U.S. EPA. 2019. *One National Program Rule on Federal Preemption of State Fuel Economy Standards*. Available online at: https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100XI4W.pdf, accessed October 29, 2019.

53 Southern California Association of Governments. 2019. *Final Federal Safer, Affordable, Fuel-Efficient Vehicles Rule Part I (Supplemental Report).* Available online at: http://www.scag.ca.gov/committees/CommitteeDocLibrary/EEC_Item8_RC_Item10%20Supplemental%20Report.pdf, accessed October 29, 2019.

54 If the SAFE Rule remains in place, the state and region would have to develop other means of achieving the NAAQS.

55 U.S. Environmental Protection Agency. *Mobile Source Pollution and Related Health Effects.* Available online at: https://www.epa.gov/mobile-source-pollution, accessed November 12, 2018.

reduce total emissions of mobile source air toxics by 330,000 tons and VOC emissions (precursors to ozone and PM2.5) by over 1 million tons.[56]

Heavy-Duty Onboard Diagnostic Rule (74 FR 8310). In February 2009, the EPA published a final rule, requiring that these advanced emissions control systems be monitored for malfunctions via an onboard diagnostic system (OBD), similar to those systems that have been required on passenger cars since the mid-1990s. This final rule will require manufacturers to install OBD systems that monitor the functioning of emission control components and alert the vehicle operator to any detected need for emission related repair.[57]

Small SI and Marine SI Engine Rule (73 FR 25098). Published October 2008, these exhaust emission standards applied starting in 2010 for new marine spark-ignition (SI) engines, including first-time EPA standards for sterndrive and inboard engines. The exhaust emission standards applied starting in 2011 and 2012 for different sizes of new land based, spark-ignition engines at or below 19 kilowatts (kW). These small engines are used primarily in lawn and garden applications. Estimated annual nationwide reductions are anticipated to be 604,000 tons of volatile organic hydrocarbon emissions, 132,200 tons of NO_x emissions, and 5,500 tons of directly emitted particulate matter (PM2.5) emissions.[58]

Locomotive and Commercial Marine Rule (66 FR 5002). Published May 2008, the controls apply to all types of locomotives, including line-haul, switch, and passenger, and all types of marine diesel engines below 30 liters per cylinder displacement, including commercial and recreational, propulsion and auxiliary. The near-term program, which started in 2009, includes new emission limits for existing locomotives and marine diesel engines that apply when they are remanufactured, and take effect as soon as certified remanufacture systems are available. The long-term emissions standards for newly built locomotives and marine diesel engines are based on the application of high-efficiency catalytic after-

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56 U.S. Environmental Protection Agency. 2007. *Control of Hazardous Air Pollutants from Mobile Sources; Final Rule*. Available online at: https://www.govinfo.gov/content/pkg/FR-2007-02-26/pdf/E7-2667.pdf, accessed August 23, 2019.

57 U.S. Environmental Protection Agency. 2009. *Control of Air Pollution from New Motor Vehicle Engines; Final Rule*. Available online at: https://www.govinfo.gov/content/pkg/FR-2009-02-24/pdf/E9-2405.pdf, accessed August 23, 2019.

58 U.S. Environmental Protection Agency. 2008. *EPA Finalizes Emission Standards for New Nonroad Spark-Ignition Engines, Equipment, and Vessels*. Available online at: https://nepis.epa.gov/Exe/ZyPDF.cgi/P10017GK.PDF?Dockey=P10017GK.PDF, accessed August 29, 2019.

treatment technology. These standards take effect in 2015 for locomotives and in 2014 for marine diesel engines.[59]

Clean Air Nonroad Diesel Rule (65 FR 6698). Published June 2004, this comprehensive national program regulates nonroad diesel engines and diesel fuel as a system. New engine standards took effect in the 2008 model year, phasing in over a number of years. These standards are based on the use of advanced exhaust emission control devices.[60]

Heavy-duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements (66 FR 5002). Published January 2001, the EPA established a comprehensive national control program to regulate the heavy-duty vehicle and its fuel as a single system. As part of this program, new emission standards took effect in model year 2007, and apply to heavy-duty highway engines and vehicles. These standards are based on the use of high-efficiency catalytic exhaust emission control devices or comparably effective advanced technologies.[61]

New Source Performance Standards (NSPS) for Stationary Engines. Nonroad diesel engines are used in excavators and other construction equipment, farm tractors and other agricultural equipment, heavy forklifts, airport ground service equipment, and utility equipment such as generators, pumps, and compressors.[62] EPA has adopted multiple tiers of emission standards, including reducing emissions from nonroad diesel engines by integrating engine and fuel controls as a system. To meet these Tier 4 emission standards, engine manufacturers will produce new engines with advanced emission control technologies.[63]

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59 U.S. Environmental Protection Agency. 2008. *Control of Emissions of Air Pollution From Locomotive Engines and Marine Compression-Ignition Engines Less Than 30 Liters per Cylinder*. Available online at: https://www.govinfo.gov/content/pkg/FR-2008-06-30/pdf/R8-7999.pdf, accessed August 23, 2019.

60 U.S. Environmental Protection Agency. 2004. *Control of Emissions of Air Pollution from Nonroad Diesel Engines and Fuel*. Available online at: https://www.govinfo.gov/content/pkg/FR-2004-06-29/pdf/04-11293.pdf, accessed August 23, 2019.

61 U.S. Environmental Protection Agency. 2001. *Control of Air Pollution from New Motor Vehicles: Heavy-Duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements*. Available online at: https://www.govinfo.gov/content/pkg/FR-2001-01-18/pdf/01-2.pdf, accessed August 23, 2019.

62 U.S. Environmental Protection Agency. *Regulations for Emissions from Heavy Equipment with Compression-Ignition (Diesel) Engines*. Available online at: https://www.epa.gov/regulations-emissions-vehicles-and-engines/regulations-emissions-heavy-equipment-compression, accessed November 13, 2018.

63 Ibid.

3.3.3.2 State

California Clean Air Act of 1988

The California CAA of 1988 (Chapter 1568, Statutes of 1988) requires all air pollution control districts in the state to aim to achieve and maintain state ambient air quality standards for ozone, carbon monoxide, and nitrogen dioxide by the earliest practicable date and to develop plans and regulations specifying how the districts will meet this goal. There are no planning requirements for the state PM10 standard. The CARB, which became part of the California Environmental Protection Agency (Cal/EPA) in 1991, is responsible for meeting state requirements of the federal CAA, administrating the California CAA, and establishing the CAAQS. The California CAA, amended in 1992, requires all AQMDs in the state to achieve and maintain the CAAQS. The CAAQS are generally stricter than national standards for the same pollutants, but there is no penalty for nonattainment. California has also established state standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles, for which there are no national standards.[64]

California Ambient Air Quality Standards

The federal CAA permits states to adopt additional or more protective air quality standards if needed. California has set standards for certain pollutants, such as particulate matter and ozone, which are more protective of public health than respective federal standards. California has also set standards for some pollutants that are not addressed by federal standards.[65] The state standards for ambient air quality are summarized in **Table 3.3-8, California Ambient Air Quality Standards**.

64 Sacramento Metropolitan Air Quality Management District. *State Planning*. Available online at: http://www.airquality.org/businesses/air-quality-plans/state-planning, accessed September 3, 2019.

65 CARB. *California Ambient Air Quality Standards (CAAQS)*. Available online at: https://ww2.arb.ca.gov/resources/california-ambient-air-quality-standards, accessed August 23, 2019.

Table 3.3-8
California Ambient Air Quality Standards

Pollutant		Averaging Time	Level
Carbon monoxide		8 hours	9 ppm
		1 hour	20 ppm
Lead		30-day average	1.5 μg/m^3
Nitrogen dioxide		1 hour	0.180 ppm
		Annual	0.030 ppm
Ozone		8 hours	0.070 ppm
		1 hour	0.09 ppm
Particulate matter	PM2.5	Annual	12 μg/m^3
	PM10	24 hours	50 μg/m^3
		Annual	20 μg/m^3
Sulfur dioxide		1 hour	0.25 ppm
		24 hours	0.04 ppm
Sulfates		24 hours	25 μg/m^3
Hydrogen sulfide		1 hour	0.03 ppm
Vinyl chloride		24 hours	0.01 ppm

Source:
California Air Resources Board. 2016. Ambient Air Quality Standards. May. Available online at: https://www.arb.ca.gov/research/aaqs/aaqs2.pdf, accessed November 16, 2018.

California Health and Safety Code

Under the California Health and Safety Code, Division 26 (Air Resources), the ARB is authorized to adopt regulations to protect public health and the environment through the reduction of TACs and other air pollutants with adverse health effects. ARB has promulgated several mobile and stationary source airborne toxic control measures (ATCMs) pursuant to this authority. For instance, effective as of July 2003, ARB approved an ATCM that limits school bus idling and idling at or near schools to only when necessary for safety or operational concerns (13 CCR Chapter 10 Section 2480). This ATCM is intended to reduce diesel PM and other TACs and air pollutants from heavy-duty motor vehicle exhaust. It applies to school buses, transit buses, school activity buses, youth buses, general public paratransit vehicles, and other commercial motor vehicles. This ATCM focuses on reducing public exposure to diesel PM and other TACs, particularly for children riding in and playing near school buses and other commercial motor vehicles, who are disproportionately exposed to pollutants from these sources.[66] In addition, effective February 2005, the ARB approved an ATCM to limit the idling of diesel-fueled commercial

66 CARB. *Amended Regulation: Airborne Toxic Control Measure to Limit School Bus Idling at Schools*. Available online at: https://ww3.arb.ca.gov/toxics/sbidling/sbvidling.pdf, accessed August 23, 2019.

motor vehicles with gross vehicular weight ratings of greater than 10,000 pounds, regardless of the state or country in which the vehicle is registered (13 CCR Chapter 10 Section 2485).[67]

Toxic Air Contaminant Identification and Control Act

The Toxic Air Contaminant Identification and Control Act (Assembly Bill [AB] 1807, Chapter 1047, Statutes of 1983) created the California Air Toxics Program in 1983. It established a two-step process of risk identification and risk management to address potential health effects associated with public exposure to toxic substances in the air. In the risk identification step, CARB and the OEHHA determine if a substance should be formally identified, or "listed," as a TAC in California. Since inception of the program, a number of such substances have been identified and listed. In 1993, legislative amendments were enacted for the program to identify the 189 federal hazardous air pollutants (HAPs) as TACs.

In the risk management step, CARB reviews emission sources of an identified TAC to determine whether regulatory action is needed to reduce the risk. Based on results of that review, CARB has promulgated a number of airborne toxic control measures (ATCMs), both for mobile and stationary sources. In 2004, CARB adopted an ATCM to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel PM and other TACs. The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. This measure does not allow diesel-fueled commercial vehicles to idle for more than 5 minutes at any given time. These diesel-related measures are critical in reducing the statewide cancer risk and creating healthier communities.[68]

CARB Air Toxics "Hot Spots" Information and Assessment Act of 1987

The California Air Toxics Program is supplemented by the Air Toxics "Hot Spots" program, which became law (AB 2588, Statutes of 1987) in 1987. In 1992, the AB 2588 program was amended by Senate Bill 1731 to require facilities that pose a significant health risk to the community to perform a risk reduction audit and reduce their emissions through implementation of a risk management plan. Under this program, which is required under the Air Toxics "Hot Spots" Information and Assessment Act (Section 44363 of the California Health and Safety Code), facilities are required to report their air toxics emissions, assess health risks, and notify nearby residents and workers of significant risks when present.[69] In March 2015, the OEHHA adopted "The Air Toxics Hot Spots Program Guidance Manual for Preparation of

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67 CARB. *§2485. Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling*. Available online at: https://ww3.arb.ca.gov/msprog/truck-idling/13ccr2485_09022016.pdf, accessed August 23, 2019.

68 CARB. 2019. *California Air Toxics Program – Background*. Available online at: https://ww3.arb.ca.gov/toxics/background.htm, accessed August 23, 2019.

69 Ibid.

Health Risk Assessments" in accordance with the Health and Safety Code, Section 44300. The Final Guidance Manual incorporates the scientific basis from three earlier developed Technical Support Documents to assess risk from exposure to facility emissions. The 2015 OEHHA Final Guidance has key changes including greater age sensitivity in particular for children, decreased exposure durations, and higher breathing rate profiles. Because cancer risk could be up to three times greater using this new guidance, it may result in greater mitigation requirements, more agency backlog, and increased difficulty in getting air permits. Regardless of the change in calculation methodology, actual emissions and cancer risk within South Coast Air Basin has declined by more than 50 percent since 2005. [70]

The CARB provides a computer program, the Hot Spots Analysis and Reporting Program (HARP), to assist in a coherent and consistent preparation of an HRA. HARP2, an update to HARP, was released in March 2015. HARP2 has a more refined risk characterization in HRA and CEQA documents and incorporates the 2015 OEHHA Final Guidance. [71]

Multiple Air Toxics Exposure Study (MATES-IV)

To date, the most comprehensive study of air toxics in the South Coast Air Basin (SCAB) is the Multiple Air Toxics Exposure Study (MATES-IV), conducted by Southern California Air Quality Management District (SCAQMD) in 2015. MATES combines monitoring of ambient air toxics, emissions inventories, and computer modeling to estimate the cancer risk from air pollution. The monitoring program measured over 30 air pollutants, including both gases and particulates. SCAQMD's MATES IV found that the average cancer risk from air pollution across the region declined from 1,194 in 1 million during MATES III in 2005 to 418 in 1 million in 2012–2013 using similar methods of analysis. The risk reduction follows a trend of declining toxic emissions in the region since the first MATES study was conducted in 1987. MATES IV found that mobile sources are responsible for 90 percent of the risk.[72]

The SCAQMD proposes the MATES V study as a follow up to the MATES IV study. The purpose of MATES V fixed monitoring is to characterize long-term regional air toxics levels in residential and

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70 OEHHA. 2015. *Air Toxics Hot Spots Program Risk Assessment Guidelines*. Available online at: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf, accessed August 23, 2019.

71 CARB. *Hotspots Analysis and Reporting Program (HARP)*. Accessed online at: https://ww3.arb.ca.gov/toxics/harp/harp.htm, accessed August 23, 2019.

72 SCAB. May 2015. *Final Report Multiple Air Toxics Exposure Study in the South Coast Air Basin, MATES-IV*. Available online at: https://www.aqmd.gov/docs/default-source/air-quality/air-toxic-studies/mates-iv/mates-iv-final-draft-report-4-1-15.pdf?sfvrsn=7, accessed August 23, 2019.

commercial areas. The MATES V study proposes to study air toxics for a one-year period at ten fixed sites beginning in January 2019.[73]

Senate Bill 656 (Chapter 738, Statues of 2003)

In 2003, the Legislature enacted Senate Bill (SB) 656 (Chapter 738, Statutes of 2003), codified as Health and Safety Code Section 39614, to reduce public exposure to PM10 and PM2.5. SB 656 required ARB, in consultation with local air pollution control and air quality management districts (air districts), to develop and adopt, by January 1, 2005, a list of the most readily available, feasible, and cost-effective control measures that could be employed by ARB and the air districts to reduce PM10 and PM2.5 (collectively referred to as PM).[74]

The legislation established a process for achieving near-term reductions in PM throughout California ahead of federally required deadlines for PM2.5, and provided new direction on PM reductions in those areas not subject to federal requirements for PM. Measures adopted as part of SB 656 complement and support those required for federal PM2.5 attainment plans, as well as for State ozone plans. This ensures continuing focus on PM reduction and progress towards attaining California's more health protective standards. This list of air district control measures was adopted by the ARB on November 18, 2004. ARB also developed a list of State PM control measures for mobile and stationary sources, including measures planned for adoption as part of ARB's Diesel Risk Reduction Plan. The lists are at the following web site: http://www.arb.ca.gov/pm/pmmeasures/pmmeasures.htm.

California Air Resources Board Mobile Source Programs

Emission Reduction Plan for Ports and Goods Movement

The CARB approved the 2006 Emission Reduction Plan for Ports and Goods Movement in California. The Plan is an essential component of California's effort to reduce community exposure to air pollution and to meet new federal air quality standards for ozone and fine particulate matter (PM2.5). The plan's goals are to:[75]

1. Reduce total statewide international and domestic goods movement emissions to the greatest extent possible and at least back to 2001 levels by year 2010.

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73 South Coast Air Quality Management District. *MATES V Multiple Air Toxics Exposure Study*. Available online at: http://www.aqmd.gov/home/air-quality/air-quality-studies/health-studies/mates-v, accessed September 30, 2019.

74 California Legislative Information. 2003. *Senate Bill No. 656, Chapter 738*.

75 California Air Resources Board. 2006.. *Emission Reduction Plan for Ports Goods Movement in California*. April. Available online at: https://www.arb.ca.gov/planning/gmerp/plan/final_plan.pdf, accessed November 19, 2018.

2. Reduce the statewide diesel PM health risk from international and domestic goods movement 85 percent by year 2020.

3. Reduce NO_x emissions from international goods movement in the South Coast 30 percent from projected year 2015 levels, and 50 percent from projected year 2020 levels based on preliminary targets for attaining federal air quality standards.

4. Apply the emission reduction strategies for ports and goods movement statewide to aid all regions in attaining air quality standards.

5. Make every feasible effort to reduce localized risk in communities adjacent to goods movement facilities as expeditiously as possible.

Goods Movement Emission Reduction Program

In June 2015, CARB released the Proposition 1B: Goods Movement Emission Reduction Program Final 2015 Guidelines for Implementation. This program is designed to reduce diesel exhaust emissions from trucks, locomotives, ships, harbor craft, and cargo handling equipment. The guidelines shall include, at a minimum, all of the following: [76]

- An application process for funds, and any limits on administration costs.
- Requirements that local agencies identify the useful life of the project and project delivery milestones as part of the application process.
- Criteria for selection of local and State agency projects and equipment projects.
- Requirements for match funding.
- The method by which ARB will consider the air basin's status in achieving State and federal air quality standards.
- Requirements that grant agreements between ARB and local agencies, and interagency agreements with other State agencies, identify project milestones, and remedies for failure to meet project milestones.

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76 California Air Resources Board. 2015. *Proposition 1B: Goods Movement Emission Reduction Program 2015 Guidelines for Implementation.* June. Available online at: https://ww3.arb.ca.gov/bonds/gmbond/docs/prop_1b_goods_movement_2015_program_guidelines_for_implementation.pdf, accessed August 23, 2019.

- Accountability and auditing requirements, including provisions for Program reviews or fiscal audits of project expenditures and outcomes.

ARB Staff shall evaluate the progress of the Program and any changes needed to improve its effectiveness, plus advances in technology and updated equipment costs that create a need to revise the list of equipment project options. These guidelines are designed and intended to effectuate the provisions of SB 88, AB 201, and AB 892.[77]

CARB Small Off-road Engine (SORE) Exhaust Emission Standards

SORE engines include off-road spark-ignition engines that produce 19 kW gross power or less (less than 25 horsepower), including lawn and garden, industrial, logging, airport ground support, and commercial utility equipment; golf carts; and specialty vehicles. These emission standards apply to HC, NO_x, CO, and PM emissions with increasingly stricter standards from 1995 to 2013.[78]

CARB Off-road Compression-Ignition Diesel Engine Exhaust Emission Standards

These engines include new compression-ignition engines (a.k.a. diesel engines) that are found in a wide variety of off-road applications such as farming, construction, and industrial. Some familiar examples include tractors, excavators, dozers, scrapers, portable generators, transport refrigeration units (TRUs), irrigation pumps, welders, compressors, scrubbers, and sweepers. This category, however, does not include locomotives, commercial marine vessels, marine engines over 37 kW, or recreational vehicles.[79]

CARB On-Road Heavy-Duty Diesel Vehicles (In-Use) Regulation

This regulation requires diesel trucks and buses that operate in California to be upgraded to reduce emissions. Newer heavier trucks and buses must meet PM filter requirements beginning January 1, 2012. Lighter and older heavier trucks must be replaced starting January 1, 2015. By January 1, 2023, nearly all trucks and buses will need to have 2010 model year engines or equivalent. The regulation applies to nearly all privately and federally owned diesel fueled trucks and buses and to privately and publicly owned school buses with a gross vehicle weight rating (GVWR) greater than 14,000 pounds. In 2014, to void the flexibility options provided in the 2014 amendments to the Truck and Bus regulation, John R.

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77 Ibid.

78 California Air Resources Board. *Small Off-Road Engine Exhaust Emission Standards*. Available online at: https://www.arb.ca.gov/msprog/offroad/sore.pdf, accessed November 19, 2018.

79 California Air Resources Board. *New Off-Road Compression Ignition (Diesel) Engines and Equipment*. Available online at: https://www.arb.ca.gov/msprog/offroad/orcomp/orcomp.htm, accessed November 19, 2018.

Lawson Rock and Oil of Fresno and the California Trucking Association sued the California Air Resources Board. On January 31, 2018 the court ruled to void the 2014 amendments.[80]

CARB Smartway/Phase I Heavy Duty Vehicle Greenhouse Gas Regulation

This regulation applies to GHG emissions from heavy-duty trucks and engines sold in California. It establishes GHG emissions limits on truck and engine manufacturers and harmonizes with the recently adopted U.S. EPA rule for new trucks and engines nationally. Existing heavy-duty vehicle regulations in California include engine criteria emission standards, tractor-trailer GHG requirements to implement SmartWay strategies (i.e., the Heavy-Duty Tractor-Trailer Greenhouse Gas Regulation), and in-use fleet retrofit requirements such as the Truck and Bus Regulation.[81] Executive Order (EO) B-32-15 and Sustainable Freight Action Plan

On July 17, 2015, Governor Brown issued Executive Order B-32-15, which directs the Secretary of the California State Transportation Agency, the Secretary of Cal/EPA, and the Secretary of the Natural Resources Agency to lead other relevant state departments in developing an integrated action plan that will improve freight efficiency, transition to zero-emission technologies, and increase competitiveness of California's freight system. The plan is informed by existing state agency strategies, including the California Freight Mobility Plan, Sustainable Freight Pathways to Zero and Near-Zero Emissions, and the Integrated Energy Policy Report.[82]

The Action Plan is intended to integrate investments, policies, and programs across several State agencies to help realize a singular vision for California's freight transport system. This integrated approach will serve to coordinate State agency priorities and timing on actions to influence freight transportation and energy infrastructure, vehicle and equipment technologies, and facility and operations efficiency, rather than the traditional and separate planning efforts for transportation, environment, and energy. The Action Plan includes recommendations on:[83]

- A long-term 2050 Vision and Guiding Principles for California's future freight transport system
- Targets for 2030 to guide the State toward meeting the Vision

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80 California Air Resources Board. *Truck and Bus Regulation*. Available online at: https://ww2.arb.ca.gov/our-work/programs/truck-and-bus-regulation, accessed September 3, 2019. https://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm, accessed November 19, 2018.

81 California Air Resources Board. *Phase 1 GHG*. Available online at: https://www.arb.ca.gov/msprog/onroad/phaselghg/phaselghg.htm, accessed November 19, 2018.

82 California Department of Transportation. *The California Sustainable Freight Action Plan*. Available online at: http://dot.ca.gov/hq/tpp/offices/ogm/cs_freight_action_plan/main.html, accessed November 19, 2018.

83 Ibid.

- Opportunities to leverage State freight transport system investments
- Actions to initiate over the next five years to make progress towards the Targets and the Vision
- Pilot projects to achieve on-the-ground progress in the near-term
- Additional concepts for further exploration and development, if viable

Diesel Risk Reduction Plan

In August 1998, the ARB identified particulate emissions from diesel-fueled engines (diesel PM) as toxic air contaminants, based on data linking diesel PM emissions to increased risks of lung cancer and respiratory disease. Following the identification process, the ARB was required to determine if there was a need for further control, which led to creation of the Diesel Advisory Committee to assist in the development of a risk management guidance document and risk reduction plan. In September 2000, the ARB adopted the Diesel Risk Reduction Plan, which recommends control measures to reduce the risks associated with diesel PM and achieve a goal of 75 percent diesel PM reduction by 2010 and 85 percent by 2020.[84]

Specific statewide regulations designed to further reduce diesel PM emissions from diesel-fueled engines and vehicles will be evaluated and developed. The goal of these regulations is to make diesel engines as clean as possible by establishing state-of-the-art technology requirements or emission standards to reduce diesel PM emissions.

California Wellness Plan (2014)

The California Department of Public Health published a statewide Wellness Plan in 2014. The Plan acknowledges that many factors contribute to an individual's health. These factors include the physical environment (housing, neighborhood, healthy food access and environment), educational attainment and employment, economic status, social support, social norms and attitudes, culture, literacy, race/ethnicity. The physical environment is also an indicator of exposure to toxins and transportation where individuals are affected on a daily basis by the air quality of their surroundings.[85]

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84 CARB. 2000. *Final Diesel Risk Reduction Plan with Appendices*. Available online at: https://ww3.arb.ca.gov/diesel/documents/rrpapp.htm, accessed August 23, 2019.

85 California Department of Public Health. 2014. *California Wellness Plan 2014*. February. Available online at: https://www.cdph.ca.gov/Programs/CCDPHP/DCDIC/CDCB/CDPH%20Document%20Library/CDPH-CAWellnessPlan2014_FINAL%202-27-14_PDF%204.3%20MB.pdf, accessed November 27, 2018.

CARB Air Quality and Land Use Handbook

In April 2005, the California Air Resources Board published the Air Quality and Land Use Handbook as a informational and advisory guide for evaluating and reducing air pollution impacts associated with new projects that go through the land use decision-making process. Studies have shown that diesel exhaust and other cancer-causing chemicals emitted from cars and trucks are responsible for much of the overall cancer risk from airborne toxics in California. Reducing diesel particulate emissions is one of CARB's highest public health priorities and the focus of a comprehensive statewide control program that is reducing diesel PM emissions each year. This document highlights the potential health impacts associated with proximity to air pollution sources so planners explicitly consider this issue in planning processes. The Air Quality and Land Use Handbook includes advisories on where to site new sensitive land uses. Regarding freeways and high-traffic roads, CARB states, "[A]void siting new sensitive land uses within 500 feet of a freeway urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day."[86]

3.3.3.3 Local

The SCAG region is comprised of four air basins and five air districts. The four air basins are SCAB, MDAB, SSAB, and the Ventura County portion of SCCAB. The five air districts are MDAQMD, AVAQMD, VCAPCD, SCAQMD, and ICAPCD.

MDAQMD Federal 75 ppb Ozone Attainment Plan (Western Mojave Desert Nonattainment Area)

The Western Mojave Desert nonattainment area (as defined in 40 CFR 81.305) was designated nonattainment for the NAAQS for ozone by USEPA effective on July 20, 2012. The MDAQMD has experienced ambient ozone concentrations in excess of the 8-hour ozone NAAQS. This plan (1) demonstrates that the MDAQMD will meet the primary required Federal ozone planning milestone, attainment of the 75 ppb 8-hour ozone NAAQS, by July 2027; (2) presents the progress the MDAQMD will make towards meeting all required ozone planning milestones; and (3) discusses the 2015 70 ppb 8-hour ozone NAAQS, preparatory to an expected non-attainment designation for the new NAAQS.[87]

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86 California Air Resources Board. 2005. *Air Quality and Land Use Handbook: A Community Health Perspective*. Available online at: https://ww3.arb.ca.gov/ch/handbook.pdf, accessed October 3, 2019.

87 Mojave Desert Air Quality Management District. 2016. *MDAQMD Federal 75 ppb Ozone Attainment Plan (Western Mojave Desert Nonattainment Area).* Available online at: https://www.arb.ca.gov/planning/sip/planarea/wmdaqmp/2016sip_mdplan.pdf, accessed November 27. 2018.

AVAQMD Federal 75 ppb Ozone Attainment Plan (2017)

The AVAQMD has adopted a single attainment plan for ozone. The AVAQMD Federal 8-hour Ozone Attainment Plan, adopted in March 2017, demonstrates that the AVAQMD will meet the primary required federal ozone planning milestones by June 2027, presents the progress the AVAQMD will make towards meeting all required ozone planning milestones, and discusses the 75 part per million 8-hour ozone NAAQS.[88]

VCAPCD Air Quality Management Plan

The 2016 Ventura County Air Quality Management Plan (AQMP) presents Ventura County's: 1) strategy to attain the 2008 federal 8-hour ozone standard; 2) attainment demonstration for the federal 8-hour ozone standard; and, 3) reasonable further progress demonstration for the federal 8-hour ozone standard.[89]

SCAQMD 2016 Air Quality Management Plan (AQMP)

The 2016 AQMP seeks to achieve multiple goals in partnership with other entities promoting reductions in criteria pollutant, greenhouse gases, and toxic risk, as well as efficiencies in energy use, transportation, and goods movement. The 2016 AQMP includes the integrated strategies and measures needed to meet the National Ambient Air Quality Standards (NAAQS). SCAQMD recently approved on March 3, 2017 the 2016 AQMP that demonstrates attainment of the 1-hr and 8-hr ozone NAAQS as well as the latest 24-hr and annual PM2.5 standards.[90]

ICAPCD Air Plans

At a public meeting held on May 25, 2018, CARB approved the Imperial County 2018 Annual PM2.5 State Implementation Plan (SIP). At a public meeting held on November 13, 2018, the Imperial County 2018 Redesignation Request and Maintenance Plan for PM10. SIPs in the region are utilized to demonstrate

88 Antelope Valley Air Quality Management District. 2017. *Federal 75 ppb Ozone Attainment Plan (Western Mojave Desert Attainment Plan*. Available online at: http://www.scag.ca.gov/programs/Documents/AQMPSIP/AVAQMD_2017SIP.pdf, accessed August 29, 2019.

89 Ventura County Air Pollution Control District. 2016. *2016 Ventura County Air Quality Management Plan*. Available online at: http://www.vcapcd.org/pubs/Planning/AQMP/2016/Final/Final-2016-Ventura-County-AQMP.pdf, accessed November 27, 2018.

90 South Coast Air Quality Management District. 2016. *Air Quality Management Plan (AQMP)*. Available online at: http://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan, accessed November 27, 2018.

that the County is in attainment of previous PM goals, as well as to set new emissions reduction guidelines, goals, and methodologies.[91]

Fugitive Dust Regulations: SCAQMD, AVAQMD, and MDAQMD Rule 403; VCAPCD Rule 55, Fugitive Dust; ICAPCD Rule 800, ICAPCD Rule 801

The SCAQMD, AVAQMD, and MDAQMD have adopted Rule 403, Fugitive Dust, which requires the implementation of best available fugitive dust control measures during construction and operational activities capable of generating fugitive dust emissions from on-site earth-moving activities, construction/demolition activities, and mobile equipment traveling on paved and unpaved roads.[92] Similarly, VCAPCD has adopted Rule 55, Fugitive Dust,[93] and ICAPCD has adopted Rule 800, General Requirements for Control of Fine Particulate Matter (PM10),[94] and Rule 801, Construction and Earthmoving Activities, to reduce fugitive dust.[95]

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91 California Air Resources Board. 2018. *Imperial County Air Quality Management Plans*. Available at: https://www.arb.ca.gov/planning/sip/planarea/imperial/imperialsip.htm, accessed November 27, 2018.

92 AQMD. *Rule 403. Fugitive Dust.* Available online at: https://www.aqmd.gov/docs/default-source/rule-book/rule-iv/rule-403.pdf?sfvrsn=4, accessed August 23, 2019.

93 VCAPCD. 2008. *Rule 55 – Fugitive Dust*. Available online at: http://www.vcapcd.org/Rulebook/Reg4/RULE%2055.pdf, accessed August 23, 2019.

94 ICAPCD. 2012. *Rule 800 General Requirements for Control of Fine Particulate Matter (PM-10).* Available online at: https://www.co.imperial.ca.us/AirPollution/RULEBOOK/RULES/1RULE800.pdf, accessed August 23, 2019.

95 ICAPCD. 2005. *Rule 801 Construction and Earthmoving Activities*. Accessed online at: https://www.co.imperial.ca.us/AirPollution/RULEBOOK/RULES/1RULE801.pdf, accessed August 23, 2019.

SCAQMD, AVAQMD Rule 1401;[96] [97] MDAQMD Rule 1320;[98] VCAPCD Rule 36;[99] ICAPCD Rule 207[100] and SCAQMD, AVAQMD Rule 1402;[101,102] MDAQMD Rule 1520;[103] VCAPCD Rule 73;[104] ICAPCD Rule 403[105]

The SCAQMD has adopted two rules for TACs to limit cancer and non-cancer health risks from facilities located within its jurisdiction. Rule 1401, New Source Review of Toxic Air Contaminants, regulates new or modified facilities; and Rule 1402, Control of Toxic Air Contaminants from Existing Sources, regulates facilities that are already in operation. Rule 1402 incorporates requirements of the AB 2588 program, including implementation of risk reduction plans for significant risk facilities. In 2015, SCAQMD revised Rule 1401 and 1402 to include more equipment types and industry categories. Under the revised Rule 1401, no permit would be issued for new and modified equipment unless the cancer risk is less than ten in a million using Toxics Best Available Control Technology (TBACT) or less than one in a million without TBACT or if near a school. For Rule 1402, existing facilities under AB 2588 must reduce facility-wide risk if maximum individual cancer risk is greater than 25 in a million. AVAQMD, MDAQMD, VCAPCD, and ICAPCD have adopted similar rules to limit health risks from toxic air contaminants from new, modified, and existing sources.

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96 SCAQMD. 2017. *Rule 1401. New Source Review of Toxic Air Contaminants*. Accessed online at: http://www.aqmd.gov/docs/default-source/rule-book/reg-xiv/rule-1401.pdf, accessed August 23, 2019.

97 AVAPCD. 2006. *Rule 1401 New Source Review for Toxic Air Contaminants*. Available online at: https://avaqmd.ca.gov/files/8e1294bb5/AV1401.pdf, accessed August 23, 2019.

98 CARB. 2016. *Rule 1320 New Source Review for Toxic Air Contaminants*. Available online at: https://ww3.arb.ca.gov/drdb/moj/curhtml/r1320.pdf, accessed August 23, 2019.

99 VCAPCD. 1998. *Rule 36 – New Source Review – Hazardous Air Pollutants*. Available online at: http://www.vcapcd.org/Rulebook/Reg2/RULE%2036.pdf, accessed August 23, 2019.

100 ICAPCD. 2018. *Rule 207 New and Modified Stationary Source Review*. Available online at: https://ww3.arb.ca.gov/drdb/imp/curhtml/r207.pdf, accessed August 23, 2019.

101 SCAQMD. *Rule 1402. Control of Toxic Air Contaminants from Existing Sources*. Available online at: http://www.aqmd.gov/docs/default-source/rule-book/reg-xiv/rule-1402.pdf, accessed August 23, 2019.

102 AVAQMD. 2002. *Rule 1402 Control of Toxic Air Contaminants from Existing Sources*. Available online at: https://avaqmd.ca.gov/files/c9aa6c271/AV1402.pdf, accessed August 23, 2019.

103 MDAQMD. 2001. *Rule 1520 Control of Toxic Air Contaminants from Existing Sources*. Available online at: http://mdaqmd.ca.gov/home/showdocument?id=504, accessed August 23, 2019.

104 VCAPCD. 2008. *Rule 73 – National Emission Standards for Hazardous Air Pollutants (NESHAPS)*. Available online at: http://www.vcapcd.org/Rulebook/Reg4/RULE%2073.pdf, accessed August 23, 2019.

105 IPAPCD. 2004. *Rule 403 – General Limitations on the Discharge of Contaminants*. Available online at: https://ww3.arb.ca.gov/drdb/imp/curhtml/r403.pdf, accessed August 23, 2019.

3.3.4 ENVIRONMENTAL IMPACTS

3.3.4.1 Thresholds of Significance

The impacts related to air quality from the proposed project would be considered significant if they would exceed the following significance criteria, in accordance with Appendix G of the *State CEQA Guidelines*:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard;
- Expose sensitive receptors to substantial pollutant concentrations; or
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Air Quality Thresholds for Criteria Air Pollutants

As previously discussed, the SCAG region is located within the SCAQMD, VCAPCD, MDAQMD, AVAPCD, and ICAPCD. Per *CEQA Guidelines* §15064.7 each air district is encouraged to develop and publish significance thresholds that the agency can use in the determination of the significance of environmental effects. Each of the air district's significance thresholds are discussed below.[106] These thresholds are generally recommended by each air district to be used to determine if further discussion of air quality impacts is needed in an environmental document. If emissions of criteria pollutants are below these levels, then air quality impacts are generally considered to be less than significant.

South Coast Air Quality Management District Thresholds

SCAQMD prepared air quality significance thresholds to compare the mass daily emissions in pounds per day (lbs/day) from construction and operation for NOx, VOC, PM10, PM2.5, SOx, CO, and Lead.

106 CEQA Guidelines §15064.7.

SCAQMD's thresholds are summarized in **Table 3.3-9, SCAQMD Air Quality Significance Thresholds**.[107]

Table 3.3-9
SCAQMD Air Quality Significance Thresholds

Pollutant	Construction (lbs/day)	Operation (lbs/day)
NOx	100	55
VOC	75	55
PM10	150	150
PM2.5	55	55
Sox	150	150
CO	550	550
Lead	3	3

Source:
South Coast Air Quality Management District. 2019. South Coast AQMD Air Quality Significance Thresholds. Available online at: http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf, accessed October 2, 2019.

Ventura County Air Pollution Control District Thresholds

VCAPCD published the Ventura County Air Quality Assessment Guidelines in October 2003 that include the District's recommended significance thresholds. According to the Guidelines, operational ROG and NOx emissions have a threshold of 5 pounds per day in the Ojai Planning Area and 25 pounds per day in the remainder of Ventura County.[108] For all other criteria air pollutants, the District uses the ambient air quality standards as thresholds.[109]

Mojave Desert Air Quality Management District Thresholds

MDAQMD published the *MDAQMD CEQA and Federal Conformity Guidelines* in August 2016 that includes the District's recommended air quality significance thresholds for CO, NOx, VOC, SOx, PM10, PM2.5, Hydrogen Sulfide (H_2S), and Lead in mass daily and annual emissions. The MDAQMD and

107 South Coast Air Quality Management District 2019. South Coast AQMD Air Quality Significance Thresholds. Available online at: http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf, accessed October 2, 2019.

108 The City of Simi Valley, within the VCAPCD, uses a threshold of 13.7 tons/year for ROG and NOx emissions.

109 Ventura County Air Pollution Control District. 2003. *Ventura County Air Quality Assessment Guidelines*. Available online at: http://www.vcapcd.org/pubs/Planning/VCAQGuidelines.pdf, accessed October 2, 2019.

AVAPCD have set the same annual and daily thresholds, which are summarized in **Table 3.3-10, MDAQMD and AVAPCD Air Quality Significance Thresholds**.[110]

Antelope Valley Air Pollution Control District Thresholds

AVAPCD published the *AVAPCD CEQA and Federal Conformity Guidelines* in August 2016 that includes the District's recommended air quality significance thresholds for CO, NOx, VOC, SOx, PM10, PM2.5, Hydrogen Sulfide (H_2S), and Lead in mass daily and annual emissions.[111] **Table 3.3-10** summarizes the air quality thresholds for both the AVAPCD and MDAQMD, as their annual and daily thresholds are the same.

Table 3.3-10
MDAQMD and AVAPCD Air Quality Significance Thresholds

Pollutant	Annual Threshold (tons)	Daily Threshold (pounds)
CO	100	548
NOx	25	137
VOC	25	137
Sox	25	137
PM10	15	82
PM2.5	12	65
H_2S	10	54
Lead	0.6	3

Source:
Mojave Desert Air Quality Management District. 2016. MDAQMD CEQA and Federal Conformity. Available online at: http://mdaqmd.ca.gov/home/showdocument?id=192, accessed October 2, 2019.
Antelope Valley Air Quality Management District. 2016. AVAQMD CEQA and Federal Conformity Guidelines. Available online at: https://avaqmd.ca.gov/files/e5b34d385/AV+CEQA+Guides+2016.pdf, accessed October 2, 2019.

Imperial County Air Pollution Control District Thresholds

ICAPCD prepared their final *CEQA Air Quality Handbook* in December 2017, which includes operational air quality thresholds for Tier I and Tier II projects.[112] Tier I projects do not exceed thresholds and, as a result, would not be required to prepare a Comprehensive Air Quality Analysis as emissions would be

110 Mojave Desert Air Quality Management District. 2016. *MDAQMD CEQA and Federal Conformity*. Available online at: http://mdaqmd.ca.gov/home/showdocument?id=192, accessed October 2, 2019.

111 Antelope Valley Air Pollution Control District. 2016. *AVAPCD CEQA and Federal Conformity Guidelines.* Available online at: https://avaqmd.ca.gov/files/e5b34d385/AV+CEQA+Guides+2016.pdf, accessed October 2, 2019.

112 ICAPCD recommends that individual projects qualitatively address construction emissions and are required to implement the District's standard mitigation measures for constriction equipment and fugitive PM2.5.

less than significant. Tier II projects have the potential to exceed these thresholds and would be required to implement all standard and discretionary mitigation measures and must, at a minimum, prepare a Comprehensive Air Quality Analysis.[113] **Table 3.3-11, ICAPCD Operational Air Quality Significance Thresholds,** summarizes the District's operational thresholds.

Table 3.3-11
ICAPCD Operational Air Quality Significance Thresholds

Pollutant	Tier I	Tier II
NOx and ROG	Less than 137 lbs/day	137 lbs/day and greater
PM10 and SOx	Less than 150 lbs/day	150 lbs/day and greater
CO and PM2.5	Less than 550 lbs/day	550lbs/day and greater
Level of Significance	Less than Significant	Significant Impact

Source:
Imperial County Air Pollution Control District. 2017. CEQA Air Quality Handbook. Available online at: https://www.co.imperial.ca.us/AirPollution/PlanningDocs/CEQAHandbk.pdf, accessed October 2, 2019.

Air Quality Threshold for Toxic Air Contaminants

TACs are hazardous air pollutants that may reasonably cause cancer, development effects, or other serious or irreversible acute or chronic health effects in humans. In the analysis below, DPM, a type of TAC, is evaluated to determine the cancer risk posed to sensitive groups in the SCAG region. The SCAQMD,[114] VCAPCD,[115] MDAQMD,[116] and AVAPCD[117] have all recommended a significance threshold of 10 in one million.[118] As a result, if an individual's probability of contracting cancer over

113 Imperial County Air Pollution Control District. 2017. *CEQA Air Quality Handbook*. Available online at: https://www.co.imperial.ca.us/AirPollution/PlanningDocs/CEQAHandbk.pdf, accessed October 2, 2019.

114 South Coast Air Quality Management District 2019. South Coast AQMD Air Quality Significance Thresholds. Available online at: http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf, accessed October 2, 2019.

115 Ventura County Air Pollution Control District. 2003. *Ventura County Air Quality Assessment Guidelines*. Available online at: http://www.vcapcd.org/pubs/Planning/VCAQGuidelines.pdf, accessed October 2, 2019.

116 Mojave Desert Air Quality Management District. 2016. *MDAQMD CEQA and Federal Conformity*. Available online at: http://mdaqmd.ca.gov/home/showdocument?id=192, accessed October 2, 2019.

117 Antelope Valley Air Pollution Control District. 2016. *AVAPCD CEQA and Federal Conformity Guidelines.* Available online at: https://avaqmd.ca.gov/files/e5b34d385/AV+CEQA+Guides+2016.pdf, accessed October 2, 2019.

118 IPAPCD does not have a quantified cancer risk threshold, instead individual projects that meet Tier II would be required to prepare a health risk assessment which should be prepared in consultation of APAPCD staff.

their lifetime **increases** by 10 or more chances in one million **as a result of a project's emissions**, the project would have a significant impact.[119]

3.3.4.2 Methodology

This section describes the air quality in the SCAG region, discusses the potential impacts of Connect SoCal on air quality, identifies mitigation measures for potential impacts, and evaluates residual impacts in accordance with Appendix G of the *CEQA Guidelines*. Air quality within the SCAG region was evaluated at a programmatic level of detail, in relation to the Air Quality Management Plans for the five air quality districts and the general plans of the six counties and 191 cities within the SCAG region, a review of published and unpublished literature germane to the SCAG region, as well as a review of SCAG's 2016 RTP/SCS PEIR.[120] This analysis focuses on air pollution from on-road motor vehicles in two perspectives: daily emissions and pollutant concentrations. The analysis is based upon air quality modeling, performed by SCAG, using EMFAC2014.[121] Air quality modeling that produces criteria pollutant emissions for the SCAG region and by county is based on SCAG's transportation modeling and network built for the existing conditions and the Plan.

The methodology for determining the significance of air quality impacts compares existing conditions to the expected future air quality with the Plan, as required in CEQA Section 15126.2(a). The criteria above were applied to compare current conditions to the 2045 Plan conditions.

Analysis of the potential air quality impacts of the Plan was conducted based on SCAG's Regional Travel Demand Model, evaluation of relevant AQMPs/SIPs, and a mobile-source health risk analysis (HRA) (**Appendix 3.3**) to determine whether or not there will be a significant impact. The analysis of cancer risk was evaluated using the United States Environmental Protection Agency (U.S. EPA) AERMOD dispersion model and the Hot Spots Analysis and Reporting Program Version 2 (HARP2) Risk Assessment Standalone Tool (RAST) model, consistent with the guidance provided by the California Office of Environmental Health Hazard Assessment (OEHHA) for Human Health Risk Assessment (HRA) based on DPM emission estimates from CARB's EMFAC2014 model. EMFAC2014 was developed

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119 *See e.g.*, SCAQMD Air Quality Significance Thresholds, http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf, accessed November 11, 2019.

120 Southern California Association of Governments. 2016. *Final Program Environmental Report for the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy.* Available online at: http://scagrtpscs.net/Pages/FINAL2016PEIR.aspx, accessed March 25, 2019.

121 EMFAC 2014 model was the most recent, EPA-approved version at the time SCAG released the Conformity Assumptions for this analysis (EMFAC2017 had not been approved). Additionally, EMFAC2017 had not been approved at the time of releasing the NOP. On August 15, 2019, EPA approved EMFAC2017 for use; however, EPA provided a two-year grace period in which SCAG is not required to use EMFAC2017. The grace period runs through August 16, 2021.

in order to estimate emissions from mobile sources and includes County-specific data, such as fleet mix in order to estimate criteria air pollutants. See **Appendix 3.3, Health Risk Assessment Technical Report,** for more detail.

In *California Building Industry Association (CBIA) vs. Bay Area Air Quality Management District (BAAQMD)*, the California Supreme Court ruled that agencies subject to CEQA generally are not required to analyze the impact of existing environmental conditions on a project's future users or residents unless the proposed project risks exacerbating those environmental hazards or conditions that already exist.[122] Therefore, emissions from the existing transportation network, including freeways, are generally not considered impacts under CEQA unless the project exacerbates the existing environmental conditions.[123] Since Connect SoCal includes transportation projects, including freeway improvements, that could occur within 500 feet of sensitive receptors (thereby exacerbating an existing condition), this section analyses the risk posed from existing freeways on sensitive receptors.

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

3.3.4.3 Impacts and Mitigation Measures

Impact AQ-1 Conflict with or obstruct implementation of the applicable air quality plan.

Less than Significant Impact.

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122 See *Cal. Building Industry Assn. v. Bay Area Air Quality Management District* (2015) 62 Cal.4th 369; see also *Cal. Building Industry Assn. v. Bay Area Air Quality Management District* (2016) 2 Cal.App.5th 1067.

123 Note that as discussed in **Section 3.15.3, Public Services – Schools**, CEQA review of school construction generally does require an evaluation of the effects of existing air quality exposure on pupils, and to the extent the health risk is unacceptable, the school would not be built. CEQA also provides limited protection and requires analysis of impacts of the existing environment on certain housing development projects exercising exemptions under Pub. Res. Code §§ 21159.21(f), (h), 21159.22(a), (b)(3), 21159.23 (a)(2)(A), 21159.24(a)(1), (3), and 21155.1(a)(4, (6).

Connect SoCal would result in a less than significant impact to air quality related to the potential to conflict with or obstruct implementation of the adopted SIPs/AQMPs/Attainment Plans in the SCAG region because the projected long-term emissions are in alignment with the local SIPs/AQMPs as demonstrated in the transportation conformity analysis, found in the Conformity Technical Report for the Plan.[124] The emissions resulting from the Plan are within the applicable emissions budgets as stated in the SIPs/AQMPs for each nonattainment or maintenance area for all milestone, attainment, and planning horizon years.

As described in the Regulatory Framework, when a region is in nonattainment for any of the six criteria air pollutants relative to the NAAQs, the federal CAA requires states to develop SIPs to achieve the federal standard. The AQMPs are required as part of the SIP. Within the SCAG region, the 8-hour federal ozone standard is designated as nonattainment for all six counties. San Bernardino, Riverside, Orange, Los Angeles, and Imperial Counties are all designated as nonattainment for PM2.5. Additionally, San Bernardino, Riverside, and Imperial Counties are designated as nonattainment for PM10. As a result, all the SIPs in the SCAG region focus on reducing ozone emissions and may also focus on particulate matter pollution. The following air quality plans are applicable to Connect SoCal: 2016 SCAQMD Air Quality Management Plan (AQMP), AVAQMD Federal 75 ppb Ozone Attainment Plan (2017), MDAQMD Federal 75 ppb Ozone Attainment Plan (2017), 2016 Ventura County Air Quality Management Plan, and Imperial County 2018 Annual PM2.5 State Implementation Plan.

The goals of the air quality management plans and attainment plans are to establish a strategy for achieving the standards by a set date by listing all feasible control measures, including transportation control measures. These control measures help advance the attainment date and are financially, economically, and socially feasible. As standards become more stringent over time, achieving the standards becomes a moving target that the air quality districts, and air-related plans must continue to chase. At this current snapshot of time (2019), the Plan would not conflict with the existing air-related plans since it will align with feasible Transportation Control Measures (TCMs). SCAG coordinates with air districts in the region to ensure that air quality management plans (and air pollution control plans) are consistent and comprehensively address air pollution from all sources (as appropriate) in the SCAG region. For example, the 2016 SCAQMD AQMP was developed in alignment with the 2016 RTP/SCS, incorporating the latest scientific, technological, and regulatory information and planning assumptions as of January 17, 2017.[125]

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124 Southern California Association of Governments. 2019. *Transportation Conformity Analysis Draft Technical Report*.

125 SCAQMD. 2015. *2016 AQMP Updates Coordination with SCAG & CARB*. Available online at: http://www.aqmd.gov/docs/default-source/Agendas/STMPR-Advisory-Group/stmpr_073015_5.pdf, accessed October 29, 2019.

Connect SoCal includes new transportation projects and refined land use strategies compared to the 2016 RTP/SCS. With respect to achieving emission reductions, Connect SoCal would further reduce emissions compared to the 2019 RTP/SCS as it has a greater emphasis on compact development, additional transportation projects and strategies including more integrated strategies for active transportation, additional investments for transit and passenger rail, and a greater emphasis improving the public health and ensuring the quality of life (as discussed in **Chapter 2.0, Project Description**). This is evident by the Plan's transportation project types that allocate funding and planning efforts on trail access, regional greenway network, regional and local bikeway network, and pedestrian improvements by using a "complete street" approach; transit (rail, bus) improvements and new facilities; rideshare/vanpool programs; high-occupancy vehicle (HOV) lanes; traffic calming and signal improvements; and streetscape/landscape projects. Implementation of transportation projects (See **Appendix 2.0, Plan Project List**) would reduce emissions in both mobile and stationary sources by increasing density and reducing VMT per capita (See **Section 3.8, Greenhouse Gas Emissions** for additional discussion on VMT per capita reduction). Additionally, land use strategies proposed in the Plan seek to balance the region's strategic transportation investments and land use choices and are coordinated with the committed and projected transportation investments in the region that emphasize system preservation and enhancement, active transportation, and land use integration. These efforts are in alignment with the attainment plans and air quality management plans' goals to reduce emissions of pollutants in nonattainment areas. Therefore, the Plan is expected to have a less than significant impact as it would not conflict with or obstruct implementation of applicable air quality plans, and the consideration of mitigation measures is not warranted.

The determination of significance under CEQA is based on the comparison to existing conditions, as required. The following comparison to the No Project scenario is provided here for informational purposes to understand the effects of the Plan as compared to a scenario where the Plan is not implemented. Under a No Project scenario, investments in VMT reduction projects and infill and compact land use strategies would not occur to the same degree as the Plan. This scenario would result in increased emissions of ozone precursors and particulate matter and likely would not meet Conformity or the AQMPs target emission reductions.

Impact AQ-2 **Potential to violate any air quality standard or contribute substantially to an existing or projected air quality violation.**

Significant and Unavoidable – Mitigation Required.

At the regional level, criteria pollutant emissions would be mostly reduced compared to existing conditions and the region would meet air quality standards. In 2045, when compared to existing

conditions, on-road mobile-source PM2.5 would increase in Imperial, Riverside, and San Bernardino Counties and mobile-source PM10 would increase in Imperial, Orange, Riverside, and San Bernardino Counties due to increasing traffic. On-road mobile-source particulate matter emissions would remain the same or decrease from existing conditions in the other counties. Within the SCAB (which is likely indicative of the region as a whole), SCAQMD indicates that total pollutant emissions are being reduced through at least 2031, except for small increases in SOx and PM2.5.

Construction Emissions

Over the lifetime of the Plan, various transportation and development projects would be constructed. These construction activities would result in ongoing emissions of air pollutants including ROG, NO_x, PM10, PM2.5, and fugitive dust. Emissions associated with each individual project are generally short-term and are limited to the project construction phase. The sources associated with these emissions include construction equipment, employee and vendor vehicles, demolition, grading and other ground-disturbing activities, application of paint and other coatings, paving, and others. Typically, larger projects are associated with larger emissions during construction.

While construction of each individual project is temporary and limited in nature, emissions from individual construction projects have the potential to exceed localized and daily thresholds. As stated above, the five air districts in the SCAG region have set mass daily or annual construction and/or operational emissions thresholds. Furthermore, all the air districts in the SCAG region have relevant fugitive dust rules that apply to construction activities. While these thresholds are to be applied to individual construction projects, the air districts do not provide a threshold for use with regional planning documents such as the RTP/SCS. However, SCAQMD does account for estimated construction emissions from off-road construction equipment within the 2016 AQMP. As demonstrated in the 2016 AQMP, and discussed below, total regional emissions of criteria pollutants including from construction sources would generally decline through at least 2031 with the exception of small increases in PM2.5 and SOx. In addition, at the individual project level there is the potential for local exceedances.

Operational Emissions

As noted in **Chapter 2.0, Project Description**, as part of the process for developing Connect SoCal, SCAG is responsible for ensuring that mobile source on-road emissions meet NAAQS and CAAQS for the SCAG region, as well as SB 375 GHG targets. The air quality management and air pollution control districts are responsible for addressing all other sources of air pollution in the SCAG region (stationary sources, construction equipment, airplanes, trains and ships) and ensuring that standards are met.

On-road mobile-source emissions evaluated in Connect SoCal by SCAG include passenger vehicles, light-duty trucks, medium trucks and heavy-duty trucks. CARB identifies emissions standards for these

sources. Off-road vehicles generally refer to construction equipment. In the AQMP, off-road vehicles refer to locomotives, ocean going vessels, off-highway recreational vehicles, cargo handling equipment, farm equipment, and aircraft. CARB is responsible for implementing the AQMP with respect to emissions standards for construction equipment sold within the state. The U.S. EPA implements the AQMP with respect to regulating airplanes, trains, and ships emissions.

As mentioned above, air quality management and air pollution control districts are responsible for addressing air pollution from stationary sources, construction equipment, airplanes, trains, and ships within the SCAG region. These air quality and air pollution control districts include SCAQMD, MDAQMD, VCAPCD, AVAPCD, and ICAPCD. The SCAQMD includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties.[126] Therefore, SCAQMD's 2016 AQMP's analysis of the emissions resulting from stationary sources, construction equipment, airplanes, trains, and ships is discussed below as a proxy for these emissions throughout the entire SCAG region.

In addition to on-road mobile sources provided by SCAG, SCAQMD's 2016 AQMP provides emission estimates for stationary, and off-road mobile sources from 2019 to 2031, see **Table 3.3-12, 2016 AQMP Forecast of Annual Average Total Emissions in SCAB Through 2031**. Stationary sources include both point and area sources. Point stationary sources include permitted facilities, such as power plants and refineries, with one or more emission sources. Area stationary sources include small emission sources, such as residential water heaters, architectural coatings, consumer products, and smaller permitted sources. Off-road mobile sources include construction equipment, locomotives, ocean-going vessels, aircraft, cargo handling equipment, and farm equipment. SCAQMD does not forecast out to 2045, but the general trend of most pollutants decreasing is not expected to change.

As shown in **Table 3.3-12**, in the SCAB region total VOC, NOx, and CO emissions are anticipated to decrease between 2019 to 2031. Comparing emission estimates from 2019 to 2031, SOx, and PM2.5 emissions are expected to increase by 1 ton/day each. Increases in SOx and PM2.5 are expected to occur due to increases in population and activity that will outpace the emissions reductions expected to occur from newer and cleaner equipment and vehicles. VOC and NOx emissions are expected to decrease due to existing regulations, such as on- and off-road equipment regulations and vehicle emissions standards.[127]

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126 South Coast Air Quality Management District. Map of Jurisdiction. Available online at: http://www.aqmd.gov/docs/default-source/default-document-library/map-of-jurisdiction.pdf, accessed October 2, 2019.

127 SCAQMD. 2017. *Final 2016 Air Quality Management Plan*. Available online at: https://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/final2016aqmp.pdf?sfvrsn=15, accessed November 6, 2019.

Table 3.3-12
2016 AQMP Forecast of Annual Average Total Emissions in SCAB Through 2031

Year	Tons/Day						Summer Planning	
	VOC	NOx	CO	SOx	PM2.5	NH_3	VOC	NOx
2019	376	353	1,447	17	64	74	398	347
2022	362	290	1,325	17	64	73	383	287
2023	359	257	1,298	17	64	72	379	255
2025	353	241	1,247	17	64	72	372	239
2031	345	214	1,188	18	65	73	362	214

Source: South Coast Air Quality Management District. 2017. 2016 Air Quality Management Plan. Available online at: www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/final2016aqmp.pdf?sfvrsn=15, *accessed October 2, 2019.*

The 2016 AQMP identifies the top ten source categories for VOC, NOx, SOx, and PM2.5 for the years 2012, 2019, 2022, 2023, 2025, and 2031. Review of these data demonstrates that in 2019, passenger cars, light-duty trucks, and medium duty trucks are anticipated to be the top ten contributors of VOC emissions in the SCAG region. By 2031, VOC emissions from on-road mobile sources are anticipated to substantially decrease due to more stringent on-road standards and only passenger cars and light-duty trucks are anticipated to be within the top ten contributors to VOC emissions. Throughout the entire AQMP planning year, heavy-duty trucks, off-road construction equipment, and ships and commercial boats will be the top contributors of NOx emissions, although the emission rates will decline over the years. Regarding SOx emissions, ships and commercial boats and aircrafts are the highest contributors in the SCAB region and are anticipated to fluctuate over the AQMP planning years. Finally, heavy-duty diesel trucks, light duty trucks, and passenger cars are the only mobile-sources in the top ton polluters for PM2.5 emissions in the SCAB region. From 2019 to 2031, passenger car and light duty trucks PM2.5 emissions remain constant while the heavy-duty PM2.5 emissions continuously decrease.[128]

Other air basins in the SCAG region include the South Central Coast Air Basin (SCCAB), Salton Sea Air Basin (SSAB), and the Mojave Desert Air Basin (MDAB). As demonstrated in **Table 3.3-4**, similar to SCAB, all three air basins are in nonattainment for ozone and PM10. The SCCAB and portions are the SSAB are also in nonattainment for PM2.5. Each of these air basins has an AQMP to plan the basin's

128 SCAQMD. 2017. *Final 2016 Air Quality Management Plan*. Available online at: http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/final2016aqmp.pdf?sfvrsn=15, accessed October 29, 2019.

attainment status pursuant to the federal CAA Amendment. P to address nonattainment of ozone in the southwestern desert portion of the basin.[129]

On-Road Mobile Source Emissions

Under Connect SoCal, mobile-source air emissions were estimated for 2045 with the Plan and compared to the existing conditions (2019). The calculated emissions were compiled for ROG, NO_x, CO, PM10, PM2.5, and SO_x for each county in the SCAG region. The only pollutants expected to increase with implementation of Connect SoCal are PM10 annual emissions in Imperial, Orange, Riverside, and San Bernardino Counties as well as PM2.5 in Imperial, Riverside, and San Bernardino Counties. Annual PM10 and PM2.5 emissions in the remaining counties, and annual SOx emissions in every county will decrease or not change from the existing emissions to 2045. ROG, NOx, and CO emissions in every county are expected to decrease with implementation of the Plan (**Table 3.3-13, On-Road Mobile-Source Criteria Air Pollutant Emission by County – Existing Conditions [2019] vs Plan [2045]**).

As shown in **Table 3.3-13**, the Plan will mostly reduce emissions from existing conditions (2019). In part, the reduction is due to vehicle emissions reductions required by federal and states rules and policies (see 3.3.2 Regulatory Framework). In 2045, when compared to existing conditions, on-road mobile-source PM2.5 would increase in Imperial, Riverside, and San Bernardino Counties and mobile-source PM10 would increase in Imperial, Orange, Riverside, and San Bernardino Counties due to increasing vehicle miles travelled. Mobile-source particulate matter emissions would remain the same or decrease from existing conditions in the other counties. Particulate matter is generated by tires on roadways and therefore, unlike other pollutants that can be regulated through tailpipe emission controls, particulate matter is difficult to address without simply reducing VMT.

The Plan includes transportation projects and strategies aimed at reducing the VMT across the region. One result of these investments is a decline in per capita VMT compared to existing conditions (although total VMT would increase). As further discussed in **Section 3.17, Transportation, Traffic and Safety**, total VMT is expected in increase between 2019 and 2045 in all counties, however per capita VMT would increase only in Imperial County. At the regional level, on-road mobile source emissions would generally decrease (with the exception of small increases in PM10 and PM2.5 in some counties) and per capita VMT would decrease. However, it is possible that individual projects, particularly development projects that generate many vehicle trips (i.e., high VMT) would result in localized air quality impacts.

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129 MDAQMD. 2017. *Federal 75 ppb Ozone Attainment Plan (Western Mojave Desert Nonattatinment Plan*. Available online at: https://ww3.arb.ca.gov/planning/sip/planarea/wmdaqmp/2016sip_mdplan.pdf, accessed November 5, 2019.

Table 3.3-13
On-Road Mobile-Source Criteria Air Pollutant Emissions by County – Existing Condition (2019) vs Plan (2045)

County		(Tons/day)								
		ROG	ROG	NOx	NOx	NOx	CO	PM10	PM2.5	SOx
		Summer	Annual	Summer	Annual	Winter	Winter	Annual	Annual	Annual
Imperial	Existing	3	3	6	7	7	19	0.5	0.2	0.0
	Plan	2	2	4	4	4	17	0.7	0.3	0.1
	Difference	-1	-1	-2	-2	-3	-3	0.3	0.1	0.0
Los Angeles	Existing	52	50	88	95	93	397	14.2	6.3	1.1
	Plan	22	21	33	35	34	145	14.2	5.8	0.8
	Difference	-30	-29	-55	-60	-59	-252	0.0	-0.5	-0.3
Orange	Existing	15	15	22	23	23	111	4.7	2.1	0.3
	Plan	7	7	7	8	7	45	4.7	1.9	0.2
	Difference	-8	-8	-14	-16	-15	-66	0.1	-0.1	-0.1
Riverside	Existing	14	12	32	34	34	87	3.9	1.7	0.3
	Plan	7	6	12	13	13	39	4.7	1.9	0.3
	Difference	-7	-6	-20	-21	-21	-48	0.9	0.2	0.0
San Bernardino	Existing	16	14	38	40	39	99	4.1	1.8	0.3
	Plan	7	6	18	19	18	42	5.2	2.1	0.3
	Difference	-8	-7	-20	-21	-21	-57	1.2	0.3	0.0
Ventura	Existing	4	4	6	7	7	30	1.1	0.5	0.1
	Plan	1	1	2	2	2	10	1.1	0.5	0.1
	Difference	-3	-3	-4	-5	-5	-20	0.0	0.0	0.0

As shown in **Table 3.17-15, Population and VMT (2019 and 2045),** VMT per capita under the Plan would be less than existing conditions. As shown in **Table 3.17-14, Total VMT 2019 and 2045**, total VMT would be less under the Plan than the No Project. Therefore, emissions will be less with the Plan as compared to No Project.

Off-Road Mobile Sources

According to the SCAQMD 2016 AQMP, when compared to the 2012 AQMP, mobile-source emissions from airplane, train, and ship transportation sources have decreased VOC, NOx, CO, and PM2.5 emissions in the SCAB region and will continue to decrease to 2031,[130] see **Table 3.3-14, AQMP Forecast of Annual Average Off-Road Mobile Emissions in SCAB.**

130 SCAG acknowledges that AQMD, nor the other air districts in the region, has not identified emissions beyond 2031. However, due to the overall downward trajectory and the substantial state requirements, it is assumed that emissions will continue to decline through 2045.

Table 3.3-14
AQMP Forecast of Annual Average Off-Road Mobile Emissions in SCAB

Year	Tons/Day						Summer Planning	
	VOC	NOx	CO	SOx	PM2.5	NH_3	VOC	NOx
2019	79	124	697	5	6	0	98	133
2022	74	113	715	5	6	0	92	120
2023	73	110	721	6	6	0	90	117
2025	71	104	731	6	5	0	87	110
2031	66	94	766	7	5	0	81	100

Source: South Coast Air Quality Management District. 2017. 2016 Air Quality Management Plan. Available online at: www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/final2016aqmp.pdf?sfvrsn=15, *accessed October 2, 2019.*

As shown in **Table 3.3-14,** emissions from off-road mobile VOC, NOx, CO, and PM2.5 emissions within the SCAB region are anticipated to decrease. SO_x emissions from off-road mobile are anticipated to increase and NH_3 emissions will remain constant (near zero level).

Stationary Sources

According to the SCAQMD 2016 AQMP, when compared to the 2012 AQMP, stationary-source emissions from NOx will decrease in the SCAB region by approximately 17%. All other pollutants from stationary sources are anticipated to increase by 2031, see **Table 3.3-15, AQMP Forecast of Annual Average Off-Road Mobile Emissions in SCAB.**

As shown in **Table 3.3-15**, stationary source emissions from all criteria air pollutants, except NOx, are anticipated to increase when 2019 conditions are compared to 2031.

Table 3.3-15
AQMP Forecast of Annual Average Stationary Source Emissions in SCAB

Year	Tons/Day						Summer Planning	
	VOC	NOx	CO	SOx	PM2.5	NH_3	VOC	NOx
2019	214	62	111	10	47	60	213	59
2022	220	53	112	10	48	60	220	50
2023	222	52	112	10	48	60	220	50
2025	224	52	112	10	49	60	223	49
2031	231	51	113	10	50	61	231	50
2019 vs. 2031	7.9%	-17.7%	1.8%	0.00%	6.3%	1.7%	8.5%	-15.3%

Source: South Coast Air Quality Management District. 2017. 2016 Air Quality Management Plan. Available online at: www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/final2016aqmp.pdf?sfvrsn=15*, accessed October 2, 2019.*

Wildfire

SCAQMD accounts for most sources of pollutants in their AQMP. However, in recent years wildfires have added substantial amounts of pollutants to the SCAB that are unaccounted for in the AQMP. According to the U.S. EPA's Exceptional Events Rule, wildfires are not to be considered for NAAQS attainment status.[131]

However, wildfire emissions are likely to result in significant air quality and health impacts in the future. According to SCAG's Public Health Draft Technical Report, wildfires are going to become more prevalent as climate change leads to drier, hotter conditions in Southern California. The SCAQMD and MDAQMD include information regarding active wildfires, resulting air quality impacts, and the health risks of wildfires on their websites.[132,133]

Summary

Total emissions in the SCAB region (as indicated in 2016 AQMP) and likely across the SCAG region are expected to generally decline through at least 2031 except for small increases in PM 2.5 and SOx (**Table**

131 Federal Register. *Treatment of Data Influenced by Exceptional Events*. Available online at: https://www.epa.gov/sites/production/files/2016-09/documents/exceptional_events_rule_revisions_2060-as02_final.pdf, accessed November 6, 2019.

132 SCAQMD. *Wildfire Smoke & Ash Health & Safety Tips*. Available online at: http://www.aqmd.gov/home/air-quality/wildfire-health-info-smoke-tips, accessed November 6, 2019.

133 MDAQMD. *Wildfires*. Available online at: http://mdaqmd.ca.gov/air-quality/wildfires, accessed November 6, 2019.

3.3-12). SCAG is responsible for assessing on-road mobile source emissions through 2045. In general, in 2045, when compared to existing conditions, on-road mobile-source PM2.5 would increase in Imperial, Riverside, and San Bernardino Counties and mobile-source PM10 would increase in Imperial, Orange, Riverside, and San Bernardino Counties due to increasing traffic (see **Table 3.3-13**).

While the SCAG region may see an increase in PM2.5, PM10 and SOx emissions, the SCAQMD, AVAPCD, ICAPCD, and MDAQMD have not established regional thresholds to determine significance. The air districts within the SCAG region have only established project-level thresholds (see **Table 3.3-9, Table 3.3-10,** and **Table 3.3-11**). Therefore, individual projects must compare anticipated project emissions to the thresholds for the air district within which they are located in order to determine significance on the project-level. Because mobile source emissions of PM10 and PM2.5 will increase (PM10 would increase in Imperial, Orange, Riverside, and San Bernardino Counties and PM2.5 would increase in Imperial, Riverside, and San Bernardino Counties), largely as a result of increased total VMT, and SOx would increase in the region at least through 2031, the Plan could contribute to an air quality violation. Further, there is the potential for individual projects to exceed local standards during construction and/or operation for several pollutants. Therefore, this impact is considered to be significant.

Health Implications

In accordance with the *Sierra Club v. County of Fresno* (i.e., *Friant Ranch*) decision, when air quality impacts are found to be significant, the health implications of the significant emissions should be disclosed. Modeling and analyzing health consequences requires a substantial amount of data. A detailed health risk assessment of on-road mobile-source emissions was undertaken for the Plan (see discussion of Impact AQ-4 below).

The main health concerns associated with PM10 and PM2.5 include worsening of symptoms in sensitive patients with respiratory disease and excess seasonal declines in pulmonary function, especially in children. This can include an increase in the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Very small particles of substances, such as lead, sulfates, and nitrates can cause lung damage directly. These substances can be absorbed into the blood stream and cause damage elsewhere in the body. These substances can transport absorbed gases, such as chlorides or ammonium, into the lungs and cause injury. Whereas PM10 tends to collect in the upper portion of the respiratory system, PM2.5 is much smaller and it can penetrate deeper into the lungs and damage lung tissues. Suspended particulates also damage and discolor surfaces on which they settle, as well as produce haze and reduce regional visibility. **Table 3.3-6, Peak Criteria Pollutants Readings for the SCAG Region Air Basins,** above indicates that the applicable PM10 and

PM2.5 State standards were exceeded multiple times between 2016 and 2018. The Plan's increase in PM10 and PM2.5 emissions could worsen the health concerns listed above or result in Air Quality Index values that are unhealthy for sensitive groups and other populations. On unhealthy days, persons are recommended to avoid both prolonged and heavy-exertion outdoor activities.[134]

As noted earlier, NOx and ROG are ozone precursors and the SCAG region is currently in nonattainment for PM2.5, PM10, and ozone under NAAQS and CAAQS. The main health concern regarding exposure to ground-level ozone is its effects on the respiratory system, particularly on lung function. Several factors influence these health impacts, including the concentration of ground-level ozone in the atmosphere, the duration of exposure, the average volume of air breathed per minute, the length of intervals between short-term exposures; and the sensitivity of the person to the exposure.[135,136]

The SCAQMD, in its amicus brief to the California Supreme Court in *Friant Ranch*, stated that from a scientific standpoint, it takes a large amount of additional precursor emissions to cause a modeled increase in ambient ozone levels over an entire air basin, and provided evidence from its 2012 AQMP that showed that if the daily emissions of NOx and ROG were reduced in amounts of 432 and 187 tons per day respectively, the ozone concentrations at SCAQMD's monitoring site would go down by only 9 parts per billion as compared to ozone readings without these ROG and NOx reductions.[137] For all these reasons, it is difficult to estimate the change in ozone concentrations that would result from the decrease in ozone precursors (ROG and NOx). **Table 3.3-12, 2016 AQMP Forecast of Annual Average Total Emissions in SCAB Through 2031,** demonstrates there will be overall decreases in ROG and NOx from mobile and stationary sources in the SCAB region. Therefore, it can be assumed that the total amount of ozone would also decrease, however the exact amount cannot be accurately quantified.

Both ozone and particulate matter are known to have negative public health impacts especially for sensitive populations, like children, the elderly, and those with respiratory or cardiovascular health problems. Therefore, the potential for Connect SoCal to adversely affect public health was evaluated using cancer risk from diesel particulate matter as a proxy for respiratory health (see **Appendix 3.3**)

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134 U.S. Environmental Protection Agency, Air Quality Index, A Guide to Air Quality and Your Health, February 2014, www.epa.gov/airnow/aqi_brochure_02_14.pdf, accessed October 31, 2019.

135 The World Bank Group, Pollution Prevention and Abatement Handbook 1998: Toward Cleaner Production, pp. 227–230, 1999, http://documents.worldbank.org/curated/en/758631468314701365/pdf/multi0page.pdf, accessed February 11, 2019.

136 U.S. EPA, Air Quality Guide for Ozone, March 2015b, https://airnow.gov/index.cfm?action=pubs.aqiguideozone, accessed February 11, 2019.

137 SCAQMD. 2015. *Application of the South Coast Air Quality Management District for Leave to File Brief of Amicus Curiae in Support of Neither Party and [Proposed] Brief of Amicus Curiae.* April. https://www.courts.ca.gov/documents/9-s219783-ac-south-coast-air-quality-mgt-dist-041315.pdf, accessed April 9, 2019.

Similarly, the analysis acknowledges applicable California legislation and initiatives to improve public health, particularly respiratory health in light of *Research Results on Land Use, Transportation, and Community Design:*[138]

- Residents in walkable neighborhoods are more likely to meet physical activity guidelines. Public transit users are more likely to meet Surgeon General recommendations for physical activity. Greater health benefits can be achieved by increasing the amount (duration, frequency, or intensity) of physical activity.

Connect SoCal plans to increase active transportation in communities, as these projects provide opportunities for physical activity, which has been shown to improve chronic disease rates. [139] Consistent with the environmental justice analysis in Connect SoCal, this PEIR considers the potential benefits and impacts on sensitive receptors including low-income and minority populations located in the vicinity of transportation facilities (e.g., the potential to increase or decrease diesel particulate emissions).

ROG and NOx emissions contribute to the development of ozone; therefore, reductions of ROG and NOx emissions would also lead to a reduction in ozone. Excess NOx emissions can also lead to increases in physician and emergency room visits as well as hospitalization and more school days missed by school-aged children living in the air basin. Implementation of Connect SoCal, when compared to existing conditions, would decrease on-road mobile-source ROG and NOx emissions. (**Table 3.3-13, On-Road Mobile-Source Criteria Air Pollutant Emissions by County – Existing Conditions [2019] vs Plan [2045]**). Additionally, within the SCAB area NOx emissions are anticipated to decrease through at least 2031 from off-road vehicle and stationary sources (**Table 3.3-14, AQMP Forecast of Annual Average Off Road Mobile Emissions in SCAB,** and **Table 3.3-15 AQMP, Forecast of Annual Average Stationary Source Emissions in SCAB**). Through at least 2031, ROG emissions are expected to decrease from off-road vehicle emissions (**Table 3.3-14, AQMP Forecast of Annual Average Off Road Mobile Emissions in SCAB**) but will increase from stationary sources (**Table 3.3-15, AQMP Forecast of Annual Average Stationary Source Emissions in SCAB**). Overall, the total ROG and NOx emissions from on-road, off-road vehicle, and stationary sources are expected to decrease in the SCAB area through at least 2031 (**Table 3.3-12, 2016 AQMP Forecast of Annual Average Total Emissions in SCAB Through 2031**).SCAB was re-designated as in attainment of federal standards for CO in June 2017 and the last exceedance of state standards within the region for CO was in 2015. CO presents a significant health risk as it can interfere with oxygen transport within the body. Compared to existing conditions, mobile-source CO

138 Active Living Research. 2011. *Research Results on Land Use, Transportation, and Community Design.* Available online at: http://activelivingresearch.org/land-use-transportation-and-community-design-research-summary-slides, accessed March 25, 2019.

139 Southern California Association of Governments. 2019. *Active Transportation Technical Report*.

emissions in the future with implementation of Connect SoCal would decrease between now and 2045 despite increasing traffic, as a result of stringent emissions controls. (**Table 3.3-13, On-Road Mobile-Source Criteria Air Pollutant Emissions by County – Existing Condition [2019] vs Plan [2045]**).

In recent years, SO_2 concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of SO_2 and limits on the sulfur content of fuels. SO_2 is an irritant gas that attacks the throat and lungs. It can cause acute respiratory symptoms and diminished ventilator function in children. SO_2 can also yellow plant leaves and erode iron and steel. Compared to existing conditions, mobile-source SO_x emissions would not change substantially despite increasing traffic (**Table 3.3-13, On-Road Mobile-Source Criteria Air Pollutant Emissions by County – Existing Conditions [2019] vs Plan [2045]**). Most of the counties within the SCAG region are emitting negligible amounts of on-road mobile-source SO_x; however, the AQMP does indicate that SOx (primarily from ship-related emissions) are expected to increase slightly at least through 2031 (see **Table 3.3-12, 2016 AQMP Forecast of Annual Average Total Emissions in SCAB Through 2031**).[140]

The 2016 AQMP undertook a detailed evaluation of health effects associated with the 2016 AQMP (which considers all sources of pollutants). That evaluation is contained within Appendix I of the Final 2016 AQMP (and is hereby incorporated by reference). It concludes the following:

> *A large body of scientific evidence shows that the adverse impacts of air pollution on human and animal health are clear. A considerable number of population-based and laboratory studies have established a link between air pollution and increased morbidity and, in some instances, premature mortality. Importantly, the health effects of air pollution extend beyond respiratory effects, and there is substantial evidence that air pollution (including particulate matter and ozone) exposures cause cardiovascular morbidity and mortality. Some air pollutants, such as diesel PM, lead, and several other air toxics, have been linked to increased cancer risk. Health studies have also identified populations who may be more susceptible to the adverse effects of air pollution, such as children, older adults, low SES communities, people with certain pre-existing health conditions, and people with certain genetic factors. Understanding the impacts of air pollution on these more susceptible populations can help inform policies that better protect public health, for example, in setting standards for criteria air pollutants, and in the development of methods to evaluate air toxics health risks. Continued research on the effects of specific PM constituents and ultrafine particles will be important in furthering the understanding of how these pollutants affect human health.*

140 Los Angeles County is estimated to emit approximately 1-ton SOx annually under existing conditions and will continue to emit 1-ton annually in 2040 with implementation of the Plan.

As the scientific methods for the study of air pollution health effects have progressed over the past decades, adverse effects have been shown to occur at lower levels of exposure. For some pollutants, no clear thresholds for effects have been demonstrated. The new findings have, in turn, led to the revision and lowering of National Ambient Air Quality Standards (NAAQS) which, in the judgment of the Administrator of the U.S. EPA, are necessary to protect public health. Chapter 8 of the draft 2016 AQMP provides an overview of the extensive, multi-year, public process involved in setting federal air quality standards. Assessments of the scientific evidence from health studies is an important part of the process, and has helped inform revisions to the federal air pollution standards. Figures [included in the AQMP] are meant to convey some of the historical context to recent revisions to the NAAQS for ozone and for particulate matter, with regard to key developments in the understanding of the health effects of these pollutants.

Mitigation Measures

SCAG Mitigation Measures

SMM-AQ-1: SCAG shall develop the Southern California Disadvantaged Communities Planning Initiative which would provide funds to selected applicants to develop a low-cost, high-impact model which leverages SCAG's staff, data, and outreach resources to deliver context-sensitive plans in high-need, low-resourced active transportation infrastructure and frameworks. As part of the initiative, the model will be operationalized through the development of plans in six communities and refined to provide a sustainable resource for SCAG staff partner with local agencies to develop local active transportation plans.

SMM-AQ-2: SCAG shall continue its commitment to analyze public health outcomes as part of Connect SoCal. As part of the public health analysis for the Plan, SCAG shall continue to analyze the Plan's impacts on air quality through its Public Health Working group and continue to support policy change at the city and country level through education programs.

SMM-AQ-3: SCAG shall continue to conduct air quality-related technical analyses on the region, specifically in vulnerable areas that are typically environmental justice areas. For example, SCAG staff conducted technical analysis of emissions impacts on populations within 500 feet of freeways and highly travelled corridors in the Connect SoCal Environmental Justice Appendix. SCAG staff shall also continue to work with districts and relevant stakeholders to be informed of any updates new and/or changes to air quality issue areas through various forums like the Environmental Justice Working Group.

Project Level Mitigation Measures

PMM-AQ-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to violating air quality standards. Such measures may include the following or other comparable measures identified by the Lead Agency:

a) Minimize land disturbance.

b) Suspend grading and earth moving when wind gusts exceed 25 miles per hour unless the soil is wet enough to prevent dust plumes.

c) Cover trucks when hauling dirt.

d) Stabilize the surface of dirt piles if not removed immediately.

e) Limit vehicular paths on unpaved surfaces and stabilize any temporary roads.

f) Minimize unnecessary vehicular and machinery activities.

g) Sweep paved streets at least once per day where there is evidence of dirt that has been carried on to the roadway.

h) Revegetate disturbed land, including vehicular paths created during construction to avoid future off-road vehicular activities.

i) On Caltrans projects, Caltrans Standard Specifications 10-Dust Control, 17-Watering, and 18-Dust Palliative shall be incorporated into project specifications.

j) Require contractors to assemble a comprehensive inventory list (i.e., make, model, engine year, horsepower, emission rates) of all heavy-duty off-road (portable and mobile) equipment (50 horsepower and greater) that could be used an aggregate of 40 or more hours for the construction project. Prepare a plan for approval by the applicable air district demonstrating achievement of the applicable percent reduction for a CARB-approved fleet.

k) Ensure that all construction equipment is properly tuned and maintained.

l) Minimize idling time to 5 minutes—saves fuel and reduces emissions.

m) Provide an operational water truck on-site at all times. Use watering trucks to minimize dust; watering should be sufficient to confine dust plumes to the project work areas. Sweep paved streets at least once per day where there is evidence of dirt that has been carried on to the roadway.

n) Utilize existing power sources (e.g., power poles) or clean fuel generators rather than temporary power generators.

o) Develop a traffic plan to minimize traffic flow interference from construction activities. The plan may include advance public notice of routing, use of public transportation, and satellite parking areas with a shuttle service. Schedule operations affecting traffic for off-peak hours. Minimize obstruction of through-traffic lanes. Provide a flag person to guide traffic properly and ensure safety at construction sites.

p) As appropriate require that portable engines and portable engine-driven equipment units used at the project work site, with the exception of on-road and off-road motor vehicles, obtain CARB Portable Equipment Registration with the state or a local district permit. Arrange appropriate consultations with the CARB or the District to determine registration and permitting requirements prior to equipment operation at the site.

q) Require projects within 500 feet of residences, hospitals, or schools to use Tier 4 equipment for all engines above 50 horsepower (hp) unless the individual project can demonstrate that Tier 4 engines would not be required to mitigate emissions below significance thresholds.

Level of Significance after Mitigation

As discussed above, regulations and policies would reduce each of the impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of anticipated regional increases in certain criteria pollutant emissions and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts related to violating air quality standards or contributing substantially to an existing or projected air quality violation could be significant and unavoidable even with implementation of mitigation.

Impact AQ-3 **Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.**

Significant and Unavoidable Impact – Mitigation Required.

The analysis of the Plan is essentially a cumulative analysis of air quality impacts resulting from the growth within the SCAG region. At the regional level, projects that are considered cumulative to and similar to the Plan are other regional-scale projects, e.g., other RTPs/SCSs for adjacent jurisdictions and AQMPs. The air quality analysis focuses on emissions associated with mobile sources as that is the primary responsibility of the RTP; the AQMP addresses stationary sources as well as airplane, trains, ship and construction emissions. The AQMP's emissions estimates from mobile-sources, including on-road as well as airplane, trains, and ships and stationary sources are summarized in **Impact AQ-2.**

In 2045, when compared to existing conditions, on-road mobile-source PM2.5 would increase in Imperial, Riverside, and San Bernardino Counties and mobile-source PM10 would increase in Imperial, Orange, Riverside, and San Bernardino Counties due to increasing traffic. Mobile-source particulate matter emissions would remain the same or decrease from existing conditions for all other pollutants (see **Table 3.3-13, On-Road Mobile-Source Criteria Air Pollutant Emissions by County – Existing Conditions [2019] vs Plan [2045]**).

The state of California is made up of 18 MPO's. SCAG's jurisdiction makes up the majority of the Southern California region and is surrounded by three other MPO's including San Diego Association of Government (SANDAG) to the south, Kern Council of Governments (KCOG) north of Ventura and Los Angeles Counties, and Santa Barbara County Association of Governments (SBCAG) north of Ventura County.[141,142] Each of these MPO's prepared a RTP/SCS to develop transportation and land use strategies within their region. SANDAG's 2050 RTP/SCS EIR concluded that on-road vehicle emissions would decrease for CO, ROG, and NOx pollutants from 2010 to 2050, with minimal increases of 0.23 and 0.15 tons/year for PM10 and PM2.5, respectively. The San Diego Air Pollution Control District (SDAPCD) maintains air plans for ozone and CO for the San Diego Air Basin (SDAB). [143] Therefore, the growth in the San Diego region under the SANDAG's plan would not increase emissions for which the area is in non-attainment.

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141 The area north of San Bernardino County is a non-MPO, rural area.

142 Institute for Local Government. *California's 18 Metropolitan Planning Organizations*. Available online at: https://www.ca-ilg.org/post/californias-18-metropolitan-planning-organizations, accessed October 29, 2019.

143 San Diego Association of Governments. 2011. *SANDAG 2050 RTP/SCS EIR, 4.3 Air Quality*. Available online at: https://www.sandag.org/uploads/2050RTP/EIR43.pdf, accessed October 29, 2019.

KCOG's 2018 RTP PEIR similarly concluded that by 2042, implementation of the RTP would reduce ROG, NOx, and CO emissions, however PM10 and PM2.5 emissions would increase. The KCOG's PEIR determines that these increases in particulate matter are likely due to the increases in VMT which would increase roadway, brake, and tire particulate matter dust. The KCOG region includes the Eastern Kern Air Pollution Control District (EKAPCD) and the San Joaquin Valley Air Pollution Control District (SJVAPCD). The SJVAPCD is in non-attainment for federal and state ozone and PM2.5 as well as state PM10 standards. The Eastern Kern Air Pollution Control District is in a moderate nonattainment area for the national, state 8-Hour, and state 1-Hour ozone standard. Growth in the KCOG region would result in decreases in ozone precursors but result in slight increases in particulate matter for which SJVAPCD is in non-attainment for.[144]

Finally, the SBCAG 2040 RTP/SCS's (called Fast Forward 2040) Final Supplemental EIR concluded that daily ROC, NOx, and PM10 emissions would decrease within the SBCAG region from 2014 to 2040, therefore resulting in a less than significant impact. Santa Barbara County is in non-attainment for state 8-hour ozone and state PM10 standards, therefore, SBCAG would reduce pollutants for which the area is in non-attainment. [145]

Pursuant to the U.S. EPA's Transportation Conformity Regulations, the regional emissions tests are met if plan emissions are within the applicable emissions budgets for each nonattainment or maintenance area for all milestone, attainment, and planning horizon years and, if no emissions budgets have been established, if Plan emissions are less than the no-build emissions or the base-year emissions. The emissions budgets that were established in the AQMPs/SIPs in the SCAG region and have been approved by the U.S. EPA function as the applicable emission budgets for the conformity analysis for the respective nonattainment and maintenance areas. Federal conformity regulations also require the regional emissions analysis to be based on the Latest Planning Assumptions that include the latest vehicle data (fleet, age, activity) and latest socioeconomic growth forecast. A conformity determination must be made for each nonattainment and maintenance area in the region. In addition to the regional emissions analysis, the Plan is also required to pass (1) the timely implementation of the Transportation Control Measures (TCM) test, (2) the Financial Constraint test, and (3) the Interagency Consultation and Public Involvement test. The regional emissions analysis serves as a reasonable analysis of cumulative air

144 Kern Council of Governments. 2018. *2018 Regional Transportation Plan Program Environmental Impact Report*. Available online at: https://www.kerncog.org/wp-content/uploads/2018/05/2018-Public-Draft-PEIR.pdf, accessed October 29, 2019.

145 Santa Barbara County Association of Governments. 2017. *Fast Forward 2040 Regional Transportation Plan & Sustainable Communities Strategy Final Supplemental EIR.* Available online at: http://www.sbcag.org/uploads/2/4/5/4/24540302/ff2040_seir.pdf, accessed December 2, 2019.

quality impacts of the Plan. Connect SoCal meets the regional emissions tests for each nonattainment and maintenance area and for all milestone, attainment, and planning horizon years.

The Plan will meet the targets and emissions reduction milestones for on-road mobile-source emissions set in each of the AQMPs/SIPs within the SCAG region and are in compliance with federal conformity requirements. Additionally, implementation of the Plan will reduce on-road mobile criteria air pollutants and thus reduce the overall health effects to the surrounding community. Total emissions within the SCAB region, which makes up a large portion of the SCAG area, are expected to decrease as well through 2031 according to the 2016 AQMP with the exception of increases in PM2.5 and SOx. In addition, the Plan would decrease all criteria air pollutant emissions, except for small increases in PM2.5 in Imperial, Riverside, and San Bernardino Counties and PM10 in Imperial, Orange, Riverside, and San Bernardino Counties. Reductions in ROG, NOx, and CO are consistent with the RTP/SCS for the SANDAG, KCOG, and SBCAG planning areas. The KCOG and SANDAG region are also anticipated to result in increases in particulate matter in the future. However, because emissions would increase in some counties (PM10 would increase in Imperial, Orange, Riverside, and San Bernardino Counties and PM2.5 would increase in Imperial, Riverside, and San Bernardino Counties), largely as a result of increased total VMT, and SOx would increase in the region at least through 2031, the SCAG region would add to emissions of neighboring MPO's. Moreover, as discussed in AQ-2, individual project emissions may result in significant construction and/or operational emissions as compared to thresholds of significance identified by each air district. Therefore, the Plan could contribute to cumulative impacts from adjacent MPO's and therefore this impact is considered significant, and mitigation is required.

See discussion above in **Impact AQ-2** regarding health effects.

Mitigation Measures

SCAG Mitigation Measures

See **SMM AQ-1, SMM AQ-2, SMM**, and **SMM AQ-3.**

Project Level Mitigation Measures

See **PMM-AQ-1.**

Level of Significance after Mitigation

As discussed above, regulations and policies would reduce each of the impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation measures

consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the anticipated regional increase in certain criteria pollutant emissions and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts related to a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment could be significant and unavoidable even with implementation of mitigation.

Impact AQ-4 Expose sensitive receptors to substantial pollutant concentrations.

Significant and Unavoidable Impact – Mitigation Required.

Construction-Related Emissions

Over the lifetime of the Plan numerous transportation projects and land use development projects would be implemented. The construction of these projects could expose sensitive receptors to substantial pollutant concentrations. The greatest potential for exposure to substantial pollutant concentrations and TAC emissions during construction of both transportation projects and anticipated development, would be DPM emissions associated with heavy-duty equipment operations and truck traffic during construction activities. According to the SCAQMD methodology, health effects from carcinogenic air toxics are described in terms of individual cancer risk. "Individual Cancer Risk" is the likelihood that a person continuously exposed to concentrations of TACs over a 70-year lifetime will contract cancer based on the use of standard risk assessment methodology. SCAQMD, VCAPCD, MDAQMD, and AVAPCD has stated that the incremental cancer risk should not exceed an incremental increase of 10 excess cancer cases per million, and the chronic and acute non-carcinogenic risks should not exceed a calculated Hazard Index (HI) value of 1.0.

The California Office of Environmental Health Hazard Assessment (OEHHA) published a guidance manual in 2015 to assist the preparation of health risk assessments (HRA) for carcinogenic and non-carcinogenic exposures to air toxics in accordance with the Air Toxics Hot Spots Information and Assessment Act.[146] The 2015 OEHHA HRA guidelines provide methodologies for assessing various types of environmental exposures to toxic contaminants, including inhalation exposures. The 2015 OEHHA HRA guidance relied upon a comprehensive review of the most up-to-date scientific literature to formulate the recommended exposure estimation methodologies. The OEHHA guidance acknowledges that children are especially susceptible to the effects of toxic air contaminant exposure, and incorporated age sensitivity factors (ASFs) and age-specific daily breathing rates (DBRs) to account for

[146] OEHHA, *Guidance Manual for Preparation of Health Risk Assessments*, February 2015.

the differences in sensitivity to carcinogens during early life exposure. OEHHA recommends a default ASF of 10 for the age range between the third trimester of pregnancy through two years, and an ASF of three for ages two through 15 years.

As a conservative measure to characterize maximum potential exposures of sensitive receptors to carcinogenic risks, residential exposures are assumed to begin in the third trimester and exposures of children at schools is anticipated to begin at the lowest educational grade level. The OEHHA guidance provides recommended DBR values that are specific to the age of the receptor and the type of activity in which the receptor would be engaged during exposure, which are evaluated on a case-by-case basis. Air districts in the SCAG region (including SCAQMD) have not adopted guidelines to implement the 2015 OEHHA HRA guidelines for construction and indicated it is currently considering how to implement the guidelines. Only one air district -- the San Joaquin Valley Air Pollution Control District – appears to have adopted guidelines to implement the 2015 OEHHA HRA guidelines. BAAQMD is undergoing a process to implement guidelines as well.

The specific size and location of future construction activity within the SCAG region is not known, and therefore many variables related to characterizing potential exposures to air toxics during construction activities could not be determined, such as proximity to the emissions sources and duration of exposure. Connect SoCal's Project List (See **Appendix 2.0**) includes transportation projects through 2045, however a construction health risk analysis would be speculative given the lack of a construction location and construction activities. However, it is reasonable to assume that some level of construction activity would occur adjacent to sensitive receptors (e.g., residences and schools). The significant construction emissions identified above, could result in adverse health effects to sensitive receptors. As such, it is likely that intense construction activities (e.g., from development projects that involve a high volume of haul trucks) would exceed the health risk significance thresholds due to equipment and truck exhaust emissions. This is considered a significant impact related to substantial pollutant concentrations during construction activities.

On-Road Mobile-Source Emissions

Mobile source (heavy-duty truck) diesel emissions, specifically DPM, are the primary source of health concern in most urban areas in the SCAG region. Mobile DPM emissions in the SCAG region are anticipated to decrease as compared to existing conditions. Additionally, from 2019 to 2031, passenger and light daily truck PM2.5 is expected to remain constant, while heavy-duty PM2.5 emissions

continuously decrease.[147] As a result, existing sensitive receptors would be exposed to lower concentrations of TACs in the future. Sensitive receptors include residences, schools, medical facilities, senior centers, nursing homes, and similar uses. CARB recommends that local governments avoid locating new sensitive land uses within 500 feet of freeways as discussed in the Regulatory Framework above (see **Section 3.3.1**). Consistent with CARB recommendations, it is anticipated that local governments would limit growth within 500 feet of freeways and/or address potential health concerns through appropriate design requirements. For example, in the City of Los Angeles, all new mechanically ventilated buildings located within 1,000 feet of freeways are required to install air filtration media that provides a Minimum Efficiency Reporting Value (MERV) of 13.[148] In addition, properties within 1,000 feet of freeways are subject to an advisory notice regarding adverse health impacts resulting from chronic exposure to vehicle exhaust and particulate matter. The notice indicates that all applicants filing for a discretionary action within 1,000 feet of a freeway must adhere to design guidelines regarding freeway proximity, including a) avoiding locating sensitive uses such as schools, day-care facilities and senior centers; b) locate occupied open space away from freeway sources; c) prioritize non-habitable spaces (e.g. parking) nearest the freeway; and d) screen the site with substantial vegetation and or wall/barrier.[149] The City of Los Angeles also has numerous general plan policies related to air emissions and health. The City has also announced the City of Los Angeles Green New Deal, which includes goals that would reduce on-road mobile-source emissions (see **Section 3.6, Energy**).

Nonetheless, new sensitive receptors are likely to be developed within 500 feet of freeways and lanes may be added to freeways that result in widenings that bring freeway lanes in closer proximity to existing sensitive receptors. To assess the public health risks associated with emissions from major roadways, an HRA was prepared for Connect SoCal and is included in **Appendix 3.3**. An HRA evaluating the cancer risk from the transportation emissions in the SCAG region provides estimated cancer risk to the most impacted sensitive groups from a large sector of pollutants (transportation). An evaluation of the total emissions to sensitive receptors is not feasible because detailed data regarding all other sources of emissions is not available for 2045; see the discussion of the 2016 AQMP health effects appendix in **Impact AQ-2**.

According to the SCAQMD's most recent 2016 AQMP, which summarized the MATES IV study, the SCAQMD region has a population weighted cancer risk of 897 per million (2012-20136) for both

147 SCAQMD. 2017. *Final 2016 Air Quality Management Plan*. Available online at: http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/final2016aqmp.pdf?sfvrsn=15, accessed October 29, 2019.

148 See Los Angeles Municipal Code § 99.04.504.6.

149 City of Los Angeles Department of City Planning. 2018. *Zoning Information File ZI No. 2427*. Available online at: http://zimas.lacity.org/documents/zoneinfo/zi2427.pdf, accessed October 3, 2019.

stationary and mobile sources. [150] It should be noted that the MATES IV study evaluated the risk from June 2012 through June 2013 and the results of the MATES IV study resulted in a 70% decrease in diesel emissions and a 50% decrease in cancer risk compared to the MATES III study that evaluated the risk from 2004 to 2006.[151] According to the MATES-IV study, the highest concentration of DPM was simulated to occur at the Ports of Los Angeles and Long Beach. [152] Since the MATES-IV study monitoring (2012-2013), California has mandated measures to reduce diesel exhaust at the ports. For example, in 2014 California requires that 50% of fleet calls must use shore power instead of running diesel-fueled auxiliary on-bard engines while at berth. Shore power is estimated to cut air pollution from ships at berth by 95 percent. The percentage of fleet calls using shore power increases to 70% in 2017 and 80% in 2020.[153] Therefore, it can be assumed that the MATES V study, which is currently underway, will also find a significant decrease in the weighted cancer risk since it is based on 2018 monitoring data.[154]According to CARB, DPM emissions account for approximately 70% of the known cancer risk related to air toxics in California. Major sources of diesel emissions include ships, trains, and heavy-duty trucks, especially for residents living near ports, railyards, and heavily traveled roadways.[155]

The Connect SoCal HRA evaluates potential carcinogenic health risks from emissions of DPM from motor vehicles on major freeways and transportation corridors. CARB has previously evaluated the risks posed to residential receptors near the Ports of Los Angeles and Long Beach and railyards across the SCAG region, including the four railyards in the City of Commerce, the Union Pacific Railyard in the City of Industry, Union Pacific Los Angeles Transportation Center (LATC) Railyard, and Union Pacific Mira Loma Railyard. According to CARB, port activities (including ship hoteling, cargo handling, and on-port trucking) would result in a cancer risk of over 10 in a million to approximately 1.98 million people, with

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150 SCAQMD. 2017. *Final 2016 Air Quality Management Plan*. Available online at: http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/final2016aqmp.pdf?sfvrsn=15, accessed October 31, 2019.

151 Ibid.

152 SCAQMD. 2015. *MATES-IV Final Report*. Available online at: https://www.aqmd.gov/docs/default-source/air-quality/air-toxic-studies/mates-iv/mates-iv-final-draft-report-4-1-15.pdf?sfvrsn=7, accessed November 6, 2019.

153 Port of Long Beach. *Shore Power*. Available online at: http://www.polb.com/environment/air/shorepower.asp, accessed November 15, 2019.

154 SCAQMD. 2017. *MATES – Overview of goals, previous studies, and timeline*. Available online at: http://www.aqmd.gov/docs/default-source/default-document-library/presentation-on-item-2---overview-of-goals-previous-studies.pdf?sfvrsn=0, accessed November 6, 2019.

155 CARB. *Overview: Diesel Exhaust & Health*. Available online at: https://ww2.arb.ca.gov/resources/overview-diesel-exhaust-and-health, accessed November 5, 2019.

the nearest receptors exceeding 500 in one million cancer risks.[156] The Commerce railyards (Union Pacific Commerce Railyard, BNSF Hobart Railyard, BNSF Mechanical Sheila Railyard, and BNSF Commerce Eastern Railyard) will expose approximately 1.29 million people to a cancer risk greater than 10 in a million over a 76,000-acrea area.[157] Additionally the City of Industry, LATC, and Mira Loma Railyards are estimated to expose approximately 91,000 residents over 8,300-acres in Industry, 147,000 residents over 9,400-acres in LA, and 7,900 people over 3,000-acres in Mira Loma, respectively, to risks equal or greater to 10 in a million.[158,159,160] The Connect SoCal HRA evaluates a remaining major source of DPM emissions, highly traveled roadways.

DPM emissions have been associated with acute and chronic health effects, such as the worsening of heart and lung diseases. Elevated levels of ambient particulate matter have also been identified as one of many aggravating factors for childhood asthma. At levels above the federal and state ambient air quality standards, PM10 and PM2.5 emissions are a health concern. PM2.5 is believed to have greater negative health effects because the smaller particles can penetrate to the deepest parts of the lungs. Diesel exhaust from heavy duty trucks emits a mixture of gaseous and solid air pollutants, the solid pollutants make up DPM. Approximately 90% of DPM emissions are less than 1 μm, thus the majority of DPM emissions are a subset of PM2.5 and are small enough to be inhaled into the lungs.[161]

The HRA quantitatively analyzed the potential to expose people to increased cancer and other health risks, based on using the potential for increased cancer risk from diesel particulate matter from heavy-duty diesel trucks traveling on major freeways. Cancer risk is used as a proxy for general respiratory health. Only motor vehicle emissions on freeways were quantitatively evaluated because emissions from

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156 CARB. 2006. *Diesel Particulate Matter Exposure Assessment Study for the Port of Los Angeles and Long Beach*. Available online at: https://ww3.arb.ca.gov/ports/marinevess/documents/portstudy0406.pdf?_ga=2.166328956.333186014.1572896497-1229197864.1566229390, accessed November 5, 2019.

157 CARB 2007. *Health Risk Assessment for the Four Commerce Railyards*. Available online at: https://ww3.arb.ca.gov/railyard/hra/4com_hra.pdf?_ga=2.93549535.333186014.1572896497-1229197864.1566229390, accessed November 5, 2019.

158 CARB. 2008. *Health Risk Assessment for the Union Pacific Railroad City of Industry Railyard*. Available online at: https://ww3.arb.ca.gov/railyard/hra/up_coi_hra.pdf?_ga=2.56341481.333186014.1572896497-1229197864.1566229390, accessed November 5, 2019.

159 CARB. 2007. *Health Risk Assessment for the Union Pacific Railroad Los Angeles Transportation Center Railyard*. Available online at: https://ww3.arb.ca.gov/railyard/hra/up_latc_hra.pdf?_ga=2.64093421.333186014.1572896497-1229197864.1566229390, accessed November 5, 2019.

160 CARB. 2007. *Health Risk Assessment for the Union Pacific Railroad Mira Loma Auto Facility Railyard*. Available online at: https://ww3.arb.ca.gov/railyard/hra/up_miraloma_hra.pdf?_ga=2.97678301.333186014.1572896497-1229197864.1566229390, accessed November 5, 2019.

161 CARB. *Overview: Diesel Exhaust & Health*. Available online at: https://ww2.arb.ca.gov/resources/overview-diesel-exhaust-and-health, accessed October 3, 2019.

other transportation corridors are much less than emissions on major freeways. Additionally, stationary sources were not evaluated as there was insufficient data available to model the health risk posed from these sources.

The HRA shows substantial reductions in DPM and associated health risks (see discussion below). In the future under Plan (and No Plan) conditions, as a result of stringent emission controls, DPM and health risk would be reduced substantially as compared to existing conditions.

Implementation of the Plan would result in new transportation projects being developed near existing sensitive receptors or locating new receptors near transportation projects. Sensitive receptors would continue to be exposed to DPM as a result of the Plan. However, as shown in **Table 3.3-16**, cancer risk would decrease considerably in the future, and local jurisdictions are requiring more robust air filtration and other ways of reducing exposure to existing sources of pollutants in particular in proximity to freeways (see above discussion regarding the City of Los Angeles).

The declines in cancer risk across all freeway segments is the result of continued decreases in per-vehicle mile fleet emissions projected to occur due to continued emission control technology improvements in new vehicles.

The methodology for selection of the HRA segments is discussed above (based on vehicle volumes). Emissions of DPM from each segment were calculated using the SCAG Transportation Demand Model VMT data for 2019 and projections for 2045. The potential cancer risk for residences were evaluated for a 30-year exposure, 9-year exposure and 70-year exposure periods, assuming continuous exposure over those time periods (i.e. 24 hours a day, 7 days a week). SCAG VMT data was provided for heavy duty vehicles and light/medium duty vehicles. The most current version of CARB mobile source emissions model (EMFAC2014) was used to obtain emissions factors of PM10 in diesel-fueled vehicles, which were assumed equal to DPM emission factors.[162]

The potential health risk of emissions from a representative 1-mile long portion of each freeway segment were evaluated with CARB-approved AERMOD dispersion model (Version 18081) and meteorological data obtained from South Coast, Mojave Desert, Imperial, and Ventura Air District monitoring sites. The calculated DPM concentration was then used to calculate the potential carcinogenic risk using the most current OEHHA 2015 guidelines.

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[162] EMFAC 2014 model was the most recent, EPA-approved version at the time SCAG released the Conformity Assumptions for this analysis (i.e., EMFAC2017 had not yet been approved). Additionally, EMFAC2017 had not yet been approved at the time of releasing the NOP. On August 15, 2019, EPA approved EMFAC2017 for use; however, EPA provided a two-year grace period in which SACOG is not required to use EMFAC2017. The grace period runs through August 16, 2021.

To analyze potential cancer risk with respect to DPM, the threshold of 10 in one million identified above is considered. A 30-year exposure cancer risk was used in the analysis below per OEHHA guidance. As stated above, a 9-year and 70-year health risk analysis was also conducted. OEHHA recommends that a cancer risk for a range of residency times be calculated to coincide with the U.S. EPA's estimates of the average (9 years), high-end estimates (30-years) of residence time, and a lifetime residency (70 years). According to OEHHA, the 30-year exposure duration should be used to determine the risk characterization and recommends a 9-year and 70-year cancer risk be included as a supplemental analysis.[163] The 9-year and 70-year cancer risk estimates are provided in **Appendix 3.3, Health Risk Assessment Technical Report**.

As shown on **Table 3.3-16, Summary Maximum Exposed Individual Residential 30-Year Exposure Cancer Risk** (also see **Appendix 3.3**), the maximum 30-year exposure to residential cancer risk for each transportation segment is significantly reduced when compared to existing conditions. While the daily VMT would rise in every county under the Plan (even though per capita VMT is expected to decrease), see **Table 3.8-11** in **Section 3.8, Greenhouse Gases**, the maximum potential cancer risk would be on average 87 percent less than existing conditions. This is due to the dramatic reductions in emissions that are expected to result from federal and state regulations that require reduced tail pipe emissions from on-road heavy-duty diesel trucks (HDDT). It is important to note that despite the reduction in cancer risk compared to existing conditions, the Plan would still result in exposing sensitive receptors to substantial pollutant concentrations, however such emissions would be substantially less than under existing conditions. As shown on **Table 3.3-16** emissions under the Plan, on all segments, would decrease substantially. Due to the significant reduction in DPM emissions and associated health risk, overall risk is reduced and therefore, impacts are considered less than significant.

163 Office of Health Hazard Assessment. 2015. Air Toxics Hot Spots Program. Available online at: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf, accessed October 1, 2019.

Table 3.3-16
Summary Maximum Exposed Individual Residential 30-Year Exposure Cancer Risk

Segment No.	Transportation Segment	County/Region	Existing Conditions	2045 No Project	2045 Connect SoCal
1	IMP I-8	Imperial / El Centro	24.5	14.2	14.5
2	IMP SR-78	Imperial / Westmoreland	64.6	37.1	18.9
3	LA I-110	Los Angeles / Carson	69.4	24.8	23.5
4	LA I-710	Los Angeles / Compton	63.8	31.2	30.9
5	LA SR-60 DB	Los Angeles / Diamond Bar	106.6	31.1	29.7
6	LA SR-60 SEM	Los Angeles / South El Monte	64.4	18.4	16.9
7	ORA I-5	Orange / Orange	24.8	5.36	5.49
8	ORA I-405	Orange / Seal Beach	43.3	12.2	11.8
9	RIV I-10	Riverside / Banning	10.5	4.97	4.83
10	RIV I-15	Riverside / Temecula	16.7	9.65	9.52
11	RIV SR-91	Riverside / Corona	22.6	8.4	8.41
12	SB I-15 ONT	San Bernardino / Ontario	40.4	10.4	10.5
13	SB I-15 VIC	San Bernardino / Victorville	109.9	40.6	41.3
14	SB SR-60	San Bernardino / Ontario	71.9	19.1	18.8
15	VEN US-101 SB	Ventura / San Buenaventura	21.2	4.93	4.85
16	VEN US-101 TO	Ventura / Thousand Oaks	102.5	19.6	21.9

Note: Cancer Risk Threshold is an increase of 10 per 1 million from the Plan.
Source: Health Risk Assessment (Appendix 3.3).

As demonstrated in **Table 3.3-16**, six of the transportation segments under the No Project scenario would have lower cancer risk than under the Plan. This is likely due to changes in the land use growth pattern and the ratio of light/medium vehicle versus heavy-duty truck travel expected under the Plan versus a No Plan. For example, Segment 12 is in Ontario on the I-15, under the Plan the segment would experience a decrease in VMT from light and medium duty cars of over 100,000 as compared to the No Project, however heavy-duty truck traffic is expected to increase by approximately 7,400 daily trips under the Plan as compared to the No Project scenario. Since the majority of DPM emissions and the associated health risk results from heavy-duty vehicles, the health risk would be greater in this segment under the Plan. The health risk under the Plan is anticipated to be less in most segments as compared to the No Project scenario. The total health risk in analyzed segments under the Plan (268.7 in one million) would

be less than the No Project (290.71 in one million). Additionally, the total health (268.7 in one million) risk under the Plan would be less than under existing conditions (857.1 in one million).

In addition to mobile-source emissions, multiple social, economic, and lifestyle factors could contribute to the detriment of the region's public health. Built upon the public health emphasis of previous Plans, Connect SoCal emphasizes public health.

As indicated in the Connect SoCal Public Health Technical Report, poor air quality can also impact non-cancer related health problems including asthma. Additionally, climate change can lead to increased wildfires and smoke, which in turn degrades the air quality in the region. Increases in PM2.5 from wildfires leads to increased hospital visits and mortality.[164] This risk persists even after a wildfire is extinguished because particulate matter from fire ash can be picked up by winds. SCAG has evaluated social detriments including the community context, availability of health care, neighborhood and surrounding built environment, education, and economic health to see how these factors shape public health. With nearly half of U.S. adults living with a chronic disease, SCAG recognizes improving public health is vital to the community. The Surgeon General promotes increasing physical activity as one strategy to improve public health.[165]

SCAG's responsibility as it relates to air quality is to focus on mobile source emissions. Air districts, such as the SCAQMD are responsible for overseeing air quality in the region for stationary sources. As stated above, the SCAQMD prepares an AQMP in order to ensure the area reaches attainment for ozone and particulate matter. According to the SCAQMD, 25% of the SCAB area's ozone-forming air pollutant comes from stationary sources and 75% comes from mobile-source emissions.[166] Therefore, while air districts have more authority in reducing stationary source pollution by creating rules and thresholds within their jurisdictions as well as have more authority in project-level analysis, air quality management districts must work closely with MPO's, such as SCAG, in order to ensure reductions in mobile-source air emissions. For example, SCAQMD's most recent 2016 AQMP includes a discussion of the health risk in the SCAB region as a result of both stationary and mobile source emissions based on the MATES IV model, which included on-road mobile source information obtained from SCAG.[167] As indicated above, the weighted cancer risk from all sources from 2012-2013 is approximately 897 in one million, which is

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164 Southern California Association of Governments. 2019. *Public Health Draft Technical Report.*

165 U.S. Department of Health & Hazard Services. 2015. *Executive Summary from Step It Up!: Surgeon General's Call to Action*. Available online at: https://www.hhs.gov/surgeongeneral/reports-and-publications/physical-activity-nutrition/walking-executive-summary/index.html, accessed September 3, 2019.

166 SCAQMD. *About*. Available online at: http://www.aqmd.gov/nav/about, accessed November 5, 2019.

167 SCAQMD. 2015. *Mates IV*. Available online at: http://www.aqmd.gov/docs/default-source/air-quality/air-toxic-studies/mates-iv/mates-iv-final-draft-report-4-1-15.pdf?sfvrsn=7, accessed November 5, 2019.

likely lower in 2019.[168] The MATES IV study goes onto say that the areas of highest risk include those near the ports, Central Los Angeles, and along transportation corridors.[169]

While implementation of the Plan would increase total VMT from 2019 to 2045 (see **Table 3.8-11, Population and VMT (2019 and 2045)**), there is a growing support for increasing active transportation throughout the communities in the region. These changes can only be met if there is also a change in the built environment that enable people to walk safely in their communities. Proposed land use strategies and transportation investments, such as provision of additional investments in active transportation networks including first mile/last mile improvements, Safe Routes to School projects, and regional bikeways infrastructure are expected to increase the number of short trips, reduce per capita VMT and improve physical activity outcomes. The statewide Affordable Housing and Sustainable Communities (AHSC) program, as noted in the Plan, would improve air quality and reduce greenhouse gas emissions by funding housing and transportation improvements that support infill and compact development thereby reducing VMT.[170] Land use strategies within Connect SoCal also focuses development in HQTAs.

Connect SoCal includes regional strategies that would contribute to improving public health by reducing VMT (as well as encouraging increased healthy activities). As discussed in **Section 2.0, Project Description,** these strategies include, increased transportation investments in active transportation opportunities and facilities, transit and passenger rail use, and land use strategies that create more opportunities for walking and biking or other physics activities. The Plan projects total VMT would increase from 2019, but VMT per capita would decrease.

Summary

Connect SoCal would provide strategies to improve public health and develop walkable and transit friendly communities. The cancer risk adjacent to freeways would be significantly reduced when compared to existing conditions. The Plan would not exacerbate the health risk compared to existing conditions and therefore the impact of on-road emissions is less than significant.

As discussed above, construction activity would occur adjacent to sensitive receptors. The significant construction emissions identified in AQ-2, could result in an adverse health effects to sensitive receptors.

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168 SCAQMD. 2017. *Final 2016 Air Quality Management Plan*. Available online at: http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/final2016aqmp.pdf?sfvrsn=15, accessed October 31, 2019.

169 SCAQMD. 2015. *MATES-IV Final Report*. Available online at: https://www.aqmd.gov/docs/default-source/air-quality/air-toxic-studies/mates-iv/mates-iv-final-draft-report-4-1-15.pdf?sfvrsn=7, accessed November 6, 2019.

170 Southern California Association of Governments. 2019. *Connect SoCal*.

As such, it is likely that extended intense construction activities (e.g., from development projects that involve a high volume of haul trucks) would exceed the health risk significance thresholds due to equipment and truck exhaust emissions. This is considered a significant impact related to substantial pollutant concentrations during construction activities. Mitigation is required.

Mitigation Measures

SCAG Mitigation Measures

See **SMM AQ-1, SMM AQ-2, SMM**, and **SMM AQ-3.**

Project Level Mitigation Measures

See PMM-AQ-1.

Level of Significance after Mitigation

As discussed above, regulations and policies would reduce each of the impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the anticipated construction emissions, the regional nature of the analysis and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts related to air emission impacts on sensitive receptors during construction could be significant and unavoidable even with implementation of mitigation.

Impact AQ-4 Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Less than Significant Impact.

Connect SoCal would result in a less than significant impact to air quality in relation to exposing a substantial number of people to objectionable odors. Odor sources within the SCAG region, such as wastewater treatment facilities, landfills, and agricultural operations, are controlled by county and city odor ordinances and air district rules that prohibit nuisance odors and identify enforcement measures to reduce odor impacts to nearby receptors. These ordinances and rules are enforced by the air pollution control districts and local law enforcements. For example, SCAQMD, MDAQMD, and AVAQMD Rule 113; VPAPCD Rule 74.2; and ICAPCD Rules 101 and 424, *Architectural Coatings*, limit the amount of

volatile organic compounds from architectural coatings and solvents to further reduce the potential for odiferous emissions. SCAQMD also provides rules to establish odor management practices and requirements from solid waste transfer stations, material recovery facilities, and rendering facilities in Rule 410, *Odors from Transfer Stations and Material Recovery Facilities*, [171] and Rule 415, *Odors from Rendering Facilities*.[172] Additionally, SCAQMD and MDAQMD's Rule 402; [173, 174] VCAPCD's Rule 51; [175] and IPAPCD's Rule 407[176] *Nuisance* establishes that no person shall discharge any source of air contaminants that may cause harm or nuisance to the public. In order to hold any facility accountable for nuisance rules, the air quality management districts allow the public to report any air quality problems within the district including odor complaints.[177] As such, the Plan would be required to adhere to these rules and implementation of the Plan would not be expected to result in substantial odor emissions or affect a substantial number of people when compared to existing conditions. Therefore, the impact would be less than significant, and the consideration of mitigation measures is not warranted.

Construction

Construction of transportation projects and anticipated development under the Plan have the potential to cause an increase in construction activities in the region. Activities associated with the operation of construction equipment, diesel, the application of asphalt, the application of architectural coatings and other interior and exterior finished, and roofing may produce discernible odors typical of most construction sites. As stated above, SCAQMD, MDAQMD, and AVAQMD Rule 113; VPAPCD Rule 74.2; and ICAPCD Rules 101 and 424, *Architectural Coatings*, limit the amount of volatile organic compounds from architectural coatings and solvents to further reduce the potential for odiferous emissions. Although these odors could be a source of nuisance to adjacent uses, odors from construction at any individual site

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171 South Coast Air Quality Management District. 2006. *Rule 410. Odors from Transfer Stations and Material Recovery Facilities*. Available online at: https://ww3.arb.ca.gov/drdb/sc/curhtml/r410.pdf, accessed October 30, 2019.

172 South Coast Air Quality Management District. 2017. *Rule 415. Odors from Rendering Facilities*. Available online at: https://ww3.arb.ca.gov/drdb/sc/curhtml/r415.pdf, accessed October 30, 2019.

173 South Coast Air Quality Management District. 1976. *Rule 402. Nuisance*. Available online at: http://www.aqmd.gov/docs/default-source/rule-book/rule-iv/rule-402.pdf?sfvrsn=4, accessed October 30, 2019.

174 MDAQMD. 1977. *Rule 402 Nuisance*. Available online at: http://mdaqmd.ca.gov/home/showdocument?id=290, accessed November 15, 2019.

175 VCAPCD. 2004. *Rule 51- Nuisance*. Available online at: http://www.vcapcd.org/Rulebook/Reg4/RULE%2051.pdf, accessed November 15, 2019.

176 ICAPCD. 1999. *Rule 407 Nuisances*. Available online at: https://ww3.arb.ca.gov/drdb/imp/curhtml/r407.pdf, accessed November 15, 2019.

177 South Coast Air Quality Management District. 2019. *Odor Complaints and Nuisance Violations*. Available online at: http://www.aqmd.gov/home/news-events/community-investigations/sunshine-canyon-landfill/odor-complaints, accessed October 30, 2019.

is temporary and intermittent in nature. Construction-related emissions also decrease with distance from individual project sites and quickly dissipate.

In accordance with federal and state regulations, diesel emissions from heavy duty trucks are projected to decrease with the Plan (see the HRA in **Appendix 3.3**), and construction activities associated with the Plan would adhere to CARB's guidelines regarding proximity to sensitive receptors. As such, construction resulting from the Plan would result in less than significant odor impacts.

Land Use Development Projects

The development projects anticipated to occur under the Plan would have the potential to result in nuisance odors. There are certain industries and activities that tend to result in odor complaints. According to the SCAQMD *CEQA Air Quality Handbook*, land uses and industrial operations that are associated with odor complaints include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies and fiberglass molding. Any and all of these uses/activities could occur somewhere in the SCAG region under the Plan.

However, development projects would be required to comply with applicable odor regulations, such as SCAQMD, MDAQMD, and AVAQMD Rule 113; VPAPCD Rule 74.2; and ICAPCD Rules 101 and 424, *Architectural Coatings* and SCAQMD and MDAQMD Rule 402; VPAPCD Rule 51; and ICAPCD Rule 407 *Nuisance*. The air quality management districts use similar *Nuisance* rules which state:

> *A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons to the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.*[178, 179, 180, 181]

Therefore, most development projects would be required to comply with rules prohibiting nuisance to the public, including odors. The level of exposure and number of receptors affected from potential odor can only be determined through project-level analysis once facility designs of individual projects are

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178 South Coast Air Quality Management District. 1976. *Rule 402. Nuisance*. Available online at: http://www.aqmd.gov/docs/default-source/rule-book/rule-iv/rule-402.pdf?sfvrsn=4, accessed December 2, 2019.

179 MDAQMD. 1977. *Rule 402 Nuisance*. Available online at: http://mdaqmd.ca.gov/home/showdocument?id=290, accessed December 2, 2019.

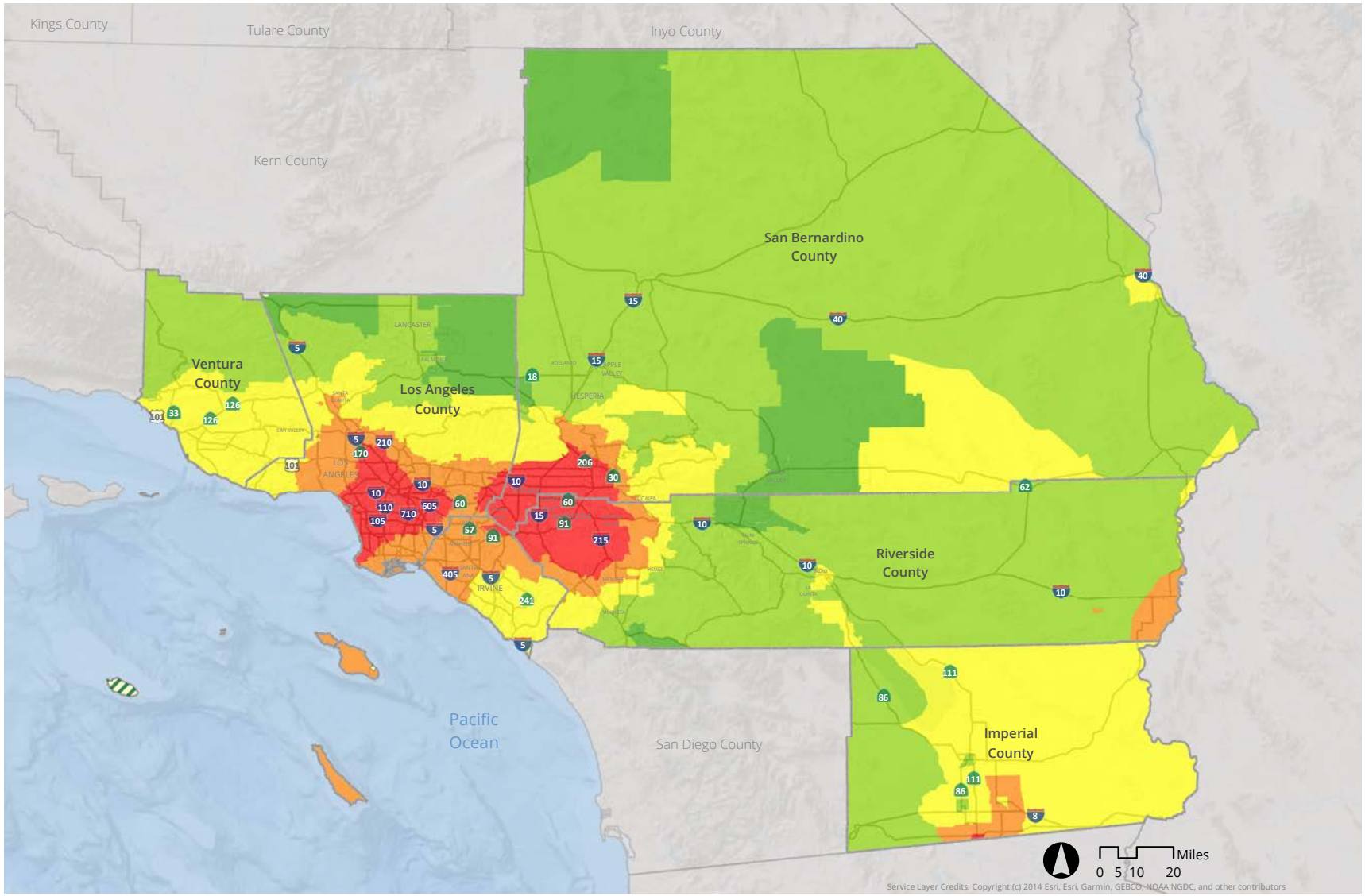
180 VCAPCD. 2004. *Rule 51- Nuisance*. Available online at: http://www.vcapcd.org/Rulebook/Reg4/RULE%2051.pdf, accessed December 2, 2019.

181 ICAPCD. 1999. *Rule 407 Nuisances*. Available online at: https://ww3.arb.ca.gov/drdb/imp/curhtml/r407.pdf, accessed December 2, 2019.

available. Therefore, odor impacts related to development would be analyzed at the individual project level. However, since development projects are required to comply with applicable odor regulations, land use development would not be expected to result in substantial odor emissions or affect a substantial number of people when compared to existing conditions, the impact would be less than significant, and the consideration of mitigation measures is not warranted.

Transportation Improvements

Connect SoCal includes the implementation of transportation projects (see **Appendix 2.0, Project List**) with the aim of reducing overall emissions in both mobile and stationary sources by increasing density and reducing VMT. Some transportation projects that involve roadway expansions or realignments could result in the transfer of vehicle emissions and/or could result in odor emissions sources being located closer to receptors. For example, Connect SoCal includes a transportation project to widen Harbor Boulevard in Orange County by one lane in each direction from Warner Avenue to 17th Street. Extending the street will bring vehicles and the associated exhaust emissions and odors closer to existing receptors along the roadway. In addition, some projects (e.g., rail stations) could result in localized traffic congestion that could incrementally add to odor concentrations. However, the SCAQMD does not indicate that transportation projects are associated with odor complaints. Similar to development projects, transportation projects would be required to comply with applicable odor regulations, such as the SCAQMD and MDAQMD's Rule 402; VCAPCD's Rule 51; and ICAPCD's Rule 407 *Nuisance*. Transportation projects would not be expected to result in substantial odor emissions or affect a substantial number of people when compared to existing conditions. Therefore, the impact would be less than significant, and the consideration of mitigation measures is not warranted.



Annual Mean Concentration of PM2.5 (Average of Quarterly Means, µg/m3), Over Three Years (2012 to 2014)

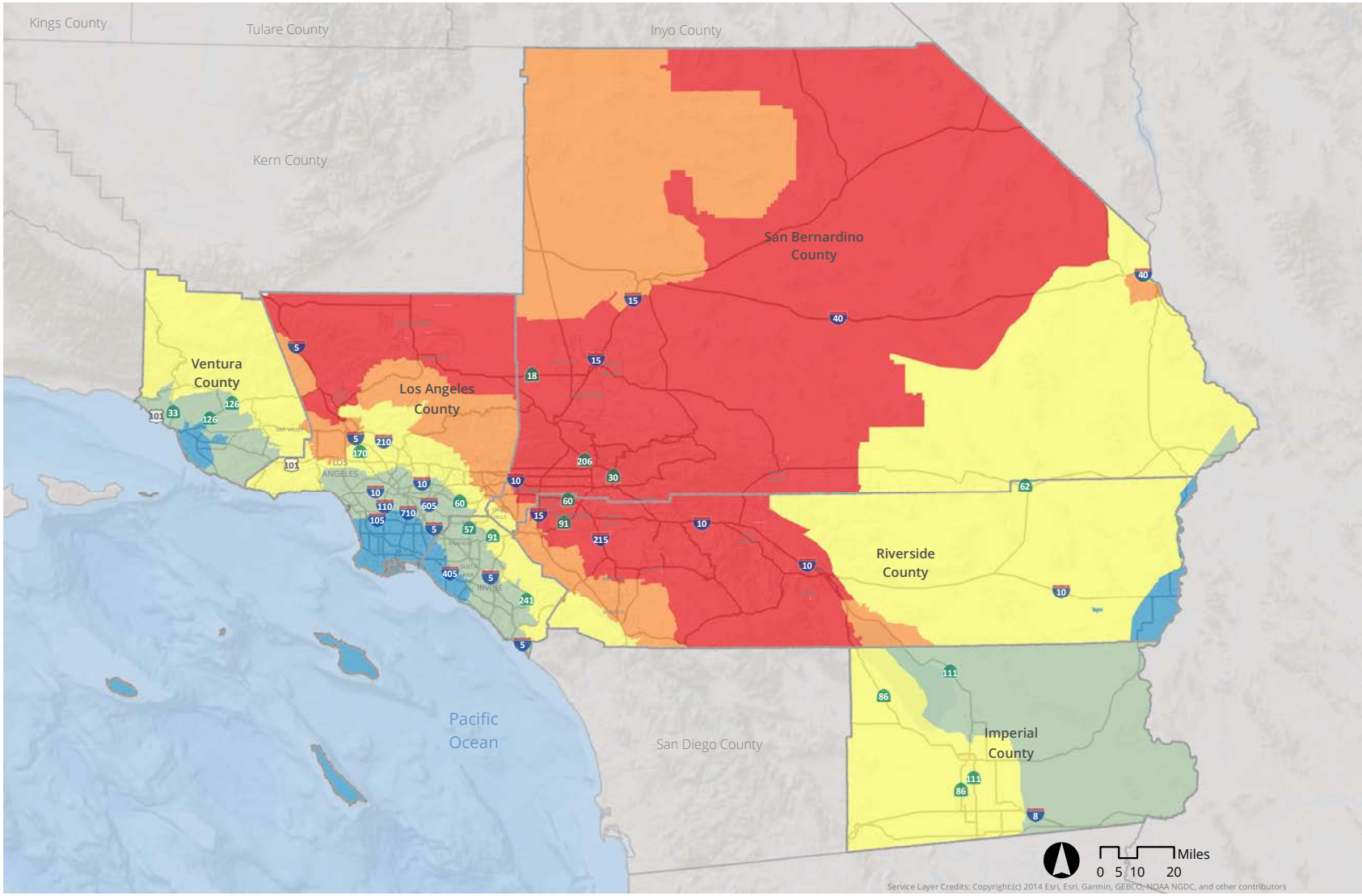
No Data | 4.5 - 6.0 | 6.1 - 8.0 | 8.1 - 10.0 | 10.1 - 12.0 | 12.1 - 14.6

SOURCE: CAlEPA, OEHHA, CalEnviroScreen 3.0, 2017

FIGURE **3.3-1**

IMPACT SCIENCES

Average Annual Concentration of PM2.5



Mean of Summer Months (May-October) of the Daily Maximum 8-Hour Ozone Concentration (ppm), Averaged over Three Years (2012 to 2014)

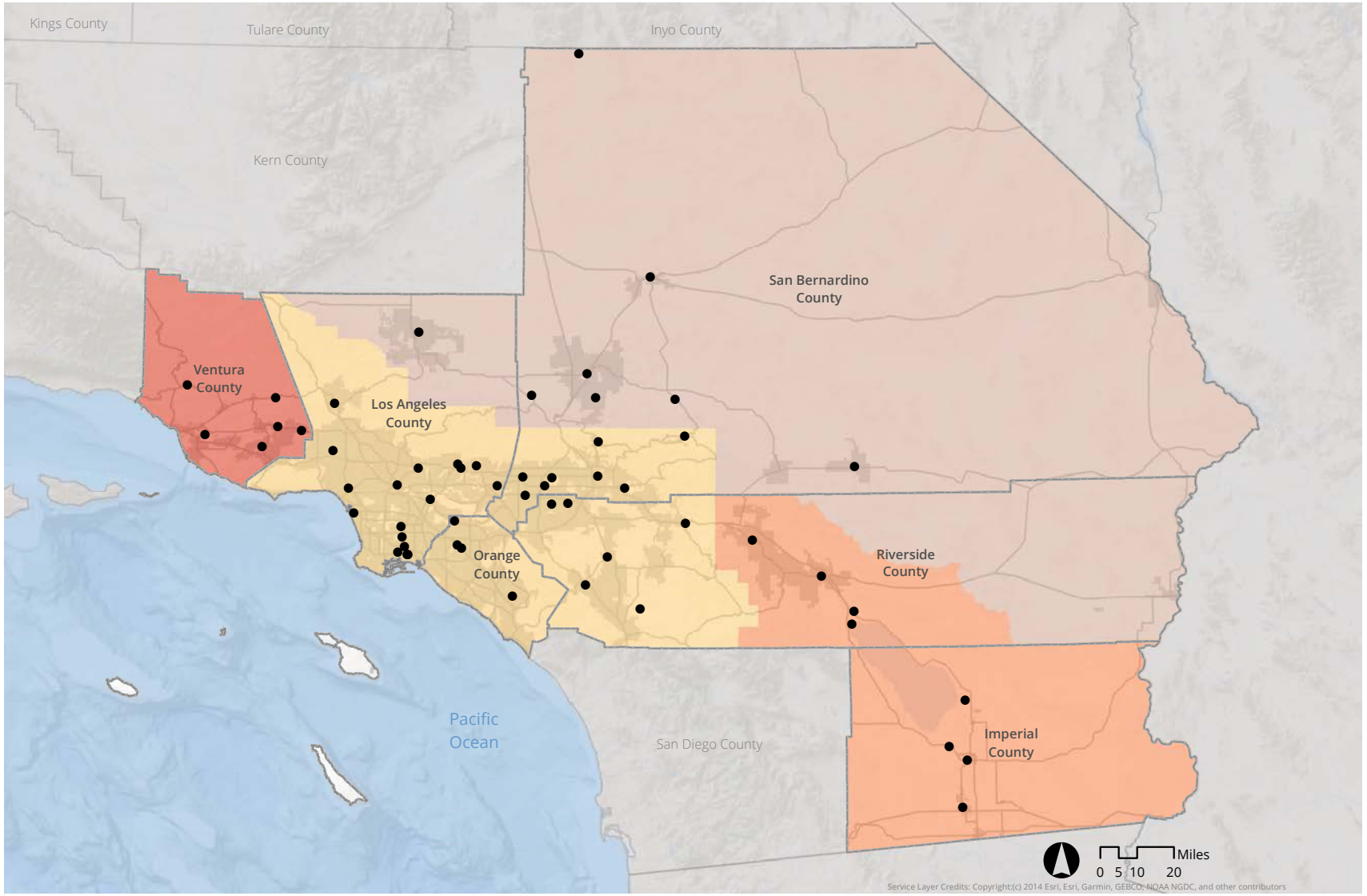
0.040 - 0.045 | 0.046 - 0.050 | 0.051 - 0.055 | 0.056 - 0.060 | 0.061 - 0.068

SOURCE: CalEPA, OEHHA, CalEnviroScreen 3.0, 2017

FIGURE **3.3-2**

IMPACT SCIENCES

Average Daily Ozone Exposure in Excess of National 8-Hour Standard



SOURCE: CalEPA, OEHHA, CalEnviroScreen 3.0, 2017

FIGURE **3.3-3**

IMPACT SCIENCES

Air Quality Basins and Monitoring Stations

1329.001•10/19

SOURCE: Kleinfelder, 2016

FIGURE **3.3-4**

IMPACT SCIENCES

Overview Freeway Segments Evaluated in HRA

3.3.5 SOURCES

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3.4 BIOLOGICAL RESOURCES

This section of the Program Environmental Impact Report (PEIR) describes biological resources in the SCAG region, identifies the regulatory framework with respect to laws and regulations that govern biological resources, and analyzes the potential impacts of the Connect SoCal Plan ("Connect SoCal"; "Plan"). In addition, this PEIR table provides regional-scale mitigation measures as well as project-level mitigation measures to be considered by lead agencies for subsequent, site-specific environmental review to reduce identified impacts as appropriate and feasible.

3.4.1 ENVIRONMENTAL SETTING

The SCAG region encompasses an area of varied topography and diverse ecosystems.[1] The region covers over 38,000 square miles across six counties, encompassing two mountain ranges, two deserts, and approximately 150 miles of coastline, with elevations ranging from 0 to 10,000 feet above mean seal level (msl). Due to the remarkable variation in the region's topography, climate, and landforms, the biological communities within the area are exceptionally diverse and call for a broad approach to their description.

The SCAG region primarily encompasses the following five United States Department of Agriculture (USDA) regionally defined Ecological Sections.[2]

Southern California Coast Section. This ecological region is bound to the west by the Pacific Ocean. This section has coastal terraces and low elevation ranges with alluvial lowlands. Plant communities are generally comprised of coastal sagebrush, sagebrush, chaparral, and western hardwood communities. This ecological region occurs in Ventura, Los Angeles and Orange Counties and a small portion of extreme southwestern Riverside County.

Southern California Mountain and Valley Section. Located generally east of the Southern California Coast Section, this region has a landscape of moderate elevation and narrow ranges primarily vegetated with chaparral, chaparral-mountain scrub, western hardwoods, pine, and fir-spruce communities. This ecological section is present in every SCAG county.

Mojave Desert Section. Located primarily within the northeast portion of the SCAG region, this ecological section consists of short mountain ranges, basins, playas and dunes. Much of this ecological

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1 An ecosystem is the dynamic complex of plant and animal communities and their associated non-living environment.

2 Descriptions of "Ecological Subregions: Sections of the Conterminous United States. 2017. General Technical Report WO- 76B. United States Department of Agriculture, Forest Service. Available at: http://www.edc.uri.edu/ATMT-DSS/report_forecast/landscape_dynamics/SectionDescriptions.pdf, accessed August 26, 2019.

region is vegetated with creosote bush scrub and desert scrub, with pinyon-juniper and other communities within the large array of elevations within this wide section. The Mojave Desert comprises a large portion of San Bernardino County, and smaller portions of Los Angeles and Riverside Counties.

Colorado Desert Section. This area is largely a plain comprised of alluvial deposits associated with the Salton Sea in Imperial and Riverside Counties. Native vegetation is sparse creosote bush scrub and desert scrub communities, with a high concentration of agricultural lands.

Sonoran Desert Section. This area consists of desert plain interspersed with small low elevation mountain ranges primarily vegetated with creosote bush scrub and desert scrub plant communities. This section covers a large portion of eastern Imperial and Riverside Counties and the southeastern portion of San Bernardino County.

3.4.1.1 Definitions

Definitions of terms used in this section are provided.

Critical Habitat: A designated area defined by the USFWS as being important for the survival of species listed pursuant to the federal Endangered Species Act (ESA). The USFWS evaluates the collection of the environmental conditions (i.e., plant communities, range, elevation, food source, etc.) essential to the continued conservation and preservation of each species listed as federally threatened and endangered.

Federally Designated Sensitive Species: Species that are not listed by the federal government as endangered, threatened, or candidate species but are categorized by the federal government as a federal species of concern. Federal species of concern is a term-of-art that describes a taxon (organism or group of organisms) whose conservation status may be of concern to the USFWS but does not have official status. In addition, federally designated sensitive species include those that are designated as such by the Bureau of Land Management (BLM) and U.S. Forest Service (USFS) on lands that fall under their jurisdiction.

Federally Listed Species: Species provided with special legal protection under the federal ESA. A federally listed endangered species is a species that is in danger of extinction throughout all or a significant portion of its range. A federally threatened species is one likely to become endangered in the absence of special protection or management efforts provided by the listing. A candidate species is one that is proposed by the federal government for listing as endangered or threatened.

Federal Wetlands: Defined by the U.S. Army Corps of Engineers (USACE) and the U.S. Environmental Protection Agency (EPA) as: "Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a

prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."[3]

Greenfield: Also known as "raw land," land that is privately owned, lacks urban services, has not been previously developed, and is located at the fringe of existing urban areas.

Habitat Conservation Plans (HCPs): Required by the USFWS as part of an application for an "incidental take" permit for species listed pursuant to the federal ESA. HCPs describe the anticipated effects of the proposed taking, how the impacts will be minimized and mitigated, and how the HCP is to be funded.

Locally Important Species: Species that are not monitored by the resource agencies but monitored by private organizations or local municipal governments. For the purposes of this PEIR, locally important species include those plant species recognized by the California Native Plant Society (CNPS), a private organization dedicated to the conservation of native plants, as well as those recognized by the Audubon Society.

Natural Community Conservation Plan (NCCP): Defined by CDFW as a plan for the conservation of natural communities that identifies and provides for the regional or areawide protection and perpetuation of plants, animals, and their habitats.[4]

Nursery Site: Considered habitat in which native wildlife may establish nests, maternity roosts, dens, or otherwise engage in breeding and/or the rearing of offspring.

Sensitive Plant Community: A native plant community listed on CDFW Natural Communities List as being rare within California or threatened by human actions.

Special Status Species: Species that have been afforded special recognition by federal, state, and/or local resource agencies or jurisdictions, or recognized resource conservation organizations. Special status wildlife species include: (1) species listed as a candidate, threatened, or endangered under the federal or state Endangered Species Act; (2) species considered rare or endangered under the California Environmental Quality Act; (3) plants considered "Rare, Threatened, or Endangered in California" by the California Native Plant Society (Lists 1B and 2); (4) animal listed as "species of special concern" by the state; and (5) animals fully protected in California by the Fish and Game Code.

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3 U.S. Army Corps of Engineers. 1987. *Corps of Engineers Wetland Delineation Manual*. Vicksburg, MS. Available online at: http://www.cpe.rutgers.edu/Wetlands/1987-Army-Corps-Wetlands-Delineation-Manual.pdf, accessed August 26, 2019.

4 California Department of Fish and Wildlife. *Natural Community Conservation Planning (NCCP)*. Available online at: https://www.wildlife.ca.gov/Conservation/Planning/NCCP, accessed August 26, 2019.

Species of Special Concern (SSC): Species, subspecies, or distinct population of an animal (bird, mammal, fish, reptile, and amphibian) native to California that currently satisfies one or more of the following criteria: (a) is extirpated from the state or, in the case of birds, in its primary seasonal or breeding role; (b) is listed as federally-, but not state-, threatened or endangered; (c) meets the state definition of threatened or endangered but has not formally been listed; (d) is experiencing, or formerly experienced, serious (noncyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for state threatened or endangered status; (e) has naturally small populations exhibiting high susceptibility to risk from any factor(s), that if realized, could lead to declines that would qualify it for state threatened or endangered status.

State-designated Sensitive Species: Species that are not listed by the state government as endangered, threatened, or candidate species but are categorized by the state as a species of special concern or fully protected species. A California species of special concern is defined by the California Department of Fish and Wildlife (CDFW) as being a wildlife species that has declining population levels, a limited range, and/or continuing threats that have made it vulnerable to extinction.

State-Listed Species: Species provided special legal protection under the California ESA. A state-listed endangered species is a species that is in danger of extinction throughout all or a significant portion of its range. A state-listed threatened species is one likely to become endangered in the absence of special protection or management efforts provided by the listing. A candidate species is one that is proposed by the federal or state government for listing as endangered or threatened.

State Wetlands/Streams: Defined by the California Fish and Game Code. A *stream* is defined as a body of water that flows at least periodically, or intermittently, through a bed or channel having banks and supporting fish or other aquatic life. *Wetlands* are defined as areas having riparian vegetation, without regard to wetland vegetation, soils, or hydrology. Defined by the SWRCB it is area that, under normal circumstances, (1) has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation.

Waters of the United States: Surface waters such as navigable waters and their tributaries, all interstate waters and their tributaries, natural lakes, all wetlands adjacent to other waters, and all impoundments of these waters. On April 21, 2014, the U.S. EPA proposed to refine the definition of waters of the United States to include all tributaries of traditional navigable waters, interstate waters, territorial seas, and

impoundments of such tributaries; wetlands adjacent to the foregoing; and waters other than wetlands that are adjacent to other jurisdictional waters.[5]

Wildlife Movement Corridors: Characterized as areas of habitat that are used by wildlife for the purpose of moving between locations.

3.4.1.2 Special-Status Species and Critical Habitat

Special-status species are generally defined as: (1) species listed as a candidate, threatened, or endangered under the federal or state Endangered Species Act; (2) species considered rare or endangered under the California Environmental Quality Act; (3) plants considered "Rare, Threatened, or Endangered in California" by the California Native Plant Society (Lists 1B and 2); (4) animal listed as "species of special concern" by the state; and (5) animals fully protected in California by the Fish and Game Code.

Critical habitat is a specific geographic area that is essential for the conservation of a threatened or endangered species and that may require special management and protection. Critical habitat is designated by the USFWS under the Federal Endangered Species Act (FESA) and cannot be disturbed without permission from the USFWS and other federal agencies, depending on land ownership. The listing process for individual species may include designation of critical habitat. Critical habitat may include an area that is not currently occupied by the species but that will be needed for its recovery. [6]

The following discussion is based on a background search of special-status species that are documented in the CNDDB,[7] the California Native Plant Society's (CNPS) Inventory of Rare and Endangered Plants,[8] and the US Fish and Wildlife Service's (USFWS) Endangered and Threatened species list.[9] The background search was regional in scope and focused on the documented occurrences within the boundaries of the SCAG region.

As described in **Table 3.4-1, Summary of Special-Status Species and Designated Critical Habitat in the SCAG Region,** below, there are 63 federally or state-listed wildlife species and 72 plant species with

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5 Federal Register. 2014. *Proposed Rules. 79(76).* April. Available online at: http://www.gpo.gov/fdsys/pkg/FR-2014-04-21/pdf/2014-07142.pdf, accessed March 19, 2019.

6 U.S. Department of Fish and Wildlife. *Critical Habitat under the Endangered Species Act*. Available online at: https://www.fws.gov/southeast/endangered-species-act/critical-habitat/, accessed August 26, 2019.

7 California Department of Fish and Wildlife. *California Natural Diversity Database*. Available online at: https://www.wildlife.ca.gov/Data/CNDDB, accessed August 26, 2019.

8 California Native Plant Society. *Welcome to the Inventory of Rare and Endangered Plants of California*. Available online at: http://www.rareplants.cnps.org/, accessed August 26, 2019.

9 U.S. Fish and Wildlife Services. *Endangered Species*. Available online at: https://www.fws.gov/endangered/, accessed August 26, 2019.

historical records located within the six counties of the SCAG region as well as nearly 5.5 million acres of designated critical habitat. **Table 3.4-1, Summary of Special-Status Species and Designated Critical Habitat in the SCAG Region,** provides further detail on the state- and federally- listed plant and animal species, as well as their affiliated critical habitat, within the SCAG region.

Table 3.4-1
Summary of Special-Status Species and Designated Critical Habitat in the SCAG Region

County	Number Federally and State-Listed Wildlife Species	Number Federally and State-Listed Plant Species	Acres of Critical Habitat
Imperial	19	4	423,065
Los Angeles	37	30	108,574
Orange	22	11	27,833
Riverside	34	21	938,789
San Bernardino	32	24	3,673,963
Ventura	28	19	358,793
Entire SCAG Region	63	72	5,530,964

Source: California Department of Fish and Wildlife. 2019. Rarefind 5: A Database Application for the Use of the California Department of Fish and Game Natural Diversity Data Base. Sacramento, CA.

Every county within the SCAG region contains USFWS-designated critical habitat for listed species (**Figure 3.4-1, Designated Critical Habitat in the SCAG Region**). Critical habitat for 46 of these federally listed species has been established within the SCAG region (see **Appendix 3.4**). San Bernardino, the largest county in the country, contains nearly 3,700,000 acres of designated critical habitat, or over 66% of the lands designated in the SCAG region. Both San Bernardino and Riverside each have designated habitat for 22 federally-listed species, the most of any SCAG counties. More than 86 percent (4,685,378 acres) of all the critical habitat in the region is for desert tortoise (Gopherus agassizii) and this species represents the largest designated critical habitat in the four of the six SCAG counties in which it is present (San Bernardino, Riverside, Los Angeles, and Imperial Counties). Coastal California gnatcatcher (Polioptila californica californica) has the largest critical habitat in Orange County (with 19,000 acres, or nearly 67 percent of the designated lands in the County). California Condor (Gymnogyps californianus) has nearly 180,000 acres designated in Ventra County, or almost 50 percent of all critical habitat designated in the County. Each county has designated critical habitat for a wide variety of species (including plants, amphibians, fish, reptiles, insects, crustaceans, birds, and mammals) and each county has a wide diversity of natural communities to support these species.

State and Federally Listed Species

A search of relevant literature and databases for the six counties of the SCAG region was performed to develop a list of 135 listed species and biological resources that could potentially occur in the SCAG region, as shown in **Table 3.4-2, Federally and State Listed Species Reported in the SCAG Region**.[10] These included federally listed threatened and endangered and state-listed threatened, endangered or rare species. Although only the third largest county in the region, Los Angeles had the greatest number of listed species with 67. Imperial County had the fewest species listed with 23.

Table 3.4-2
Federally and State Listed Species Reported in the SCAG Region

Scientific Names	Common Name	Status	Counties Where Reported	Designated Critical Habitat (Acres)
Plants				
Acanthoscyphus parishii var. goodmanian	Cushenbury oxytheca	FE, CRPR: 1B.1	SB	ND
Acmispon argophyllus var. adsurgens	San Clemente Island bird's-foot trefoil	SE, CRPR: 1B.1	LA	ND
Acmispon dendroideus var. traskiae	San Clemente Island lotus	FT, SE, CRPR: 1B.3	LA	ND
Allium munzii	Munz's onion	FE, ST, CRPR: 1B.1	RIV	98
Ambrosia pumila	San Diego ambrosia	FE, CRPR: 1B.1	RIV	307
Arenaria paludicola	Marsh sandwort	FE, SE, CRPR: 1B.1	LA, RIV, SB	ND
Astragalus albens	Cushenbury milk-vetch	FE, CRPR: 1B.1	SB	4,370
Astragalus brauntonii	Braunton's milk-vetch	FE, CRPR: 1B.1	LA, VEN, OR	3298
Astragalus jaegerianus	Lane Mountain milk-vetch	FE, CRPR: 1B.1	SB	14167
Astragalus lentiginosus var. coachellae	Coachella Valley milk-vetch	FE, CRPR: 1B.2	RIV	9671
Astragalus magdalenae var. peirsonii	Peirson's milk-vetch	FT, SE, CRPR: 1B.2	IMP	12105
Astragalus pyncnostachyus var. lanosissimus	Ventura Marsh milk-vetch	FE, SE, CRPR: 1B.1	LA, OR, VEN	220
Astragalus tener var. titi	Coastal dunes milk-vetch	FE, SE, CRPR: 1B.1	LA	ND
Astragalus traskiae	Trask's milkvetch	SR, CRPR: 1B.2	VEN	ND
Astragalus tricarinatus	Triple-ribbed milk vetch	FE, CRPR: 1B.2	RIV, SB	ND
Atriplex coronata var. notatior	San Jacinto valley crownscale	FE, CRPR: 1B.1	RIV	ND

10 CNDDB (RareFind 5): administered by CDFW; Biogeographical Data Branch inventories the status and locations of rare plants, animals, and natural communities in California.
CNPS online electronic Inventory of Rare and Endangered Vascular Plants of California
Calflora, Information on wild California plants for conservation, education, and appreciation. http://www.calflora.org/.
Information about birds. http://ebird.org.

Scientific Names	Common Name	Status	Counties Where Reported	Designated Critical Habitat (Acres)
Berberis nevinii	Nevin's barberry	FE, SE, CRPR: 1B.1	LA, RIV, SB	5.3
Berberis pinnata ssp. insularis	Island barberry	FE, SE, CRPR: 1B.2	VEN	ND
Boechera hoffmannii	Hoffmann's rockcress	FE, CRPR: 1B.1	VEN	ND
Brodiaea filifolia	Thread-leaved brodiaea		LA, OR, RIV, SB	2799
Castilleja cinerea	Ash-gray paintbrush	FT, CRPR: 1B.2	SB	1767
Castilleja gleasoni	Mt. Gleason paintbrush	SR, CRPR: 1B.2	LA	ND
Castilleja grisea	San Clemente Island paintbrush	FT, SE, CRPR: 1B.3	LA	ND
Ceanothus ophiochilus	Vail Lake ceanothus	FT, SE, CRPR: 1B.1	RIV	200
Cercocarpus traskiae	Catalina Island mountain-mohagany	FE, SE, CRPR: 1B.1	LA	ND
Chloropyron maritimum ssp. Maritimum	Salt marsh bird's-beak	FE, SE, CRPR: 1B.2	LA, OR, RIV, SB, VEN	ND
Chorizanthe parryi var. fernandina	San Fernando Valley spineflower	FPT, SE, CRPR: 1B.1	LA, OR, VEN	ND
Crocanthemum greenei	Island rush-rose	FT, CRPR: 1B.2	LA	ND
Croton wigginsii	Wiggins' croton	SR, CRPR: 2B.2	IMP	ND
Deinandra minthornii	Santa Susana tarplant	SR, CRPR: 1B.2	LA, VEN	ND
Deinandra mohavensis	Mojave tarplant	SE, CRPR: 1B.3	RIV, SB	ND
Delphinium hesperium ssp Cuyamacae	Cuyamaca larkspur	SR, CRPR: 1B.2	RIV	ND
Delphinium variegatum ssp. Kinkiense	San Clemente Island larkspur	FE, SE, CRPR: 1B.1	LA	ND
Dithyrea maritima	Beach spectaclepod	ST, CRPR: 1B.1	LA, VEN	ND
Dodecahema leptoceras	Slender-horned spineflower	FE, SE, CRPR: 1B.1	LA, RIV, SB	ND
Dudleya cymosa ssp. Agourensis	Agoura Hills dudleya	FT, CRPR: 1B.2	LA, VEN	ND
Dudleya cymosa ssp. Marcescens	Marcescent dudleya	FT, SR, CRPR: 1B.2	LA, VEN	ND
Dudleya cymosa ssp. Ovatifolia	Santa Monica dudleya	FT, CRPR: 1B.1	LA	ND
Dudleya parva	Conejo dudleya	FT, CRPR: 1B.2	VEN	ND
Dudleya stolonifera	Laguna Beach dudleya	FT, ST, CRPR: 1B.1	OR	ND
Dudleya verityi	Verity"s dudleya	FT, CRPR: 1B.1	VEN	ND
Eremalche parryi ssp. Kernensis	Kern mallow	FE, CRPR: 1B.22	VEN	ND
Eremogone ursina	Big Bear Valley sandwort	FT, CRPR: 1B.2	SB	1411
Eriastrum densifolium ssp. Sanctorum	Santa Ana River woollystar	FE, SE, CRPR: 1B.1	OR, RIV, SB	ND
Erigeron parishii	Parish's daisy	FT, CRPR: 1B.1	RIV, SB	4,420
Eriogonum crocatum	Conejo buckwheat	SR, CRPR: 1B.2	VEN	ND
Eriogonum grande var. timorum	San Nicolas Island buckwheat	SE, CRPR: 1B.1	VEN	ND
Eriogonum kennedyi var. austromontanum	Southern Mountain buckwheat	FT, CRPR: 1B.2	SB	ND
Eriogonum ovalifolium var. vineum	Cushenbury buckwheat	FE, CRPR: 1B.1	SB	6,950
Eriogonum thornei	Thorne's buckwheat	SE, CRPR: 1B.2	SB	ND
Eryngium aristulatum var. parishii	San Diego button celery	FE, SE, CRPR: 1B.1	IMP, RIV, LA, OR	ND

Scientific Names	Common Name	Status	Counties Where Reported	Designated Critical Habitat (Acres)
Galium angustifolium ssp. Borregoense	Borrego bedstraw	SR, CRPR: 1B.3	IMP	ND
Galium catalinense ssp. Acrispum	San Clemente Island bedstraw	SE, CRPR: 1B.3	LA	ND
Helianthus niveus ssp. Tephrodes	Algodones Dune's sunflower	SE, CRPR: 1B.2	IMP	ND
Ivesia callida	Tahquitz ivesia	SR, CRPR: 1B.3	RIV	ND
Lithophragma maximum	San Clemente Island woodland star	FE, SE, CRPR: 1B.1	LA	ND
Malacothamnus clementinus	San Clemente Island bush mallow	FE, SE, CRPR: 1B.1	LA	ND
Malacothrix squalida	Island malacothrix	FE, CRPR: 1B.1	VEN	ND
Nasturtium gambelii	Gambel's water cress	FE, ST, CRPR: 1B.1	LA, OR, SB	ND
Navarretia fossalis	Spreading navarretia	FT, CRPR: 1B.1	LA, RIV	6,519
Orcuttia californica	California orcutt grass	FE, SE, CRPR: 1B.1	LA, RIV, VEN, OR	ND
Packera ganderi	Gander's ragwort	SR, CRPR: 1B.2	RIV	ND
Pentachaeta lyonii	Lyon's pentachaeta	FE, SE, CRPR: 1B.1	LA, VEN	3,580
Physaria kingii ssp. Bernardina	San Bernardino Mountains bladderpod	FE, CRPR: 1B.1	SB	1,026
Poa atropurpurea	San Bernardino blue grass	FE, CRPR: 1B.2	SB	1,415
Sibara filifolia	Santa Cruz Island rock cress	FE, CRPR: 1B.1	LA	ND
Sidalcea hickmanii ssp. parishii	Parish's checkerbloom	SR, CRPR: 1B.2	SB	ND
Sidalcea pedata	Bird-foot checkerbloom	FE, SE, CRPR: 1B.1	SB	ND
Taraxacum californicum	California dandelion	FE, CRPR: 1B.1	SB	1,955
Thelypodium stenopetalum	Slender-petaled thelypodium	FE, SE, CRPR: 1B.1	SB	ND
Verbesina dissita	Big-leaved crownbeard	FT, ST, CRPR: 1B.1	OR	ND
Crustaceans				
Branchinecta conservation	Conservancy fairy shrimp	FE	VEN	46,430
Branchinecta lynchi	Vernal pool fairy shrimp	FT	LA, RIV	46,430
Branchinecta sandiegonensis	San Diego fairy shrimp	FE	RIV, OR	200
Streptocephalus woottoni	Riverside fairy shrimp	FE	LA, OR, RIV	2,050
Insects				
Dinacoma caseyi	Casey's June beetle	FE	RIV	594
Euphilotes battoides allyni	El Segundo blue butterfly	FE	LA	
Euphydryas editha quino	Quino checkerspot butterfly	FE	SB, LA, RIV, OR	22,023
Euproserpinus euterpe	Kern primrose sphinx moth	FT	VEN	ND
Glaucopsyche lygdamus palosverdesensis	Palos Verdes blue butterfly	FE	LA	91
Rhaphiomidas terminatus abdominalis	Delhi sands flower-loving fly	FE	RIV, SB	ND
Fish				

Scientific Names	Common Name	Status	Counties Where Reported	Designated Critical Habitat (Acres)
Catostomus santaanae	Santa Ana sucker	FT	LA, VEN, OR, RIV, SB	9,360
Cyprinodon macularius	Desert pupfish	FE, SE	IMP, RIV	ND
Eucyclogobius newberryi	Tidewater goby	FE	LA, OR, VEN	448
Gasterosteus aculeatus williamsoni	Unarmored threespine stickleback	FE, SE	LA, VEN, SB	ND
Gila elegans	Bonytail	FE, SE	IMP, SB	10,113
Oncorhynchus mykiss irideus	Southern steelhead – southern California DPS	FE	LA, OC, VEN, RIV	292
Ptychocheilus lucius	Colorado pikeminnow	FE, SE	IMP, SB	ND
Siphateles bicolor mohavensis	Mohave tui chub	FE, SE	SB, LA	ND
Xyrauchen texanus	Razorback sucker	FE, SE	IMP, RIV, SB	9,166
Amphibians				
Anaxyrus californicus	Arroyo toad	FE	LA, VEN, OR, RIV, SB	30,800
Batrachoseps major aridus	Desert slender salamander	FE, SE	RIV	ND
Rana boylii	Foothill yellow-legged frog	SCT	VEN, LA, SB	
Rana draytonii	California red-legged frog	FT	LA, RIV, SB, VEN	33,279
Rana muscosa	Southern mountain yellow-legged frog	FE, SE	LA, SB, RIV	8,280
Reptiles				
Charina umbratica	Southern rubber boa	ST	VEN, RIV, SB	ND
Chelonia mydas	Green turtle	FT	LA, OR	ND
Coleonyx switaki	Barefoot gecko	ST	IMP	ND
Gambelia sila	Blunt-nosed leopard lizard	FE, SE	VEN	ND
Gopherus agassizii	Desert tortoise	FT, ST	IMP, SB, LA, RIV	4,685,740
Uma inornata	Coachella Valley fringe-toed lizard	FT, SE	RIV	11,790
Birds				
Agelaius tricolor	Tricolored blackbird	ST	LA, OR, RIV, SB, VEN	ND
Artemisiospiza belli clementeae	San Clemente sage sparrow	FT	LA	ND
Buteo swainsoni	Swainson's hawk	ST	LA, OR, RIV, SB	ND
Charadrius alexandrinus nivosus	Western snowy plover	FT	IMP, LA, OR, RIV, SB, VEN	1,400
Coccyzus americanus occidentalis	Western yellow-billed cuckoo	FT, SE	IMP, LA, RIV, SB, VEN, OR	39,015
Colaptes chrysoides	Gilded flicker	SE	IMP, RIV, SB	ND
Empidonax traillii extimus	Southwestern willow flycatcher	FE, SE	IMP, LA, OR, RIV, SB, VEN	24,980
Gymnogyps californianus	California condor	FE, SE	VEN, LA	187,558
Haliaeetus leucocephalus	Bald eagle	SE	IMP, LA, OR, RIV, SB	ND

Scientific Names	Common Name	Status	Counties Where Reported	Designated Critical Habitat (Acres)
Lanius ludovicianus mearnsi	San Clemente loggerhead shrike	FE	LA	ND
Laterallus jamaicensis coturniculus	California black rail	ST	IMP, LA, OR, RIV, SB, VEN	ND
Melanerpes uropygialis	Gila woodpecker	SE	IMP, RIV, SB	ND
Micrathene whitneyi	Elf owl	SE	IMP, RIV, SB	ND
Passerculus sandwichensis beldingi	Belding's savannah sparrow	SE	LA, OR, VEN	ND
Polioptila californica	Coastal California gnatcatcher	FT	LA, VEN, OR, RIV, SB	120,891
Rallus obsoletus levipes	Light-footed Ridegway's clapper rail	FE, SE	OR, VEN	ND
Rallus obsoletus yumanensis	Yuma clapper rail	FE, ST	IMP, RIV, SB	ND
Riparia riparia	Bank swallow	ST	LA, OR, VEN	ND
Sterna antillarum browni	California least tern	FE, SE	LA, OR, VEN	ND
Synthliboramphus scrippsi	Scripps's murrelet	FC, ST	LA	ND
Vireo bellii arizonae	Arizona Bell's vireo	SE	IMP, RIV, SB	ND
Vireo bellii pusillus	Least Bell's vireo	FE, SE	IMP, LA, OR, VEN, RIV, SB	14,300
Mammals				
Ammospermophilus nelsoni	Nelson's antelope squirrel	ST	LA, VEN	ND
Arctocephalus townsendi	Guadalupe fur-seal	FT, ST	VEN	ND
Canis lupus	Gray wolf	FE, SE	SB	ND
Dipodomys merriami parvus	San Bernardino kangaroo rat	FE	LA, RIV, SB	33,290
Dipodomys stephensi	Stephen's kangaroo rat	FE, ST	RIV, SB	ND
Enhydra lutris nereis	Southern sea otter	FT	VEN	ND
Ovis canadensis nelson pop. 2	Peninsular bighorn sheep DPS	FE, ST	IMP, RIV	115,845
Perognathus longimembris pacificus	Pacific pocket mouse	FE	LA, OR	ND
Urocyon littoralis catalinae	Santa Catalina Island fox	FT, ST	LA	ND
Urocyon littoralis clementae	San Clemente Island fox	ST	LA	ND
Urocyon littoralis dickeyi	San Nicolas Island fox	ST	VEN	ND
Xerospermophilus mohavensis	Mohave ground squirrel	ST	LA, SB	ND

Note:
California Native Plant Society: California Rare Plant Rank (CRPR) 1B = Plants Rare, Threatened, or Endangered in California and Elsewhere; FC = Federal Candidate; FE = Federal Endangered; FT = Federal Threatened; SE = State Endangered; FPT = Federal Proposed Threatened; SR = State Rare; SCT= State Candidate Threatened; SB = San Bernardino County; LA = Los Angeles County; RIV = Riverside County; VEN = Ventura County; OR = Orange County; IMP = Imperial County; ND = none designated.

Sensitive Wildlife Species

A query of the CNDDB was performed to develop a list of sensitive wildlife species recognized by the CDFW as California Species of Special Concern, or species that are tracked by the CNDDB that could potentially occur in the SCAG region. In addition to the federally and State-listed wildlife species described above, there are 233 sensitive wildlife species with historic records located within the SCAG region (**Table 3.4-3, Sensitive Wildlife Species Reported in the SCAG Region,** and **Figure 3.4-2, Sensitive Wildlife Species Reported in the SCAG Region**).[11]

Of these 233 sensitive wildlife species, Riverside and San Bernardino Counties had the highest diversity of species observed (both with more than 21 percent of the total recorded for the SCAG region), followed closely by Los Angeles County (with more than 20 percent of the wildlife recorded), and then Imperial, Orange, and Ventura Counties (with a range of 12–13 percent of the recorded observations).

Table 3.4-3
Sensitive Wildlife Species Reported in the SCAG Region

Scientific Name	Common Name	Status	Counties Reported
Crustaceans			
Linderiella santarosae	Santa Rosa Plateau fairy shrimp	CSA	RIV
Mollusks			
Assiminea infima	Badwater snail	CSA	SB
Eremarionta immaculata	white desertsnail	CSA	RIV
Eremarionta morongoana	Morongo (=Colorado) desertsnail	CSA	SB
Eremarionta rowelli bakerensis	Baker's desertsnail	CSA	SB
Eremarionta rowelli mccoiana	California Mccoy snail	CSA	RIV
Haplotrema catalinense	Santa Catalina lancetooth	CSA	LA
Helminthoglypta ayresiana sanctaecrucis	Ayer's snail	CSA	VEN
Helminthoglypta mohaveana	Victorville shoulderband	CSA	SB
Helminthoglypta taylori	Westfork shoulderband	CSA	SB
Helminthoglypta traskii	Trask shoulderband	CSA	VEN
Micrarionta feralis	San Nicolas islandsnail	CSA	VEN
Micrarionta gabbi	San Clemente islandsnail	CSA	LA
Micrarionta opuntia	Pricklypear islandsnail	CSA	VEN
Pristiloma shepardae	Shepard's snail	CSA	LA

11 California Department of Fish and Wildlife. 2018. *CNDDB QuickView Tool in BIOS*. Available online at: https://www.wildlife.ca.gov/data/cnddb/maps-and-data#43018410-cnddb-quickview-tool, accessed January 14, 2019.

Scientific Name	Common Name	Status	Counties Reported
Radiocentrum avalonense	Catalina mountainsnail	CSA	LA
Sterkia clementina	San Clemente Island blunt-top snail	CSA	LA, VEN
Tryonia imitator	Mimic tryonia (=California brackishwater snail)	CSA	LA, OR, VEN
Xerarionta intercisa	Horseshoe snail	CSA	LA
Xerarionta redimita	Wreathed cactussnail	CSA	LA
Arachnids			
Calileptoneta oasa	Andreas Canyon leptonetid spider	CSA	RIV
Socalchemmis gertschi	Gertsch's socalchemmis spider	CSA	LA
Socalchemmis icenoglei	Icenogle's socalchemmis spider	CSA	RIV
Texella kokoweef	Kokoweef Crystal Cave harvestman	CSA	SB
Insects			
Aglaothorax longipennis	Santa Monica shieldback katydid	CSA	LA
Ammopelmatus kelsoensis	Kelso jerusalem cricket	CSA	SB
Anomala carlsoni	Carlson's dune beetle	CSA	IMP
Anomala hardyorum	Hardy's dune beetle	CSA	IMP
Belostoma saratogae	Saratoga Springs belostoman bug	CSA	SB
Brennania belkini	Belkin's dune tabanid fly	CSA	LA
Callophrys mossii hidakupa	San Gabriel Mountains elfin butterfly	CSA	LA, SB
Carolella busckana	Busck's gallmoth	CSA	LA, RIV, SB
Ceratochrysis bradleyi	Bradley's cuckoo wasp	CSA	RIV
Ceratochrysis longimala	Desert cuckoo wasp	CSA	LA, VEN, RIV
Cicindela gabbii	Western tidal-flat tiger beetle	CSA	LA, OR
Cicindela hirticollis gravida	Sandy beach tiger beetle	CSA	LA, OR, VEN
Cicindela latesignata	Western beach tiger beetle	CSA	LA, OR
Cicindela senilis frosti	Senile tiger beetle	CSA	LA, OR, RIV, VEN
Cicindela tranquebarica viridissima	Greenest tiger beetle	CSA	RIV
Coelus globosus	Globose dune beetle	CSA	LA, OR, VEN
Danaus plexippus	Monarch butterfly	CSA	LA, OR, VEN
Diplectrona californica	California diplectronan caddisfly	CSA	LA, SB
Euchloe hyantis andrewsi	Andrew's marble butterfly	CSA	SB
Eucosma hennei	Henne's eucosman moth	CSA	LA
Glaresis arenata	Kelso Dunes scarab glaresis beetle	CSA	SB
Halictus harmonius	Haromonius halictid bee	CSA	RIV, SB
Hedychridium argenteum	Riverside cuckoo wasp	CSA	RIV
Hydroporus simplex	Simple hydroporus diving beetle	CSA	SB
Lepismadora algodones	Algodones sand jewel beetle	CSA	IMP
Macrobaenetes kelsoensis	Kelso giant sand treader cricket	CSA	SB
Macrobaenetes valgum	Coachella giant sand treader cricket	CSA	RIV
Melitta californica	California mellitid bee	CSA	IMP, RIV

Scientific Name	Common Name	Status	Counties Reported
Miloderes nelsoni	Nelson's miloderes weevil	CSA	SB
Minymischa ventura	Ventura cuckoo wasp	CSA	VEN
Oliarces clara	Cheeseweed owlfly (cheeseweed moth lacewing)	CSA	IMP, RIV, SB
Onychobaris langei	Lange's El Segundo Dune weevil	CSA	LA
Panoquina errans	Wandering (=saltmarsh) skipper	CSA	LA, OR, VEN
Paranomada californica	California cuckoo bee	CSA	SB
Parnopes borregoensis	Borrego parnopes cuckoo wasp	CSA	SB
Pelocoris shoshone	Amargosa naucorid bug	CSA	SB
Plebejus saepiolus aureolus	San Gabriel Mountains blue butterfly	CSA	LA, SB
Plebulina emigdionis	San Emigdio blue butterfly	CSA	LA, VEN, SB
Polyphylla erratica	Death Valley June beetle	CSA	SB
Pseudocotalpa andrewsi	Andrew's dune scarab beetle	CSA	IMP
Psychomastax deserticola	Desert monkey grasshopper	CSA	SB
Rhaphiomidas terminatus terminates	El Segundo flower-loving fly	CSA	LA
Rhopalolemma robertsi	Roberts' rhopalolemma bee	CSA	RIV, SB
Stenopelmatus cahuilaensis	Coachella Valley jerusalem cricket	CSA	RIV
Trigonoscuta brunnotesselata	Brown tassel trigonoscuta weevil	CSA	SB
Trigonoscuta dorothea	Dorothy's El Segundo Dune weevil	CSA	LA, OR
Trimerotropis occidentiloides	Santa Monica grasshopper	CSA	LA, VEN
Fish			
Catostomus latipinnis	Flannelmouth sucker	CSA	SB
Cyprinodon nevadensis amargosae	Amargosa pupfish	SSC	SB
Cyprinodon nevadensis nevadensis	Saratoga Springs pupfish	SSC	SB
Gila orcuttii	Arroyo chub	SSC	SB, LA, VEN, OR, RIV
Rhinichthys osculus ssp. 1	Amargosa Canyon speckled dace	SSC	SB
Rhinichthys osculus ssp. 3	Santa Ana speckled dace	SSC	SB, LA, OR, RIV
Amphibians			
Batrachoseps gabrieli	San Gabriel slender salamander	CSA	LA, SB
Batrachoseps pacificus	Channel Islands slender salamander	CSA	VEN
Ensatina eschscholtzii croceator	Yellow-blotched salamander	SSC	LA
Ensatina klauberi	Large-blotched salamander	SSC	LA, RIV, SB
Incilius alvarius	Sonoran desert toad	SSC	IMP, SB
Lithobates pipiens	Northern leopard frog	SSC	IMP, OR, RIV
Lithobates yavapaiensis	Lowland (=Yavapai, San Sebastian & San Felipe) leopard frog	SSC	IMP, RIV
Rana boylii	Foothill yellow-legged frog	SSC	VEN
Scaphiopus couchii	Couch's spadefoot	SSC	IMP, RIV
Spea hammondii	Western spadefoot	SSC	LA, OR, RIV, VEN
Taricha torosa	Coast Range newt	SSC	LA, OR, RIV, VEN

Scientific Name	Common Name	Status	Counties Reported
Reptiles			
Anniella pulchra pulchra	Silvery legless lizard	SSC	LA, RIV, SB, VEN
Aspidoscelis hyperythra	Orangethroat whiptail	SSC	OR, RIV, SB
Aspidoscelis tigris stejnegeri	Coastal whiptail	CSA	LA, OR, RIV, SB, VEN
Charina trivirgata	Rosy boa	CSA	LA, OR, RIV, SB
Coleonyx variegatus abbotti	San Diego banded gecko	CSA	RIV
Crotalus ruber	Red-diamond rattlesnake	SSC	IMP, OR, RIV, SB
Diadophis punctatus modestus	San Bernardino ringneck snake	CSA	LA, RIV, SB
Emys marmorata	Western pond turtle	SSC	LA, OR, SB, RIV, VEN
Heloderma suspectum cinctum	Banded gila monster	SSC	IMP, SB, RIV
Kinosternon sonoriense	Sonoran mud turtle	SSC	IMP, RIV
Lampropeltis zonata (parvirubra)	California mountain kingsnake (San Bernardino population)	SSC	LA, RIV, SB
Lampropeltis zonata (pulchra)	California mountain kingsnake (San Diego population)	SSC	LA, OR
Phrynosoma blainvillii	Coast horned lizard	SSC	VEN, LA, OR, RIV, SB
Plestiodon skiltonianus interparietalis	Coronado Island skink	SSC	RIV
Salvadora hexalepis virgultea	Coast patch-nosed snake	SSC	OR, RIV, VEN
Thamnophis hammondii	Two-striped garter snake	SSC	LA, OR, RIV, SB, VEN
Thamnophis sirtalis ssp.	South coast garter snake	SSC	VEN
Uma notata	Colorado Desert fringe-toed lizard	SSC	IMP
Uma scoparia	Mojave fringe-toed lizard	SSC	SB, RIV
Birds			
Accipiter cooperii	Cooper's hawk	CSA	IMP, LA, OR, RIV, SB, VEN
Aimophila ruficeps canescens	Southern California rufous-crowned sparrow	CSA	LA, VEN, OR, RIV, SB
Ammodramus savannarum	Grasshopper sparrow	SSC	LA, OR
Aquila chrysaetos	Golden eagle	CFP	IMP, LA, OR, SB, RIV, VEN
Ardea alba	Great egret	CSA	IMP, RIV
Ardea herodias	Great blue heron	CSA	IMP, OR, RIV
Artemisiospiza belli belli	Bell's sage sparrow	CSA	LA, RIV, SB
Asio flammeus	Short-eared owl	SSC	LA
Asio otus	Long-eared owl	SSC	OR, RIV, SB
Athene cunicularia	Burrowing owl	SSC	IMP, LA, OR, RIV, SB, VEN
Buteo regalis	Ferruginous hawk	CSA	IMP, LA, OR, RIV, VEN
Calypte costae	Costa's hummingbird	CSA	SB
Campylorhynchus brunneicapillus sandiegensis	Coastal cactus wren	SSC	LA, OR, RIV
Cardinalis cardinalis	Northern cardinal	CSA	RIV, SB
Charadrius montanus	Mountain plover	SSC	IMP, RIV, LA, SB
Circus cyaneus	Northern harrier	SSC	OR, RIV
Cypseloides niger	Black swift	SSC	LA, RIV, SB

Scientific Name	Common Name	Status	Counties Reported
Dendragapus fuliginosus howardi	Mount Pinos sooty grouse	SSC	VEN
Egretta thula	Snowy egret	CSA	RIV
Elanus leucurus	White-tailed kite	CFP	LA, OR, RIV, SB, VEN
Eremophila alpestris actia	California horned lark	CSA	LA, OR, RIV, SB, VEN
Falco columbarius	Merlin	CSA	IMP, LA, RIV
Falco mexicanus	Prairie falcon	CSA	IMP, VEN, LA, RIV, SB
Gelochelidon nilotica	Gull-billed tern	SSC	IMP, RIV
Hydroprogne caspia	Caspian tern	CSA	IMP
Icteria virens	Yellow-breasted chat	SSC	IMP, LA, OR, RIV, SB, VEN
Ixobrychus exilis	Least bittern	SSC	IMP
Junco hyemalis caniceps	Gray-headed junco	CSA	IMP, RIV, SB
Lanius ludovicianus	Loggerhead shrike	SSC	IMP, LA, RIV, SB
Larus californicus	California gull	CSA	IMP
Melospiza melodia graminea	Channel Island song sparrow	SSC	LA
Myiarchus tyrannulus	Brown-crested flycatcher	CSA	IMP, RIV, SB
Nycticorax nycticorax	Black-crowned night heron	CSA	RIV
Oceanodroma homochroa	Ashy storm-petrel	SSC	LA, VEN
Oreothlypis luciae	Lucy's warbler	SSC	IMP, SB
Oreothlypis virginiae	Virginia's warbler	CSA	SB
Pandion haliaetus	Osprey	CSA	OR
Phalacrocorax auritus	Double-crested cormorant	CSA	VEN
Piranga flava	Hepatic tanager	CSA	SB
Piranga rubra	Summer tanager	SSC	IMP, RIV, SB
Plegadis chihi	White-faced ibis	CSA	IMP, RIV, LA
Polioptila melanura	Black-tailed gnatcatcher	CSA	IMP, RIV, SB
Progne subis	Purple martin	SSC	RIV
Pyrocephalus rubinus	Vermilion flycatcher	SSC	IMP, RIV, SB
Rynchops niger	Black skimmer	SSC	IMP, OR, RIV
Setophaga petechia	Yellow warbler	SSC	IMP, LA, RIV, SB, VEN
Setophaga petechia sonorana	Sonoran yellow warbler	SSC	IMP, RIV, SB
Spinus lawrencei	Lawrence's goldfinch	CSA	RIV
Toxostoma bendirei	Bendire's thrasher	SSC	RIV, SB
Toxostoma crissale	Crissal thrasher	SSC	IMP, RIV, SB
Toxostoma lecontei	Le Conte's thrasher	SSC	IMP, RIV, LA, SB
Vireo vicinior	Gray vireo	SSC	SB
Xanthocephalus xanthocephalus	Yellow-headed blackbird	SSC	RIV
Mammals			
Antrozous pallidus	Pallid bat	SSC	IMP, RIV, LA, OR, SB, VEN
Chaetodipus californicus femoralis	Dulzura pocket mouse	SSC	OR, RIV, VEN
Chaetodipus fallax fallax	Northwestern San Diego pocket mouse	SSC	LA, RIV, SB

Scientific Name	Common Name	Status	Counties Reported
Chaetodipus fallax pallidus	Pallid San Diego pocket mouse	SSC	IMP, RIV, LA, SB
Choeronycteris mexicana	Mexican long-tongued bat	SSC	OR, VEN
Dipodomys merriami collinus	Earthquake Merriam's kangaroo rat	CSA	RIV
Euderma maculatum	Spotted bat	SSC	LA, RIV, SB
Eumops perotis californicus	Western mastiff bat	SSC	IMP, LA, OR, VEN, RIV, SB
Glaucomys sabrinus californicus	San Bernardino flying squirrel	SSC	RIV, SB
Lasionycteris noctivagans	Silver-haired bat	CSA	LA, SB
Lasiurus blossevillii	Western red bat	SSC	LA, OR
Lasiurus cinereus	Hoary bat	CSA	IMP, RIV, LA, SB, VEN
Lasiurus xanthinus	Western yellow bat	SSC	IMP, LA, RIV, SB
Lepus californicus bennettii	San Diego black-tailed jackrabbit	SSC	LA, RIV, SB
Lontra canadensis sonora	Southwestern river otter	SSC	SB
Macrotus californicus	California leaf-nosed bat	SSC	IMP, LA, VEN, RIV, SB
Microtus californicus mohavensis	Mohave river vole	SSC	SB
Microtus californicus stephensi	South coast marsh vole	SSC	LA, OR, VEN
Myotis ciliolabrum	Western small-footed myotis	CSA	IMP, LA, SB, VEN
Myotis evotis	Long-eared myotis	CSA	LA, SB
Myotis occultus	Arizona Myotis	SSC	IMP, RIV
Myotis thysanodes	Fringed myotis	CSA	LA, RIV, SB, VEN
Myotis velifer	Cave myotis	SSC	IMP, RIV, SB
Myotis volans	Long-legged myotis	CSA	SB, LA, VEN
Myotis yumanensis	Yuma myotis	CSA	IMP, LA, OR, RIV, SB
Neotamias panamintinus acrus	Kingston Mountain chipmunk	CSA	SB
Neotamias speciosus callipeplus	Mount Pinos chipmunk	CSA	VEN
Neotamias speciosus speciosus	Lodgepole chipmunk	CSA	LA, RIV, SB
Neotoma albigula venusta	Colorado Valley woodrat	CSA	IMP, RIV, SB
Neotoma lepida intermedia	San Diego desert woodrat	SSC	LA, OR, RIV, SB, VEN
Nyctinomops femorosaccus	Pocketed free-tailed bat	SSC	IMP, LA, OR, RIV, SB
Nyctinomops macrotis	Big free-tailed bat	SSC	IMP, LA, OR, RIV
Onychomys torridus ramona	Southern grasshopper mouse	SSC	IMP, LA, RIV, SB
Ovis canadensis nelsoni	Desert bighorn sheep	CFP	IMP, RIV, SB, LA
Perognathus alticolus alticolus	White-eared pocket mouse	SSC	SB
Perognathus alticolus inexpectatus	Tehachapi pocket mouse	SSC	LA, VEN
Perognathus inornatus	San Joaquin Pocket Mouse	CSA	LA, VEN
Perognathus longimembris bangsi	Palm Springs pocket mouse	SSC	IMP, RIV
Perognathus longimembris brevinasus	Los Angeles pocket mouse	SSC	LA, RIV, SB
Perognathus longimembris internationalis	Jacumba pocket mouse	SSC	RIV
Peromyscus maniculatus anacapae	Anacapa Island deer mouse	SSC	VEN
Puma concolor browni	Yuma mountain lion	SSC	IMP

Scientific Name	Common Name	Status	Counties Reported
Sigmodon arizonae plenus	Colorado River cotton rat	SSC	RIV, SB
Sigmodon hispidus eremicus	Yuma hispid cotton rat	SSC	IMP
Sorex ornatus salicornicus	Southern California saltmarsh shrew	SSC	LA, OR, VEN
Sorex ornatus willetti	Santa Catalina shrew	SSC	LA
Taxidea taxus	American badger	SSC	IMP, RIV, LA, SB, VEN, OR
Xerospermophilus tereticaudus chlorus	Palm Springs round-tailed ground squirrel	SSC	RIV

Note:
SSC = California Species of Special Concern; CFP = California Fully Protected; CSA = California Special Animal; SB = San Bernardino County; LA = Los Angeles County; RIV = Riverside County; VEN = Ventura County; OR = Orange County; IMP = Imperial County.*
** California Special Animal (CSA) is a general term that refers to all of the taxa the CNDDB is interested in tracking, regardless of their legal or protection status. The Department of Fish and Wildlife considers the taxa on this list to be those of greatest conservation need. For those species with statuses identified by USFWS and/or CDFW, the status is noted. Those species included on the list due to identification by other governmental agencies and/or non-governmental conservation organizations are listed as CSA.*
Source: California Department of Fish and Wildlife. 2018. CNDDB QuickView Tool in BIOS. Available online at: https://www.wildlife.ca.gov/data/cnddb/maps-and-data#43018410-cnddb-quickview-tool, accessed January 14, 2019.

Rare and Locally Important Plants

Rare plants and plants of local importance are recorded by the CNDDB and the CNPS Rare Plan Inventory. In addition to the federally and state-listed plant species described above, there are 449 locally important plant species with historic records located within the SCAG region as shown in **Table 3.4-4, Rare and Locally Important Plants Reported in the SCAG Region**. As described below, the greatest number, representing more than 36 percent of 449 species recorded, were found in San Bernardino County, with 20 percent in Los Angeles and Riverside Counties, and less than 10 percent in Orange, Imperial and Ventura Counties.

Table 3.4-4
Rare and Locally Important Plants Reported in the SCAG Region

Scientific Name	Common Name	Status	Counties Where Reported
Abronia villosa var. aurita	chaparral sand-verbena	1B.1	IMP, OR, RIV, SB
Abutilon parvulum	dwarf abutilon	2B.3	SB
Acanthoscyphus parishii var. abramsii	Abrams' oxytheca	1B.2	VEN
Acanthoscyphus parishii var. cienegensis	Cienega Seca oxytheca	1B.3	SB
Acleisanthes longiflora	angel trumpets	2B.3	RIV
Acleisanthes nevadensis	desert wing-fruit	2B.1	SB
Acmispon argyraeus var. multicaulis	scrub lotus	1B.3	SB

Scientific Name	Common Name	Status	Counties Where Reported
Acmispon argyraeus var. notitius	Providence Mountains lotus	1B.3	SB
Acmispon haydonii	pygmy lotus	1B.3	IMP, RIV
Ageratina herbacea	desert ageratina	2B.3	SB
Aliciella ripleyi	Ripley's aliciella	2B.3	SB
Aliciella triodon	coyote gilia	2B.2	SB
Allium atrorubens var. atrorubens	Great Basin onion	2B.3	SB
Allium howellii var. clokeyi	Mt. Pinos onion	1B.3	LA, SB, VEN
Allium marvinii	Yucaipa onion	1B.2	RIV, SB
Allium nevadense	Nevada onion	2B.3	SB
Almutaster pauciflorus	alkali marsh aster	2B.2	RIV, SB
Ambrosia monogyra	singlewhorl burrobrush	2B.2	RIV, SB
Androstephium breviflorum	small-flowered androstephium	2B.2	RIV, SB
Anomobryum julaceum	slender silver moss	4.2	LA
Antennaria marginata	white-margined everlasting	2B.3	SB
Aphanisma blitoides	aphanisma	1B.2	LA, OR, VEN
Arctomecon merriamii	white bear poppy	2B.2	SB
Arctostaphylos catalinae	Santa Catalina Island manzanita	1B.2	LA
Arctostaphylos glandulosa ssp. gabrielensis	San Gabriel manzanita	1B.2	LA, SB
Arctostaphylos rainbowensis	Rainbow manzanita	1B.1	RIV
Arenaria lanuginosa var. saxosa	rock sandwort	2B.3	SB
Argyrochosma limitanea ssp. limitanea	southwestern false cloak-fern	2B.1	SB
Asclepias nyctaginifolia	Mojave milkweed	2B.1	SB
Astragalus allochrous var. playanus	playa milk-vetch	2B.2	SB
Astragalus bernardinus	San Bernardino milk-vetch	1B.2	RIV, SB
Astragalus cimae var. cimae	Cima milk-vetch	1B.2	SB
Astragalus didymocarpus var. milesianus	Miles' milk-vetch	1B.2	VEN
Astragalus hornii var. hornii	Horn's milk-vetch	1B.1	SB
Astragalus insularis var. harwoodii	Harwood's milk-vetch	2B.2	IMP, RIV, SB
Astragalus lentiginosus var. antonius	San Antonio milk-vetch	1B.3	LA, SB
Astragalus lentiginosus var. sierrae	Big Bear Valley milk-vetch	1B.2	SB
Astragalus leucolobus	Big Bear Valley woollypod	1B.2	LA, RIV, SB
Astragalus nevinii	San Clemente Island milk-vetch	1B.2	LA
Astragalus pachypus var. jaegeri	Jaeger's milk-vetch	1B.1	RIV

Scientific Name	Common Name	Status	Counties Where Reported
Astragalus preussii var. laxiflorus	Lancaster milk-vetch	1B.1	LA, RIV
Astragalus preussii var. preussii	Preuss' milk-vetch	2B.1	SB
Astragalus sabulonum	gravel milk-vetch	2B.2	IMP, RIV
Astragalus tidestromii	Tidestrom's milk-vetch	2B.2	SB
Astrolepis cochisensis ssp. cochisensis	scaly cloak fern	2B.3	SB
Atriplex coulteri	Coulter's saltbush	1B.2	LA, OR, SB, VEN
Atriplex pacifica	south coast saltscale	1B.2	LA, OR, VEN
Atriplex parishii	Parish's brittlescale	1B.1	LA, OR, RIV, SB
Atriplex serenana var. davidsonii	Davidson's saltscale	1B.2	LA, OR, RIV, VEN
Ayenia compacta	California ayenia	2B.3	IMP, RIV, SB
Baccharis malibuensis	Malibu baccharis	1B.1	LA, OR, VEN
Bahia neomexicana	many-flowered bahia	2B.3	SB
Berberis fremontii	Fremont barberry	2B.3	SB
Berberis harrisoniana	Kofa Mountain barberry	1B.2	SB
Bergerocactus emoryi	golden-spined cereus	2B.2	LA
Blepharidachne kingii	King's eyelash grass	2B.3	SB
Boechera dispar	pinyon rockcress	2B.3	RIV, SB
Boechera johnstonii	Johnston's rockcress	1B.2	RIV
Boechera lincolnensis	Lincoln rockcress	2B.3	RIV, SB
Boechera parishii	Parish's rockcress	1B.2	SB
Boechera peirsonii	San Bernardino rockcress	1B.2	SB
Boechera shockleyi	Shockley's rockcress	2B.2	SB
Botrychium ascendens	upswept moonwort	2B.3	SB
Botrychium crenulatum	scalloped moonwort	2B.2	LA, SB
Bouteloua trifida	three-awned grama	2B.3	SB
Brodiaea kinkiensis	San Clemente Island brodiaea	1B.2	LA
Brodiaea orcuttii	Orcutt's brodiaea	1B.1	RIV
Brodiaea santarosae	Santa Rosa Basalt brodiaea	1B.2	RIV
Bursera microphylla	little-leaf elephant tree	2B.3	IMP, RIV
Calliandra eriophylla	pink fairy-duster	2B.3	IMP, RIV
Calochortus clavatus var. gracilis	slender mariposa-lily	1B.2	LA, VEN
Calochortus fimbriatus	late-flowered mariposa-lily	1B.3	LA, VEN

Scientific Name	Common Name	Status	Counties Where Reported
Calochortus palmeri var. munzii	San Jacinto mariposa-lily	1B.2	RIV
Calochortus palmeri var. palmeri	Palmer's mariposa-lily	1B.2	LA, RIV, SB, VEN
Calochortus plummerae	Plummer's mariposa-lily	4.2	LA, OR, RIV, SB, VEN
Calochortus striatus	alkali mariposa-lily	1B.2	LA, SB
Calochortus weedii var. intermedius	intermediate mariposa-lily	1B.2	LA, OR, RIV, SB
Calyptridium pygmaeum	pygmy pussypaws	1B.2	SB
Calystegia felix	lucky morning-glory	1B.1	LA, RIV, SB
Calystegia peirsonii	Peirson's morning-glory	4.2	LA
Camissoniopsis guadalupensis ssp. clementina	San Clemente Island evening-primrose	1B.2	LA
Canbya candida	white pygmy-poppy	4.2	LA, SB
Carex comosa	bristly sedge	2B.1	SB
Carex occidentalis	western sedge	2B.3	LA, RIV, SB
Carnegiea gigantea	saguaro	2B.2	IMP, SB
Castela emoryi	Emory's crucifixion-thorn	2B.2	IMP, RIV, SB
Castilleja hololeuca	island white-felted paintbrush	1B.2	VEN
Castilleja lasiorhyncha	San Bernardino Mountains owl's-clover	1B.2	RIV, SB
Caulanthus lemmonii	Lemmon's jewelflower	1B.2	VEN
Caulanthus simulans	Payson's jewelflower	4.2	RIV
Centromadia parryi ssp. australis	southern tarplant	1B.1	LA, OR, VEN
Centromadia pungens ssp. laevis	smooth tarplant	1B.1	LA, RIV, SB
Chaenactis carphoclinia var. peirsonii	Peirson's pincushion	1B.3	IMP
Chaenactis glabriuscula var. orcuttiana	Orcutt's pincushion	1B.1	LA, OR, VEN
Chaenactis parishii	Parish's chaenactis	1B.3	RIV
Chenopodium littoreum	coastal goosefoot	1B.2	LA
Chloropyron tecopense	Tecopa bird's-beak	1B.2	SB
Chorizanthe blakleyi	Blakley's spineflower	1B.3	VEN
Chorizanthe parryi var. parryi	Parry's spineflower	1B.1	LA, RIV, SB
Chorizanthe polygonoides var. longispina	long-spined spineflower	1B.2	OR, RIV
Chorizanthe xanti var. leucotheca	white-bracted spineflower	1B.2	RIV, SB
Chylismia arenaria	sand evening-primrose	2B.2	IMP, RIV, SB
Cirsium arizonicum var. tenuisectum	desert mountain thistle	1B.2	SB

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Cirsium occidentale var. compactum	compact cobwebby thistle	1B.2	LA
Cladium californicum	California saw-grass	2B.2	LA, RIV, SB
Clarkia xantiana ssp. parviflora	Kern Canyon clarkia	4.2	LA
Claytonia lanceolata var. peirsonii	Peirson's spring beauty	3.1	SB
Clinopodium chandleri	San Miguel savory	1B.2	OR, RIV
Colubrina californica	Las Animas colubrina	2B.3	IMP, RIV
Comarostaphylis diversifolia ssp. diversifolia	summer holly	1B.2	OR
Constancea nevinii	Nevin's woolly sunflower	1B.3	LA
Cordylanthus parviflorus	small-flowered bird's-beak	2B.3	SB
Coryphantha alversonii	Alverson's foxtail cactus	4.3	RIV, SB
Coryphantha chlorantha	desert pincushion	2B.1	SB
Coryphantha vivipara var. rosea	viviparous foxtail cactus	2B.2	SB
Crossosoma californicum	Catalina crossosoma	1B.2	LA
Cryptantha clokeyi	Clokey's cryptantha	1B.2	LA, SB
Cryptantha traskiae	Trask's cryptantha	1B.1	LA, VEN
Cryptantha wigginsii	Wiggins' cryptantha	1B.2	LA, RIV
Cuscuta obtusiflora var. glandulosa	Peruvian dodder	2B.2	LA, SB
Cylindropuntia munzii	Munz's cholla	1B.3	IMP, RIV
Cymopterus deserticola	desert cymopterus	1B.2	LA, SB
Cymopterus gilmanii	Gilman's cymopterus	2B.3	SB
Cymopterus multinervatus	purple-nerve cymopterus	2B.2	RIV, SB
Delphinium parryi ssp. blochmaniae	dune larkspur	1B.2	VEN
Delphinium scaposum	bare-stem larkspur	2B.3	SB
Delphinium umbraculorum	umbrella larkspur	1B.3	VEN
Delphinium variegatum ssp. thornei	Thorne's royal larkspur	1B.1	LA
Dendromecon harfordii var. rhamnoides	south island bush-poppy	3.1	LA
Dieteria canescens var. ziegleri	Ziegler's aster	1B.2	RIV
Digitaria californica var. californica	Arizona cottontop	2B.3	IMP, SB
Diplacus mohavensis	Mojave monkeyflower	1B.2	SB
Diplacus traskiae	Santa Catalina Island monkeyflower	1A	LA
Dissanthelium californicum	California dissanthelium	1B.2	LA

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Ditaxis claryana	glandular ditaxis	2B.2	IMP, RIV, SB
Ditaxis serrata var. californica	California ditaxis	3.2	RIV
Draba saxosa	Southern California rock draba	1B.3	RIV
Drymocallis cuneifolia var. cuneifolia	wedgeleaf woodbeauty	1B.1	SB
Drymocallis cuneifolia var. ewanii	Ewan's woodbeauty	1B.3	LA
Dryopteris filix-mas	male fern	2B.3	SB
Dudleya abramsii ssp. affinis	San Bernardino Mountains dudleya	1B.2	SB
Dudleya blochmaniae ssp. blochmaniae	Blochman's dudleya	1B.1	LA, OR, VEN
Dudleya cymosa ssp. crebrifolia	San Gabriel River dudleya	1B.2	LA
Dudleya densiflora	San Gabriel Mountains dudleya	1B.1	LA
Dudleya multicaulis	many-stemmed dudleya	1B.2	LA, OR, RIV, SB
Dudleya virens ssp. hassei	Catalina Island dudleya	1B.2	LA
Dudleya virens ssp. insularis	island green dudleya	1B.2	LA, VEN
Dudleya virens ssp. virens	bright green dudleya	1B.2	LA
Dudleya viscida	sticky dudleya	1B.2	OR, RIV
Echinocereus engelmannii var. howei	Howe's hedgehog cactus	1B.1	SB
Elymus salina	Salina Pass wild-rye	2B.3	SB
Enneapogon desvauxii	nine-awned pappus grass	2B.2	SB
Eremogone congesta var. charlestonensis	Charleston sandwort	1B.3	SB
Eremothera boothii ssp. boothii	Booth's evening-primrose	2B.3	RIV, SB
Eremothera boothii ssp. intermedia	Booth's hairy evening-primrose	2B.3	SB
Eriastrum harwoodii	Harwood's eriastrum	1B.2	IMP, RIV, SB
Eriastrum rosamondense	Rosamond eriastrum	1B.1	LA
Erigeron oxyphyllus	wand-like fleabane daisy	2B.3	SB
Erigeron uncialis var. uncialis	limestone daisy	1B.2	SB
Erigeron utahensis	Utah daisy	2B.3	SB
Eriodictyon angustifolium	narrow-leaved yerba santa	2B.3	SB
Eriogonum bifurcatum	forked buckwheat	1B.2	SB
Eriogonum contiguum	Reveal's buckwheat	2B.3	SB
Eriogonum evanidum	vanishing wild buckwheat	1B.1	RIV, SB
Eriogonum giganteum var. formosum	San Clemente Island buckwheat	1B.2	LA

Scientific Name	Common Name	Status	Counties Where Reported
Eriogonum kennedyi var. alpigenum	southern alpine buckwheat	1B.3	LA, SB, VEN
Eriogonum microthecum var. johnstonii	Johnston's buckwheat	1B.3	LA, SB
Eriogonum microthecum var. lacus- ursi	Bear Lake buckwheat	1B.1	SB
Eriogonum umbellatum var. juniporinum	juniper sulphur-flowered buckwheat	2B.3	SB
Erioneuron pilosum	hairy erioneuron	2B.3	SB
Eriophyllum mohavense	Barstow woolly sunflower	1B.2	LA, SB
Erysimum insulare	island wallflower	1B.3	VEN
Erythranthe exigua	San Bernardino Mountains monkeyflower	1B.2	SB
Erythranthe purpurea	little purple monkeyflower	1B.2	SB
Eschscholzia minutiflora ssp. twisselmannii	Red Rock poppy	1B.2	SB
Eucnide rupestris	annual rock-nettle	2B.2	IMP
Euphorbia abramsiana	Abrams' spurge	2B.2	IMP, RIV, SB
Euphorbia arizonica	Arizona spurge	2B.3	IMP, RIV
Euphorbia exstipulata var. exstipulata	Clark Mountain spurge	2B.1	SB
Euphorbia jaegeri	Orocopia Mountains spurge	1B.1	RIV, SB
Euphorbia misera	cliff spurge	2B.2	LA, OR, RIV
Euphorbia parryi	Parry's spurge	2B.3	SB
Euphorbia platysperma	flat-seeded spurge	1B.2	IMP, RIV, SB
Fimbristylis thermalis	hot springs fimbristylis	2B.2	LA, SB
Frasera albomarginata var. albomarginata	desert green-gentian	2B.2	SB
Frasera albomarginata var. induta	Clark Mountain green-gentian	1B.2	SB
Fritillaria ojaiensis	Ojai fritillary	1B.2	VEN
Funastrum crispum	wavyleaf twinvine	2B.2	RIV
Galium angustifolium ssp. jacinticum	San Jacinto Mountains bedstraw	1B.3	RIV
Galium californicum ssp. primum	Alvin Meadow bedstraw	1B.2	RIV, SB
Galium catalinense ssp. catalinense	Santa Catalina Island bedstraw	1B.3	LA
Galium grande	San Gabriel bedstraw	1B.2	LA
Galium hilendiae ssp. kingstonense	Kingston Mountains bedstraw	1B.3	SB
Galium proliferum	desert bedstraw	2B.2	SB
Galium wrightii	Wright's bedstraw	2B.3	SB

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Gambelia speciosa	showy island snapdragon	1B.2	LA
Gentiana fremontii	Fremont's gentian	2B.3	SB
Geothallus tuberosus	Campbell's liverwort	1B.1	RIV
Geraea viscida	sticky geraea	2B.2	IMP
Gilia leptantha ssp. leptantha	San Bernardino gilia	1B.3	SB
Githopsis diffusa ssp. filicaulis	Mission Canyon bluecup	3.1	RIV
Glossopetalon pungens	pungent glossopetalon	1B.2	SB
Graphis saxorum	Baja rock lichen	3	LA
Grimmia vaginulata	vaginulate grimmia	1B.1	SB
Grusonia parishii	Parish's club-cholla	2B.2	RIV, SB
Harpagonella palmeri	Palmer's grapplinghook	4.2	LA, OR, RIV
Hazardia cana	San Clemente Island hazardia	1B.2	LA
Hedeoma drummondii	Drummond's false pennyroyal	2B.2	SB
Helianthus inexpectatus	Newhall sunflower	1B.1	LA
Helianthus nuttallii ssp. parishii	Los Angeles sunflower	1A	LA, OR, SB
Herissantia crispa	curly herissantia	2B.3	IMP
Hesperocyparis forbesii	Tecate cypress	1B.1	OR, RIV
Heuchera hirsutissima	shaggy-haired alumroot	1B.3	RIV
Heuchera maxima	island alumroot	1B.2	VEN
Heuchera parishii	Parish's alumroot	1B.3	RIV, SB
Horkelia cuneata var. puberula	mesa horkelia	1B.1	LA, OR, RIV, SB, VEN
Horkelia wilderae	Barton Flats horkelia	1B.1	SB
Hulsea californica	San Diego sunflower	1B.3	RIV
Hulsea mexicana	Mexican hulsea	2B.3	IMP
Hulsea vestita ssp. pygmaea	pygmy hulsea	1B.3	SB
Hymenopappus filifolius var. eriopodus	hairy-podded fine-leaf hymenopappus	2B.3	SB
Hymenoxys odorata	bitter hymenoxys	2B.1	IMP, RIV, SB
Imperata brevifolia	California satintail	2B.1	IMP, LA, OR, RIV, SB, VEN
Ipomopsis effusa	Baja California ipomopsis	2B.1	IMP
Ipomopsis tenuifolia	slender-leaved ipomopsis	2B.3	IMP
Isocoma menziesii var. decumbens	decumbent goldenbush	1B.2	LA, OR, VEN
Ivesia argyrocoma var. argyrocoma	silver-haired ivesia	1B.2	SB
Ivesia jaegeri	Jaeger's ivesia	1B.3	SB
Ivesia patellifera	Kingston Mountains ivesia	1B.3	SB
Jaffueliobryum raui	Rau's jaffueliobryum moss	2B.3	RIV, SB

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Jaffueliobryum wrightii	Wright's jaffueliobryum moss	2B.3	RIV, SB
Juncus interior	inland rush	2B.2	SB
Juncus luciensis	Santa Lucia dwarf rush	1B.2	RIV
Juncus nodosus	knotted rush	2B.3	SB
Koeberlinia spinosa var. tenuispina	slender-spined all thorn	2B.2	IMP, RIV
Lasthenia glabrata ssp. coulteri	Coulter's goldfields	1B.1	LA, OR, RIV, SB, VEN
Lavatera assurgentiflora ssp. assurgentiflora	island mallow	1B.1	VEN
Lavatera assurgentiflora ssp. glabra	southern island mallow	1B.1	LA
Layia heterotricha	pale-yellow layia	1B.1	VEN
Lepechinia cardiophylla	heart-leaved pitcher sage	1B.2	OR, RIV
Lepechinia rossii	Ross' pitcher sage	1B.2	LA, VEN
Lepidium virginicum var. robinsonii	Robinson's pepper-grass	4.3	LA, OR, RIV, SB, VEN
Leptosiphon floribundus ssp. hallii	Santa Rosa Mountains leptosiphon	1B.3	RIV
Leptosiphon pygmaeus ssp. pygmaeus	pygmy leptosiphon	1B.2	LA
Lewisia brachycalyx	short-sepaled lewisia	2B.2	LA, SB
Lilium parryi	lemon lily	1B.2	LA, RIV, SB
Linanthus bernardinus	Pioneertown linanthus	1B.2	SB
Linanthus concinnus	San Gabriel linanthus	1B.2	LA, SB
Linanthus jaegeri	San Jacinto linanthus	1B.2	RIV
Linanthus killipii	Baldwin Lake linanthus	1B.2	SB
Linanthus maculatus ssp. emaculatus	Jacumba Mountains linanthus	1B.1	IMP
Linanthus maculatus ssp. maculatus	Little San Bernardino Mtns. linanthus	1B.2	RIV, SB
Linanthus orcuttii	Orcutt's linanthus	1B.3	RIV, SB
Linum puberulum	plains flax	2B.3	SB
Lithospermum incisum	plains stoneseed	2B.3	SB
Loeflingia squarrosa var. artemisiarum	sagebrush loeflingia	2B.2	LA, SB
Lomatium insulare	San Nicolas Island lomatium	1B.2	LA, VEN
Lonicera subspicata var. subspicata	Santa Barbara honeysuckle	1B.2	LA
Lupinus albifrons var. medius	Mountain Springs bush lupine	1B.3	IMP
Lupinus guadalupensis	Guadalupe Island lupine	4.2	LA
Lupinus paynei	Payne's bush lupine	1B.1	LA, VEN
Lupinus peirsonii	Peirson's lupine	1B.3	LA
Lycium brevipes var. hassei	Santa Catalina Island desert-thorn	3.1	LA, OR
Lycium exsertum	Arizona desert-thorn	2B.1	SB
Lycium parishii	Parish's desert-thorn	2B.3	IMP, SB
Lycium verrucosum	San Nicolas Island desert-thorn	1A	VEN
Lyonothamnus floribundus ssp. aspleniifolius	Santa Cruz Island ironwood	1B.2	LA
Lyonothamnus floribundus ssp. floribundus	Santa Catalina Island ironwood	1B.2	LA
Malacothamnus davidsonii	Davidson's bush-mallow	1B.2	LA, VEN
Malacothamnus parishii	Parish's bush-mallow	1A	SB
Malacothrix foliosa ssp. crispifolia	wavy-leaved malacothrix	1B.2	VEN

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Malacothrix junakii	Junak's malcothrix	1B.1	VEN
Malacothrix similis	Mexican malacothrix	2A	VEN
Malaxis monophyllos var. brachypoda	white bog adder's-mouth	2B.1	RIV, SB
Malperia tenuis	brown turbans	2B.3	IMP
Mammillaria grahamii var. grahamii	Graham fishhook cactus	2B.2	SB
Marina orcuttii var. orcuttii	California marina	1B.3	RIV
Matelea parvifolia	spear-leaf matelea	2B.3	IMP, RIV, SB
Maurandella antirrhiniflora	violet twining snapdragon	2B.3	SB
Meesia uliginosa	broad-nerved hump moss	2B.2	RIV
Menodora scabra var. scabra	rough menodora	2B.3	SB
Menodora spinescens var. mohavensis	Mojave menodora	1B.2	SB
Mentzelia hirsutissima	hairy stickleaf	2B.3	IMP
Mentzelia polita	polished blazing star	1B.2	SB
Mentzelia pterosperma	wing-seed blazing star	2B.2	SB
Mentzelia puberula	Darlington's blazing star	2B.2	IMP, RIV, SB
Mentzelia tricuspis	spiny-hair blazing star	2B.1	IMP, RIV, SB
Mentzelia tridentata	creamy blazing star	1B.3	SB
Mielichhoferia shevockii	Shevock's copper moss	1B.2	RIV
Mirabilis coccinea	red four o'clock	2B.3	SB
Monarda pectinata	plains bee balm	2B.3	SB
Monardella australis ssp. jokerstii	Jokerst's monardella	1B.1	RIV, SB
Monardella boydii	Boyd's monardella	1B.2	SB
Monardella eremicola	Clark Mountain monardella	1B.3	SB
Monardella hypoleuca ssp. hypoleuca	white-veined monardella	1B.3	LA, VEN
Monardella hypoleuca ssp. intermedia	intermediate monardella	1B.3	OR, RIV
Monardella linoides ssp. oblonga	Tehachapi monardella	1B.3	LA, VEN
Monardella macrantha ssp. hallii	Hall's monardella	1B.3	LA, OR, RIV, SB
Monardella nana ssp. leptosiphon	San Felipe monardella	1B.2	RIV
Monardella pringlei	Pringle's monardella	1A	RIV, SB
Monardella robisonii	Robison's monardella	1B.3	RIV, SB
Monardella sinuata ssp. gerryi	Gerry's curly-leaved monardella	1B.1	VEN
Muhlenbergia alopecuroides	wolftail	2B.2	SB
Muhlenbergia appressa	appressed muhly	2B.2	LA, RIV, SB
Muhlenbergia arsenei	tough muhly	2B.3	SB
Muhlenbergia californica	California muhly	4.3	LA, SB
Muhlenbergia fragilis	delicate muhly	2B.3	SB
Muhlenbergia pauciflora	few-flowered muhly	2B.3	SB
Munroa squarrosa	false buffalo-grass	2B.2	SB
Munzothamnus blairii	Blair's munzothamnus	1B.2	LA
Myosurus minimus ssp. apus	little mousetail	3.1	RIV
Myriopteris wootonii	Wooton's lace fern	2B.3	SB
Nama demissa var. covillei	Coville's purple mat	1B.3	SB
Nama dichotoma var. dichotoma	forked purple mat	2B.3	SB

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Nama stenocarpa	mud nama	2B.2	IMP, LA, OR, RIV
Navarretia ojaiensis	Ojai navarretia	1B.1	LA, VEN
Navarretia peninsularis	Baja navarretia	1B.2	LA, SB, VEN
Navarretia prostrata	prostrate vernal pool navarretia	1B.1	LA, OR, RIV, SB
Navarretia setiloba	Piute Mountains navarretia	1B.1	LA
Nemacaulis denudata var. denudata	coast woolly-heads	1B.2	LA, OR
Nemacaulis denudata var. gracilis	slender cottonheads	2B.2	IMP, RIV, SB
Nemacladus secundiflorus var. robbinsii	Robbins' nemacladus	1B.2	LA, VEN
Nolina cismontana	chaparral nolina	1B.2	LA, OR, RIV, VEN
Oenothera cavernae	cave evening-primrose	2B.1	SB
Oenothera longissima	long-stem evening-primrose	2B.2	SB
Opuntia basilaris var. brachyclada	short-joint beavertail	1B.2	LA, SB
Opuntia wigginsii	Wiggins' cholla	3.3	IMP, SB
Opuntia xcurvispina	curved-spine beavertail	2B.2	SB
Oreonana vestita	woolly mountain-parsley	1B.3	LA, SB
Orobanche parishii ssp. brachyloba	short-lobed broomrape	4.2	LA, VEN
Orobanche valida ssp. valida	Rock Creek broomrape	1B.2	LA, SB, VEN
Oxytropis oreophila var. oreophila	rock-loving oxytrope	2B.3	LA, SB
Packera bernardina	San Bernardino ragwort	1B.2	SB
Palafoxia arida var. gigantea	giant spanish-needle	1B.3	IMP
Panicum hirticaule ssp. hirticaule	roughstalk witch grass	2B.1	IMP, RIV, SB
Parnassia cirrata var. cirrata	San Bernardino grass-of-Parnassus	1B.3	LA, SB
Pediomelum castoreum	Beaver Dam breadroot	1B.2	SB
Pellaea truncata	spiny cliff-brake	2B.3	SB
Penstemon albomarginatus	white-margined beardtongue	1B.1	SB
Penstemon bicolor ssp. roseus	rosy two-toned beardtongue	1B.1	SB
Penstemon calcareus	limestone beardtongue	1B.3	SB
Penstemon californicus	California beardtongue	1B.2	OR, RIV
Penstemon fruticiformis var. amargosae	Amargosa beardtongue	1B.3	SB
Penstemon pseudospectabilis ssp. pseudospectabilis	desert beardtongue	2B.2	IMP, RIV, SB
Penstemon stephensii	Stephens' beardtongue	1B.3	SB
Penstemon thompsoniae	Thompson's beardtongue	2B.3	SB
Penstemon utahensis	Utah beardtongue	2B.3	SB
Pentachaeta aurea ssp. allenii	Allen's pentachaeta	1B.1	OR
Perideridia parishii ssp. parishii	Parish's yampah	2B.2	SB
Petalonyx linearis	narrow-leaf sandpaper-plant	2B.3	IMP, RIV, SB
Petalonyx thurberi ssp. gilmanii	Death Valley sandpaper-plant	1B.3	SB
Phacelia anelsonii	Aven Nelson's phacelia	2B.3	SB
Phacelia barnebyana	Barneby's phacelia	2B.3	SB
Phacelia coerulea	sky-blue phacelia	2B.3	SB
Phacelia floribunda	many-flowered phacelia	1B.2	LA
Phacelia keckii	Santiago Peak phacelia	1B.3	OR, RIV

Scientific Name	Common Name	Status	Counties Where Reported
Phacelia mustelina	Death Valley round-leaved phacelia	1B.3	SB
Phacelia parishii	Parish's phacelia	1B.1	SB
Phacelia perityloides var. jaegeri	Jaeger's phacelia	1B.3	SB
Phacelia pulchella var. gooddingii	Goodding's phacelia	2B.2	SB
Phacelia stellaris	Brand's star phacelia	1B.1	LA, OR, RIV, SB
Phaseolus filiformis	slender-stem bean	2B.1	RIV
Phlox dolichantha	Big Bear Valley phlox	1B.2	SB
Pholisma sonorae	sand food	1B.2	IMP
Pholistoma auritum var. arizonicum	Arizona pholistoma	2B.3	IMP, SB
Physalis lobata	lobed ground-cherry	2B.3	SB
Physaria chambersii	Chambers' physaria	2B.3	SB
Pilostyles thurberi	Thurber's pilostyles	4.3	IMP
Plagiobothrys parishii	Parish's popcornflower	1B.1	LA, SB
Poliomintha incana	frosted mint	2A	SB
Polygala acanthoclada	thorny milkwort	2B.3	RIV, SB
Polygala intermontana	intermountain milkwort	2B.1	SB
Potentilla multijuga	Ballona cinquefoil	1A	LA
Potentilla rimicola	cliff cinquefoil	2B.3	RIV
Prunus eremophila	Mojave Desert plum	1B.2	SB
Pseudognaphalium leucocephalum	white rabbit-tobacco	2B.2	LA, OR, RIV, SB, VEN
Pseudorontium cyathiferum	Deep Canyon snapdragon	2B.3	RIV
Psorothamnus fremontii var. attenuatus	narrow-leaved psorothamnus	2B.3	SB
Puccinellia parishii	Parish's alkali grass	1B.1	SB
Puccinellia simplex	California alkali grass	1B.2	LA, SB
Pyrrocoma uniflora var. gossypina	Bear Valley pyrrocoma	1B.2	SB
Quercus dumosa	Nuttall's scrub oak	1B.1	LA, OR, VEN
Ribes divaricatum var. parishii	Parish's gooseberry	1A	LA, SB
Ribes viburnifolium	Santa Catalina Island currant	1B.2	LA
Robinia neomexicana	New Mexico locust	2B.3	SB
Rosa woodsii var. glabrata	Cushenbury rose	1B.1	SB
Sagittaria sanfordii	Sanford's arrowhead	1B.2	SB, VEN
Saltugilia latimeri	Latimer's woodland-gilia	1B.2	RIV, SB
Salvia greatae	Orocopia sage	1B.3	IMP, RIV
Sanvitalia abertii	Abert's sanvitalia	2B.2	SB
Schoenus nigricans	black bog-rush	2B.2	SB
Sclerocactus johnsonii	Johnson's bee-hive cactus	2B.2	SB
Scleropogon brevifolius	burro grass	2B.3	SB
Scrophularia villosa	Santa Catalina figwort	1B.2	LA
Scutellaria bolanderi ssp. austromontana	southern mountains skullcap	1B.2	LA, RIV, SB
Selaginella eremophila	desert spike-moss	2B.2	IMP, RIV
Senecio aphanactis	chaparral ragwort	2B.2	LA, OR, RIV, SB, VEN
Senna covesii	Cove's cassia	2B.2	IMP, RIV, SB
Sibaropsis hammittii	Hammitt's clay-cress	1B.2	RIV

Scientific Name	Common Name	Status	Counties Where Reported
Sidalcea malviflora ssp. dolosa	Bear Valley checkerbloom	1B.2	SB
Sidalcea neomexicana	salt spring checkerbloom	2B.2	LA, OR, RIV, SB, VEN
Sidotheca emarginata	white-margined oxytheca	1B.3	RIV
Silene krantzii	Krantz's catchfly	1B.2	SB
Sisyrinchium longipes	timberland blue-eyed grass	2B.2	SB
Solanum wallacei	Wallace's nightshade	1B.1	LA
Spermolepis gigantea	desert scaleseed	2B.1	RIV
Spermolepis lateriflora	western bristly scaleseed	2A	LA
Sphaeralcea rusbyi var. eremicola	Rusby's desert-mallow	1B.2	RIV, SB
Sphaerocarpos drewei	bottle liverwort	1B.1	RIV
Sphenopholis obtusata	prairie wedge grass	2B.2	RIV, SB
Stemodia durantifolia	purple stemodia	2B.1	RIV
Stipa arida	Mormon needle grass	2B.3	SB
Stipa divaricata	small-flowered rice grass	2B.3	SB
Streptanthus bernardinus	Laguna Mountains jewelflower	4.3	RIV, SB
Streptanthus campestris	southern jewelflower	1B.3	IMP, LA, RIV, SB, VEN
Stylocline masonii	Mason's neststraw	1B.1	LA
Stylocline sonorensis	mesquite neststraw	2A	RIV
Suaeda esteroa	estuary seablite	1B.2	LA, OR, VEN
Symphyotrichum defoliatum	San Bernardino aster	1B.2	IMP, LA, OR, RIV, SB
Symphyotrichum greatae	Greata's aster	1B.3	LA, SB, VEN
Tetracoccus dioicus	Parry's tetracoccus	1B.2	OR, RIV
Teucrium cubense ssp. depressum	dwarf germander	2B.2	IMP, RIV
Teucrium glandulosum	desert germander	2B.3	SB
Texosporium sancti-jacobi	woven-spored lichen	3	LA, RIV, VEN
Thelypteris puberula var. sonorensis	Sonoran maiden fern	2B.2	LA, RIV, SB
Thysanocarpus rigidus	rigid fringepod	1B.2	LA, RIV, SB
Tidestromia eliassoniana	Eliasson's woolly tidestromia	2B.2	IMP, SB
Tortella alpicola	alpine crisp-moss	2B.3	SB
Tortula californica	California screw moss	1B.2	LA, RIV, VEN
Trichocoronis wrightii var. wrightii	Wright's trichocoronis	2B.1	RIV
Trichostema austromontanum ssp. compactum	Hidden Lake bluecurls	1B.1	RIV
Tripterocalyx micranthus	small-flowered sand-verbena	2B.2	SB
Triteleia clementina	San Clemente Island triteleia	1B.2	LA
Viola pinetorum ssp. grisea	grey-leaved violet	1B.3	LA, SB, VEN
Wislizenia refracta ssp. palmeri	Palmer's jackass clover	2B.2	RIV
Wislizenia refracta ssp. refracta	jackass-clover	2B.2	RIV, SB
Woodsia plummerae	Plummer's woodsia	2B.3	SB
Xylorhiza cognata	Mecca-aster	1B.2	RIV
Xylorhiza orcuttii	Orcutt's woody-aster	1B.2	IMP
Astragalus traskiae	Trask's milk-vetch	1B.2	VEN
Castilleja gleasoni	Mt. Gleason paintbrush	1B.2	LA

Scientific Name	Common Name	Status	Counties Where Reported
Croton wigginsii	Wiggins' croton	2B.2	IMP
Deinandra minthornii	Santa Susana tarplant	1B.2	LA, VEN
Delphinium hesperium ssp. cuyamacae	Cuyamaca larkspur	1B.2	RIV
Eriogonum crocatum	conejo buckwheat	1B.2	VEN
Galium angustifolium ssp. borregoense	Borrego bedstraw	1B.3	IMP
Ivesia callida	Tahquitz ivesia	1B.3	RIV
Packera ganderi	Gander's ragwort	1B.2	RIV
Sidalcea hickmanii ssp. parishii	Parish's checkerbloom	1B.2	SB

Note:
California Native Plant Society: California Rare Plant Rank (CRPR) 1A = Plants Presumed Extinct in California; CRPR: 1B = Plants Rare, Threatened, or Endangered in California and Elsewhere; 2 = Plants Rare, Threatened, or Endangered in Claifornia, But More Common Elsewhere; 3 = Plants About Which We Need More Information; 4 = Plants of Limited Distribution. SB = San Bernardino County; LA = Los Angeles County; RIV = Riverside County; VEN = Ventura County; OR = Orange County; IMP = Imperial County.
Source:
California Department of Fish and Wildlife. 2018. CNDDB QuickView Tool in BIOS. Available online at: https://www.wildlife.ca.gov/data/cnddb/maps-and-data#43018410-cnddb-quickview-tool, accessed January 14, 2019.

Riparian and State Sensitive Plant Communities

The six counties within the SCAG region contain nearly 23 million acres of "open space" combined. These vacant lands include the region's national forests, state parks, military installations, other public lands, and various private holdings. Much of the open space in the region has been left in its natural state, however many non-native species have transformed what was once native habitat. The CNDDB identifies approximately 318,000 acres as containing state-sensitive plant communities, those identified as critically imperiled, or vulnerable to extirpation. In addition, approximately 190,700 acres of riparian habitats have been included in the database. Riparian habitats in the SCAG region may fall under the jurisdiction of the CDFW and improvements within or in the vicinity of these habitats would require compliance with Section 1600 of the State FGC under which a Lake or Streambed Alteration Agreement would need to be obtained prior to the alteration of a state jurisdictional area.

Historically, special-status natural communities have been recorded by the CNDDB, which reported 45 special-status natural communities within the SCAG region, as shown in **Table 3.4-5, Riparian Habitat and State Sensitive Plant Communities Reported in the SCAG Region**. Unfortunately, this CNDDB information was last recorded in 1993, as the Natural Heritage Division of the CDFW is currently in the process of classifying and mapping vegetation in the state. Although there is no current comprehensive picture of state-sensitive plant communities and riparian habitat, it is highly likely that such communities exist within the SCAG region. Therefore, it is important that individual projects consider sensitive communities and carefully examine project sites on a case-by-case basis.

Table 3.4-5
Riparian Habitat and State Sensitive Plant Communities Reported in the SCAG Region

Community Name	State Sensitivity Rank	Counties Where Reported	Acres Reported in SCAG Region
Active Desert Dunes	S2.2	IMP	2,233
Alkali Seep	S2.1	SB	5
Amargosa River	SNR	SB	560
Arizonan Woodland	S1.2	SB	337
California Walnut Woodland	S2.1	LA, OR, SB, VEN	16,540
Canyon Live Oak Ravine Forest	S3.3	LA, OR, RIV, SB, VEN	5,535
Cismontane Alkali Marsh	S1.1	VEN	31
Coastal and Valley Freshwater Marsh	S2.1	RIV, SB, VEN	551
Crucifixion Thorn Woodland	S1.2	IMP, SB	96
Desert Fan Palm Oasis Woodland	S3.2	IMP, RIV, SB	43,404
Island Cherry Forest	S2.1	LA	1,796
Island Ironwood Forest	S2.1	LA	2,319
Mainland Cherry Forest	S1.1	LA	73
Maritime Succulent Scrub	S1.1	LA, VEN	70
Mesquite Bosque	S2.1	IMP, RIV, SB	11,282
Mojave Mixed Steppe	S2.2	SB	18
Mojave Riparian Forest	S1.1	LA, SB	3,295
Mojave Yucca Scrub and Steppe	S3.2	SB	88
Open Engelmann Oak Woodland	S2.2	LA	870
Pebble Plains	S1.1	SB	3,836
Riversidian Alluvial Fan Sage Scrub	S1.1	LA, OR, RIV, SB	27,827
Sonoran Cottonwood Willow Riparian Forest	S1.1	IMP, RIV	1,822
Southern California Arroyo Chub/Santa Ana Sucker Stream	SNR	LA, OR, RIV, SB	5,837
Southern California Coastal Lagoon	SNR	LA, VEN	20
Southern California Steelhead Stream	SNR	LA, VEN	3,025
Southern California Threespine Stickleback Stream	SNR	LA, SB, VEN	2,194
Southern Coast Live Oak Riparian Forest	S4	LA, OR, RIV, SB, VEN	22,981
Southern Coastal Bluff Scrub	S1.1	LA, VEN	1,029
Southern Coastal Salt Marsh	S2.1	LA, OR, VEN	4,961
Southern Cottonwood Willow Riparian Forest	S3.2	LA, OR, RIV, SB, VEN	18,390
Southern Dune Scrub	S1.1	LA, OR, VEN	9,483
Southern Foredunes	S2.1	LA, OR, VEN	1,203
Southern Interior Basalt Flow Vernal Pool	S1.2	RIV	587
Southern Interior Cypress Forest	S2.1	OR, RIV	2,978
Southern Mixed Riparian Forest	S2.1	LA, OR, RIV, SB, VEN	4,447
Southern Riparian Forest	S4	LA, RIV, SB, VEN	554

Community Name	State Sensitivity Rank	Counties Where Reported	Acres Reported in SCAG Region
Southern Riparian Scrub	S3.2	LA, OR, RIV, SB, VEN	11,378
Southern Sycamore Alder Riparian Woodland	S4	LA, OR, RIV, SB, VEN	61,959
Southern Willow Scrub	S2.1	LA, OR, RIV, SB, VEN	5,697
Stabilized and Partially Stabilized Desert Dunes	S3.2	IMP	2,233
Transmontane Alkali Marsh	S2.1	IMP, SB	243
Valley Needlegrass Grassland	S3.1	LA, OR, RIV, VEN	16,806
Valley Oak Woodland	S2.1	LA, VEN	12,400
Walnut Forest	S1.1	LA, VEN	402
Wildflower Field	S2.2	LA	6,592

Note:
S1 Critically Imperiled — Critically imperiled in the state because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state.
S2 Imperiled — Imperiled in the state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state.
S3 Vulnerable — Vulnerable in the state due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.
*S4Apparently Secure — Uncommon but not rare; some cause for long-term concern due to declines or other factors SNR **Unranked** — State conservation status not yet assessed.*
SB = San Bernardino County; LA = Los Angeles County; RIV = Riverside County; VEN = Ventura County; OR = Orange County; IMP = Imperial County.
Source:
California Department of Fish and Wildlife. 2019. BIOS. Available online at: https://www.wildlife.ca.gov/data/cnddb/maps- and-data#43018410-cnddb-quickview-tool, accessed July 8, 2019.

Since 1993 CDFW and CNPS, have been classifying vegetation types using the new state standards, as outlined in the Manual of California Vegetation, updated in the second edition of the Manual.[12] These new state standards are being utilized in the classification of Sensitive Natural Communities throughout California that are currently being evaluated using NatureServe's Heritage Methodology, the same system used to assign state rarity ranks for sensitive plant communities in the CNDDB.[13] Natural Communities with ranks of S1-S3 are considered Sensitive Natural Communities that should be addressed during the CEQA process.

As of 2018, about half of California has been mapped and classified according to this standard; much of southern California has not yet been classified. **Table 3.4-6** provides the Vegetation Classification and Mapping Program's current list of vegetation Alliances with State Rarity Ranks of S1-S3 that occur within the USDA Ecological Sections (Southern California Coast, Southern California Mountains and Valleys, Mojave Desert, Colorado Desert, Sonoran Desert) found in the SCAG region. Some of these sections

12 Sawyer, J.O., T. Keeler-Wolf, and J. M. Evens. 2009. A Manual of California Vegetation, Second Edition. California NativePlantSociety,Sacramento, CA.

13 California Department of Fish and Wildlife. 2019. Natural Communities. Sacramento, CA. Available online at: https://www.wildlife.ca.gov/Data/VegCAMP/Natural-Communities, accessed June 28, 2019

overlap portions of counties outside of the SCAG region (primarily portions of San Diego and Santa Barbara Counties). Although this data is incomplete, it is highly likely that these or additional Sensitive Natural Communities may occur in the footprint of future projects in the SCAG region. Therefore, it is important that individual projects evaluate Sensitive Natural Communities in their analyses.

Table 3.4-6
Sensitive Natural Communities within the SCAG Region

Alliance Scientific Name	Common Name	State Rarity
Abies concolor Dry	Dry White Fir forest	S3
Abronia latifolia - Ambrosia chamissonis	Dune mat	S3
Achnatherum hymenoides	Indian rice grass grassland	S1.2
Achnatherum speciosum	Desert needlegrass grassland	S2.2
Adenostoma fasciculatum - Salvia apiana	Chamise - white sage chaparral	S3
Agave deserti	Desert agave scrub	S3.2
Allenrolfea occidentalis	Iodine bush scrub	S3.2
Alopecurus geniculatus	Water foxtail meadows	S3?
Amphipappus fremontii - Salvia funerea	Fremont's chaffbush - woolly sage scrub	S3
Anemopsis californica - Helianthus nuttallii - Solidago spectabilis	Yerba mansa - Nuttall's sunflower - Nevada goldenrod alkaline wet meadows	S2
Arbutus menziesii	Madrone forest	S3.2
Arctostaphylos (crustacea, tomentosa)	Brittle leaf - woolly leaf manzanita chaparral	S3
Arctostaphylos pungens - Arctostaphylos pringlei	Pointleaf manzanita - pink-bract manzanita chaparral	S3
Arctostaphylos (purissima, rudis)	Burton Mesa chaparral	S1.2
Argentina egedii	Pacific silverweed marshes	S2
Aristida purpurea	Purple three-awn meadows	S3?
Artemisia nova	Black sagebrush scrub	S3.2
Artemisia rothrockii	Rothrockâ€™s sagebrush	S3
Arthrocnemum subterminale	Parishâ€™s glasswort patches	S2
Atriplex parryi	Parry's saltbush scrub	S3
Baccharis emoryi - Baccharis sergiloides	Emory's and Broom baccharis scrub	S3
Betula occidentalis	Water birch thicket	S2.2
Bolboschoenus maritimus	Salt marsh bulrush marshes	S3
Bromus carinatus - Elymus glaucus	California brome - blue wildrye prairie	S3
Bursera microphylla	Elephant tree stands	S1.2
Calocedrus decurrens	Incense cedar forest	S3.2
Carex douglasii	Douglasâ€™ sedge meadows	S2?
Carex heteroneura	Different-nerve sedge patches	S3?
Carex integra	Small-fruited sedge meadows	S2?

Alliance Scientific Name	Common Name	State Rarity
Carex luzulina	Woodland sedge fens	S2?
Carex (pansa, praegracilis)	Sand dune sedge swaths	S3?
Carnegiea gigantea - Parkinsonia microphylla - Prosopis velutina	Saguaro - foothill palo verde - velvet mesquite desert scrub	S2.2
Castela emoryi	Crucifixion thorn stands	S1.1
Ceanothus greggii	Cup leaf ceanothus chaparral	S3
Ceanothus (oliganthus, tomentosus)	Hairy leaf - woolly leaf ceanothus chaparral	S3
Ceanothus papillosus	Wart leaf ceanothus chaparral	S3
Ceanothus verrucosus	Wart-stemmed ceanothus chaparral	S2
Centromadia (pungens)	Tar plant fields	S2
Chilopsis linearis - Psorothamnus spinosus	Desert-willow - smoketree wash woodland	S3
Chrysolepis sempervirens	Bush chinquapin chaparral	S3.3
Coreopsis gigantea	Giant coreopsis scrub	S3
Cressa truxillensis - Distichlis spicata	Alkali weed - salt grass playas and sinks	S2
Cylindropuntia bigelovii	Teddy bear cholla patches	S3
Deinandra clementina - Eriogonum giganteum	Island tar plant - Saint Catherine's lace scrub	S2
Deinandra fasciculata	Clustered tarweed fields	S2
Dicoria canescens - Abronia villosa - Panicum urvilleanum	Mojave-Sonoran desert dunes	S3.2
Diplacus aurantiacus	Bush monkeyflower scrub	S3?
Dudleya greenei - Dudleya spp. Succulent Scrub	Greene's live-forever - live-forever species succulent scrub	S1
Encelia (actonii, virginensis) - Viguiera reticulata	Acton's and Virgin River brittle brush - net-veined goldeneye scrub	S3
Encelia californica - Eriogonum cinereum	California brittle bush - Ashy buckwheat scrub	S3
Ephedra funerea	Death Valley joint fir scrub	S3
Ericameria palmeri	Palmerâ€™s goldenbush scrub	S3?
Ericameria paniculata	Black-stem rabbitbrush scrub	S3
Eriodictyon crassifolium	Thick leaf yerba santa scrub	S3
Eriogonum arborescens - Eriogonum grande	Island Buckwheat scrub	S3
Eriogonum wrightii - Eriogonum heermannii - Buddleja utahensis	Wright's buckwheat - Heermann's buckwheat - Utah butterfly- bush scrub	S3
Fallugia paradoxa	Apache plume scrub	S3
Frankenia salina	Alkali heath marsh	S3
Grindelia (camporum, stricta)	Gum plant patches	S2
Gutierrezia sarothrae - Gutierrezia microcephala	Snakeweed scrub	S3
Hazardia squarrosa	Sawtooth golden bush scrub	S3
Hesperocyparis forbesii	Tecate cypress stands	S2.2
Hesperocyparis sargentii	Sargent cypress woodland	S3.2
Hesperocyparis stephensonii	Cuyamaca cypress stands	S1

Alliance Scientific Name	Common Name	State Rarity
Hordeum brachyantherum	Meadow barley patches	S2
Isocoma menziesii	Menzies's golden bush scrub	S3
Juglans californica	California walnut groves	S3.2
Juncus (oxymeris, xiphioides)	Iris-leaf rush seeps	S2?
Juniperus osteosperma	Utah juniper woodland	S3.2
Keckiella antirrhinoides	Bush penstemon scrub	S3
Koeberlinia spinosa	Crown-of-thorns stands	S1.1
Krascheninnikovia lanata	Winterfat scrubland	S3
Lepidospartum squamatum	Scale broom scrub	S3
Leymus cinereus - Leymus triticoides	Ashy ryegrass - creeping ryegrass turfs	S3
Leymus condensatus	Giant wild rye grassland	S3
Leymus mollis	Sea lyme grass patches	S2
Lupinus chamissonis - Ericameria ericoides	Silver dune lupine - mock heather scrub	S3
Lycium californicum	California desert-thorn scrub	S3
Menodora spinescens	Spiny menodora scrub	S3
Monolopia (lanceolata) - Coreopsis (calliopsidea)	Monolopia - leafy-stemmed tickseed fields	S3
Muhlenbergia rigens	Deer grass beds	S2?
Nolina (bigelovii, parryi)	Nolina scrub	S2.2
Opuntia littoralis - Opuntia oricola - Cylindropuntia prolifera	Coast prickly pear scrub	S3
Pinus edulis	Two-needle pinyon stands	S2?
Pinus flexilis	Limber pine woodland	S3.2
Pinus muricata - Pinus radiata	Bishop pine - Monterey pine forest	S3.2
Pinus quadrifolia	Parry pinyon woodland	S2
Pinus torreyana	Torrey pine woodland	S1.2
Platanus racemosa	California sycamore woodlands	S3
Pleuraphis jamesii	James's galleta shrub-steppe	S2.2
Pleuraphis rigida	Big galleta shrub-steppe	S2.2
Pluchea sericea	Arrow weed thickets	S3.3
Poa secunda	Curly blue grass grassland	S3?
Populus fremontii	Fremont cottonwood forest	S3.2
Populus tremuloides	Aspen groves	S3.2
Populus trichocarpa	Black cottonwood forest	S3
Prosopis glandulosa - Prosopis velutina - Prosopis pubescens	Mesquite thickets	S3
Prunus fremontii	Desert apricot scrub	S3
Prunus virginiana	Choke cherry thickets	S2?
Pseudotsuga macrocarpa	Bigcone Douglas fir forest	S3.2
Purshia stansburiana	Stansbury cliff rose scrub	S3.2
Purshia tridentata	Bitter brush scrub	S3

Alliance Scientific Name	Common Name	State Rarity
Quercus chrysolepis (shrub)	Canyon live oak chaparral	S3
Quercus dumosa - Quercus pacifica	Coastal sage and Island scrub oak chaparral	S3
Quercus engelmannii	Engelmann oak woodland	S3
Quercus lobata	Valley oak woodland	S3
Quercus palmeri	Palmer oak chaparral	S2?
Quercus tomentella - Lyonothamnus floribundus	Island live oak - Catalina ironwood woodland	S3
Quercus turbinella	Sonoran live oak scrub	S1.3
Rhus integrifolia	Lemonade berry scrub	S3
Rhus trilobata - Crataegus rivularis - Forestiera pubescens	Basket bush - river hawthorn - desert olive patches	S3.2?
Ribes quercetorum	Oak gooseberry thickets	S2?
Rosa californica	California rose briar patches	S3
Ruppia (cirrhosa, maritima)	Ditch-grass or widgeon-grass mats	S2
Salix gooddingii	Black willow thickets	S3
Salix laevigata	Red willow thickets	S3
Salix lucida	Shining willow groves	S3.2
Salvia apiana	White sage scrub	S3
Sambucus nigra	Blue elderberry stands	S3
Sarcocornia pacifica (Salicornia depressa)	Pickleweed mats	S3
Schoenoplectus (acutus, californicus)	Hardstem and California bulrush marshes	S3
Schoenoplectus americanus	American bulrush marsh	S3.2
Selaginella bigelovii	Bushy spikemoss mats	S3
Sesuvium verrucosum	Western sea-purslane marshes	S2.2?
Simmondsia chinensis	Jojoba scrub	S3?
Spartina foliosa	California cordgrass marsh	S3.2
Sporobolus airoides - Muhlenbergia asperifolia - Spartina gracilis	Alkali sacaton - scratchgrass - alkali cordgrass alkaline wet meadow	S2
Stuckenia (pectinata) - Potamogeton spp.	Pondweed mats	S3?
Suaeda moquinii	Bush seepweed scrub	S3
Tetracoccus hallii	Hallâ€™s shrubby-spurge patches	S1.1
Umbellularia californica	California bay forest	S3
Venegasia carpesioides	Canyon sunflower scrub	S3
Vitis arizonica - Vitis girdiana	Wild grape shrubland	S3
Washingtonia filifera	California fan palm oasis	S3.2
Xylococcus bicolor	Mission manzanita chaparral	S3

Alliance Scientific Name	Common Name	State Rarity
Yucca brevifolia	Joshua tree woodland	S3.2
Ziziphus obtusifolia	Graythorn patches	S2?

S1 Critically Imperiled — Critically imperiled in the state because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state.
S2 Imperiled — Imperiled in the state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state.
S3 Vulnerable — Vulnerable in the state due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.
Entries marked with "?" indicate reliminary or more information required
Source: CNPS. 2019. A Manual of California Vegetation On-line. Available at: http://vegetation.cnps.org/search Accessed June 25, 2019

Federally Protected Wetlands and Waterways

Current National Wetlands Inventory maps[14] and USGS National Hydrography Dataset of surface waters (rivers, streams, ephemeral streams, canals, lakes, ponds, and other hydrologic features) for the SCAG region were reviewed to identify the extent of potential wetlands and waterways subject to protection under Section 404 of the CWA and coastal areas subject to Section 10 of the Rivers and Harbors Act. Wetlands and waterways potentially subject to the jurisdiction of the USACE, CDFW, and RWQCB's were determined to be present within each of the six counties in the SCAG region (**Table 3.4-7, Federally Protected Wetlands and Waterways Reported in the SCAG Region,** and **Table 3.4-8, Federally Protected Surface Water Features in the SCAG Region**).

Table 3.4-7
Federally Protected Wetlands and Waterways Reported in the SCAG Region

Wetland Type	National Wetlands Inventory (Acres)
Imperial County	
Freshwater Emergent Wetland	6,214
Freshwater Forested/Shrub Wetland	20,756
Freshwater Pond	6,982
Lake	200,180
Riverine	46,562
Total	**280,693**
Los Angeles County	
Estuarine and Marine Deepwater	3,421
Estuarine and Marine Wetland	839
Freshwater Emergent Wetland	2,503

14 U.S. Fish and Wildlife Service. *National Wetlands Inventory Map*. Available at: https://www.fws.gov/wetlands/data/Mapper.html, accessed January 14, 2019.

Wetland Type	National Wetlands Inventory (Acres)
Freshwater Forested/Shrub Wetland	11,874
Freshwater Pond	7,644
Lake	21,526
Riverine	28,995
Total	**76,803**
Orange County	
Estuarine and Marine Deepwater	2,015
Estuarine and Marine Wetland	1,556
Freshwater Emergent Wetland	988
Freshwater Forested/Shrub Wetland	4,124
Freshwater Pond	1,414
Lake	2,323
Riverine	5,777
Total	**18,196**
Riverside County	
Freshwater Emergent Wetland	8,225
Freshwater Forested/Shrub Wetland	14,594
Freshwater Pond	4,061
Lake	68,854
Riverine	68,676
Total	**164,410**
San Bernardino County	
Freshwater Emergent Wetland	4,696
Freshwater Forested/Shrub Wetland	10,233
Freshwater Pond	7,750
Lake	250,702
Riverine	188,525
Total	**461,906**
Ventura County	
Estuarine and Marine Deepwater	1,001
Estuarine and Marine Wetland	2,307
Freshwater Emergent Wetland	2,736
Freshwater Forested/Shrub Wetland	10,713
Freshwater Pond	2,173
Lake	4,136
Riverine	12,518
Total	**35,584**

Source: U.S. Fish and Wildlife Service. National Wetlands Inventory. Available online at: https://www.fws.gov/wetlands/data/Mapper.html, accessed July 17, 2019.

Table 3.4-8
Federally Protected Surface Water Features in the SCAG Region

County	Miles of Hydrologic Drainages
Imperial County	11,081.5
Los Angeles	13,788.7
Orange	3,008.9
Riverside	22,609.6
San Bernardino	45,369.2
Ventura	8,642.5
Total	**104,500.4**

Source: U.S. Geological Survey. National Hydrography Dataset. Available online at: https://www.usgs.gov/core-science-systems/ngp/national-hydrography/about-national-hydrography-products, accessed January 15, 2019.

Wildlife Movement Corridors

Wildlife movement corridors, or habitat linkages, are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations. Such linkages may serve a local purpose, such as providing a linkage between foraging and denning areas, or they may be regional in nature. Some habitat linkages may serve as migration corridors, wherein animals periodically move away from an area and then subsequently return. Others may be important as dispersal corridors for young animals. A group of habitat linkages in an area can form a wildlife corridor network.[15]

The presence of viable and sustainable wildlife corridor networks may also be critical to the survival of some species as habitat conditions and landscapes are altered due to climate change. Across the SCAG region's diverse habitat types, many native plant species are at risk because of from climate change effects.[16] These effects include rising sea levels, increased temperatures, decreased water availability and/or altered precipitation patterns, and invasive species infestations. Special status species are most susceptible to climate change due to their small population sizes and, often, specific suitable habitat conditions required for survival. These impacts on plants change ecosystems and the wildlife they support. Maintaining existing connected habitat linkages and establishing new wildlife crossings in is essential to the survival of California's diverse native species and unique ecosystems in the face of a

15 Ventura County Resource Management Agency (VCRMA). 2018. Habitat Connectivity and Wildlife Movement Corridors. Available online at: https://vcrma.org/habitat-connectivity-and-wildlife-movement-corridors, accessed January 15, 2019.

16 Native Plants and Climate Change. 2019. California Deprtmnt of Fish and Wildlfe. Available at: https://www.wildlife.ca.gov/Conservation/Plants/Climate

changing climate. As habitat conditions change in response to altered climate conditions, wildlife require an increased diversity of opportunities for movement and migration to a wide variety of landscapes. [17]

The California Department of Transportation (Caltrans) and CDFW commissioned the California Essential Habitat Connectivity Project to assess essential habitat connectivity across the state.[18] As shown in **Figure 3.4-3, Essential Habitat Connectivity within the SCAG Region,**[19] a large portion of the SCAG region includes many natural landscape blocks, accounting for nearly 12 million acres that support high native wildlife biodiversity with a significant wildlife connectivity network (**Figure 3.4-3**; **Table 3.4-9, Natural Landscape Blocks by County in the SCAG Region**).[20] These large and intact blocks are connected by over 4.5 million acres of corridors that are highly (Class 4 and 5) permeable (i.e., beneficial) to wildlife movement (**Table 3.4-10**). A large portion of these landscape blocks and essential connectivity areas are spread through eastern Imperial, Riverside, and San Bernardino Counties. Ventura County has the relatively largest proportion of landscape blocks and essential connectivity areas by county acreage. Large portions of the mountainous parts of Los Angeles County provide a critical linkage between habitat blocks from Riverside and Imperial County to the east and Ventura County to the west. Orange County has limited essential connectivity habitat and habitat blocks, located mostly in the eastern end of the county, but these provide connectivity to San Diego County to the south.

Table 3.4-9
Natural Landscape Blocks by County in the SCAG Region

County	Area (acres)
Imperial	970,349
Los Angeles	798,033
Orange	135,339
Riverside	2,511,657
San Bernardino	6,802,998
Ventura	701,830
Grand Total	**11,920,206**

Source: SWCA Environmental Consultants. Biological Resources Report for Connect SoCal PEIR. October 2019.

17 California Department of Fish and Wildlife. 2019. Habitat Connectivity Planning for Fisah and Wildlife. Available online at: https://www.wildlife.ca.gov/Conservation/Planning/Connectivity. Accessed October 30, 2019

18 California Department of Fish and Wildlife. 2019. BIOS Connectivity Viewer. Available online at: https://apps.wildlife.ca.gov/bios/ accessed July 8, 2019.

19 California Department of Fish and Wildlife. *BIOS*. Available online at: https://apps.wildlife.ca.gov/bios/

20 Natural Landscape Blocks - California Essential Habitat Connectivity (CEHC). 2017. California Department of Fish and Game, Sacramento, CA. Available online at: https://map.dfg.ca.gov/metadata/ds0621.html?5.77.14, accessed July 9, 2019.

Table 3.4-10
Essential Connectivity Areas by County in the SCAG Region (acres)

	Imperial	Los Angeles	Orange	Riverside	San Bernardino	Ventura	Total
Class 5 - Most Permeable	394,207	111,066	-	557,892	1,242,680	212,235	2,518,081
Class 4	273,106	97,594	-	415,568	1,032,493	192,853	2,011,616
Class 3	240,108	90,913	-	359,093	836,737	164,840	1,691,691
Class 2	235,033	99,768	-	371,260	873,269	98,451	1,677,781
Class 1 - Least Permeable	187,009	103,135	1,382	351,703	880,552	74,106	1,597,888
Total	**1,329,463**	**502,477**	**1,382**	**2,055,517**	**4,865,731**	**742,486**	**9,497,056**

Source: SWCA Environmental Consultants. Biological Resources Report for Connect SoCal PEIR. October 2019.

Barriers to wildlife movement exist throughout the SCAG region, including large areas of urban development and multilane freeways that cut off regional movement for migratory and resident species alike. These barriers can affect all species from large mammals to small insects and can lead to significant degradation of ecosystem function and plant community composition. Conservation, protection, and enhancement of these intact Natural Landscape Blocks and Essential Connectivity Areas should be considered in project development to maintain or improve the viability of wildlife movement networks' and natural community stability.

A notable example of wildlife corridor enhancement is the wildlife crossing planned through the State Route 101 Freeway at Liberty Canyon Road in Agoura Hills. The development of the Liberty Canyon Wildlife Crossing will help facilitate mountain lion and other terrestrial wildlife movement through a major regional freeway, opening a corridor and reducing the risk of motor vehicle collisions with wildlife. Managed by California Department of Transportation (Caltrans), the Liberty Canyon Wildlife Crossing is a regional partnership with many public and private entities, including the City of Agoura Hills, City of Thousand Oaks, Mountains Recreation and Conservation Authority, the Santa Monica Mountains Conservancy, the National Park Service, and the Resource Conservation District of the Santa Monica Mountains. This project is planned to break ground in 2021 and be completed in 2023[21]. The crossing will cross ten lanes of US Highway 101 and an access road, with an estimated 200-foot long by 165-foot wide structure that will rank as the largest wildlife crossing in the world. This crossing will reconnect currently fragmented ecosystems for the benefit of mountain lions and other wildlife.

21 National Wildlife Federation/SaveLACougers. 2019. Available online at: https://savelacougars.org/ accessed November 22, 2019.

In addition to these essential corridors, major rivers, creeks, and streams often serve as nursery sites for fish, amphibian, and invertebrate species. These important features can facilitate movement between landscape blocks. Over 182,000 acres of these riparian wildlife connections have been mapped in the SCAG region (see **Table 3.4-11** and **Figure 3.4-3**).

Table 3.4-11
Potential Riparian Connections in the SCAG Region

County	Riparian Connections (Acres)
Imperial	33,546
Los Angeles	34,015
Orange	5,774
Riverside	21,526
San Bernardino	56,144
Ventura	31,359
Total	212,364

Source: SWCA Environmental Consultants. Biological Resources Report for Connect SoCal PEIR. October 2019.

Habitat Conservation Plans and Natural Community Conservation Plans

A Habitat Conservation Plan (HCP) is a planning document required as part of an application for an incidental take permit. HCPs describe the anticipated effects of the proposed taking, how the impacts will be minimized and mitigated, and how the HCP is to be funded. A Natural Community Conservation Plan (NCCP) is defined by CDFW as a plan for the conservation of natural communities that identifies and provides for the regional or area-wide protection and perpetuation of plants, animals, and their habitats. As described by **Table 3.4-12, HCPs and NCCPs in the SCAG Region**, below, more than 20 million acres of open space within the SCAG region are currently protected under an HCP or NCCP, or will be protected by a future HCP or NCCP that is currently in its planning stages. Data from CDFW and USFWS show 27 plans with durations of 16–80 years providing conservation efforts nearly three million acres in the SCAG region. As a group, these plans provide protection for multiple species by conserving habitats, identifying locations for future mitigation efforts, providing conservation guidance and practices, and preserving important wildlife linkages.

Table 3.4-12
HCPs and NCCPs in the SCAG Region

HCP/NCCP	County					
	Imperial	Los Angeles	Orange	Riverside	San Bernardino	Ventura*
AgCon Oro Grande North Mine Pit					X	
Angelus Block					X	
Assessment District 161				X		
California Department of Corrections	X	X		X	X	
Statewide Electrified Fence Project						
Central Coastal NCCP/HCP			X			
City of Rancho Palos Verdes NCCP		X				
Coachella Valley Fringe-Toed Lizard				X		
Coachella Valley MSHCP				X		
Copper Mountain College HCP					X	
Cushenbury San & Gravel					X	
El Sobrante Landfill HCP				X		
High Desert Power Project					X	
Imperial Irrigation District NCCP/HCP	X					
Joshua Tree Campground					X	
Lower Colorado River Multiple Species Habitat Conservation Plan (MSHCP)	X			X		
Newhall Farms HCP		X				X
Orange County Central/Coastal NCCP/HCP			X			
Orange County Southern Subregion HCP			X			
Orange County Transportation Authority NCCP/HCP			X			
Palos Verdes Peninsula NCCP/HCP		X				
San Diego County Water Authority NCCP/HCP				X		
San Diego Gas and Electric Subregional			X			
Shell Oil Company/Metropolitan Water District of Southern California HCP			X			
Town of Apple Valley MSHCP					X	
West Valley HCP					X	
Western Riverside County MSHCP				X		

Source:
California Department of Fish and Wildlife. 2017. Summary of Natural Community Conservation Plans (NCCP). October. Available online at: https://www.wildlife.ca.gov/Conservation/Planning/NCCP/Plans, accessed March 19, 2019.
US Fish and Wildlife Service. 2017. ECOS Environmental Conservation Online System. Available online at https://ecos.fws.gov/ecp0/conservationPlan/region/summary?region=8&type=HCP. Accessed July 8, 2019.

3.4.2 REGULATORY FRAMEWORK

3.4.2.1 Federal

Federal Endangered Species Act

The USFWS, under the auspices of the Federal Endangered Species Act of 1973 (FESA), manages and protects species listed as Endangered or Threatened. The USFWS can issue a permit for incidental "take" of listed species that can result from otherwise lawful activities. Take, under the federal definition, means to harass, harm (including habitat modification), pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct. The permitting process is used to determine if a project would jeopardize the continued existence of listed species and the mitigation measures that would be required to avoid or minimize impacts to listed species. Procedures for obtaining a permit for incidental take are set forth in Section 7 (for federal properties or where federal actions are involved) and Section 10 (for non-federal actions) of the FESA.[22] Candidate species do not have the full protection of the FESA; however, the USFWS advises applicants that candidate species could be elevated to listed species at any time.

USFWS administers the FESA, which designates critical habitat for endangered species. This enables USFWS to carry out its mission to conserve, protect, and enhance the nation's fish and wildlife and their habitats for the continuing benefit of people. Critical habitat areas cannot be disturbed without permission from the USFWS and other federal agencies, depending on land ownership. The USFWS also manages a system of land and waters for the conservation of wildlife and associated ecosystems. These National Wildlife Refuges are primarily managed for the preservation and protection of unique or important resources and ecosystems.

Section 10 of Rivers and Harbors Appropriation Act of 1899

Authorization from the USACOE must be obtained for construction of a structure in or over any navigable water of the U.S., pursuant to Section 10 of the Rivers and Harbors Appropriation Act of 1899 (33 United States Code [USC] §§ 401, 403, 407). Authorization is also needed for structures built near

22 U.S. Fish and Wildlife Service. 1973. *Endangered Species Act of 1973*. Available online at: https://www.fws.gov/endangered/esa-library/pdf/ESAall.pdf, accessed August 26, 2019.

navigable water if they would affect the course, location, condition, or capacity of the water body, as through re-channelization, disposal of fill, and so forth. [23]

Migratory Bird Treaty Act of 1918 (MBTA)

The MBTA (16 USC §§ 703–712) makes it unlawful to pursue, capture, kill, or possess any migratory bird or part, nest, or egg of any such bird listed in wildlife protection treaties between the United States, Great Britain, Mexico, Japan, and the countries of the former Soviet Union. Similar to the federal ESA, the MBTA authorizes the Secretary of the Interior to issue permits for incidental take.[24]

Fish and Wildlife Coordination Act, 1956

The objective of the Fish and Wildlife Coordination Act of 1956 (FWCA; 16 USC §§ 661–666c) is to protect fish and wildlife when federal actions result in the control or modification of a natural stream or body of water. Under the FWCA, Federal agencies shall consider the effect that water-related projects would have on fish and wildlife resources, prevent loss or damage and develop and improve fish and wildlife resources. The FWCA requires consultation with USFWS and state fish and wildlife agencies to develop measures to protect, develop and improve fish and wildlife resources.[25]

Section 401 of the Federal Clean Water Act (CWA) (1972)

Section 401 of the federal CWA (33 USC § 1251) is administered by the State Water Resources Control Board and the Regional Water Quality Control Boards (RWQCBs). Section 401 requires that prior to any federal permit or license, any activity, including river or stream crossings during road, pipeline, or transmission line construction, which may result in discharges into waters of the United States, must be certified by the applicable RWQCB. This certification ensures that the proposed activity does not violate federal water quality standards.[26] The SCAG region lies within the jurisdiction of five RWQCBs:

- Colorado River Basin

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23 U.S. Environmental Protection Agency. 2019. *Section 10 of the Rivers and Harbors Appropriation Act of 1899.* Available online at: https://www.epa.gov/cwa-404/section-10-rivers-and-harbors-appropriation-act-1899, accessed August 26, 2019.

24 U.S. Fish and Wildlife Services. *Migratory Bird Treaty Act*. Available online at: https://www.fws.gov/birds/policies-and-regulations/laws-legislations/migratory-bird-treaty-act.php, accessed August 26, 2019.

25 U.S. Fish and Wildlife Services. *Digest of Federal Resource Laws of Interest to the U.S. Fish and Wildlife Services*. Available online at: https://www.fws.gov/laws/lawsdigest/FWACT.HTML, accessed August 26, 2019.

26 U.S. Environmental Protection Agency. *Clean Water Act Section 401: State Certification of Water Quality*. Available online at: https://www.epa.gov/cwa-401/clean-water-act-section-401-state-certification-water-quality, accessed August 26, 2019.

- Lahontan
- Los Angeles
- Santa Ana
- San Diego

Section 404 of the Federal CWA

Section 404 of the federal CWA (33 USC § 1251), which is administered by the USACOE, regulates the discharge of dredged and fill material into waters of the United States. USACOE has established a series of nationwide permits that authorize certain activities in waters of the United States, provided that a proposed activity can demonstrate compliance with standard conditions. In general, USACOE requires an individual permit for an activity that will affect an area equal to or in excess of 0.3 acre of waters of the United States. Projects that result in impacts to less than 0.3 acre of waters of the United States can normally be conducted pursuant to one of the nationwide permits, if consistent with the standard permit conditions. USACOE also has discretionary authority to require an Environmental Impact Statement for projects that result in impacts to an area between 0.1 and 0.3 acre. Use of any nationwide permit is contingent on the activities having no impacts to endangered species.[27]

Marine Mammal Protection Act of 1972 (MMPA)

The MMPA (16 USC § 31) protects all marine mammals, including cetaceans (whales, dolphins, and porpoises), pinnipeds (seals and sea lions), sirenians (manatees and dugongs), sea otters, and polar bears within the waters of the United States. The MMPA prohibits the "take" of marine mammals without a permit, with certain exceptions. The definition of "take" under the MMPA is consistent with that of the federal ESA. The MMPA is managed by the federal government. The National Marine Fisheries Service is responsible for managing cetaceans, otariids, and phocids. The USFWS is responsible for managing odobenids, sirenians, otters, and polar bears. [28]

Marine Protection, Research, and Sanctuaries Act of 1972 (MPRSA)

The MPRSA (Public Law 92-532), also known as the Ocean Dumping Act, prohibits the dumping of material into the ocean that would unreasonably degrade or endanger human health or the marine

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27 U.S. Environmental Protection Agency. *Overview of Clean Water Act Section 404*. Available online at: https://www.epa.gov/cwa-404/overview-clean-water-act-section-404, accessed August 26, 2019.

28 U.S. Fish and Wildlife Service. *Marine Mammal Protection Act*. Available online at: https://www.fws.gov/international/laws-treaties-agreements/us-conservation-laws/marine-mammal-protection-act.html, accessed August 26, 2019.

environment. Ocean dumping cannot occur unless a permit is issued under the MPRSA. In the case of dredged material, the decision to issue a permit is made by the USACOE, using EPA's environmental criteria and subject to EPA's concurrence. [29]

Emergency Wetlands Resources Act of 1986 (EWRA)

The objective of the EWRA (16 USC §§ 3901–3932), dated November 10, 1986, is to promote the conservation of wetlands and help fulfill obligations contained in various migratory bird treaties. Under the EWRA, the USFWS must provide leadership and take action to: [30]

- Intensify cooperative efforts to manage and conserve wetlands
- Intensify efforts to protect wetlands

Bald and Golden Eagle Protection Act (BGEPA)

The purpose of the federal BGEPA (16 USC §§ 668–668c, as amended) that is administered by the USFWS protects bald and golden eagles, their nests, eggs, and parts.[31] The BGEPA states that no person shall take, possess, sell, purchase, barter, offer for sale, purchase or barter, transport, export, or import any bald or golden eagle alive or dead, or any part, nest, or egg without a valid permit to do so. The BGEPA prohibits the "take" of bald and golden eagles unless pursuant to regulations. *Take* is defined by the BGEPA as an action "to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb."

In addition to immediate impacts, this definition covers impacts that result from human-caused alterations initiated around a previously used nest site during a time when eagles were not present. Permits are issued to Native Americans to possess eagle feathers for religious purposes, and salvaged eagle carcasses can be sent to the National Eagle Repository in Colorado, where they are redistributed to Native Americans. Although the bald eagle was removed from the Endangered Species List in June 2007, it is still federally protected under the BGEPA and MBTA described above. In addition, the *National Bald Eagle Management Guidelines* were published in conjunction with delisting by the USFWS in May 2007 to provide provisions to continue to protect bald eagles from harmful actions and impacts.

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29 U.S. Environmental Protection Agency. *Summary of the Marine Protection, Research, and Sanctuaries Act*. Available online at: https://www.epa.gov/laws-regulations/summary-marine-protection-research-and-sanctuaries-act, accessed August 26, 2019.

30 U.S. Fish and Wildlife Services. *Digest of Federal Resource Laws of Interest to the U.S. Fish and Wildlife Service, Emergency Wetlands Resources Act*. Available online at: https://www.fws.gov/laws/lawsdigest/EMWET.HTML, accessed August 26, 2019.

31 U.S. Fish and Wildlife Service (USFWS). 2007. *National Bald Eagle Management Guidelines*. May. Available at: https://www.fws.gov/southdakotafieldoffice/NationalBaldEagleManagementGuidelines.pdf, accessed January 23, 2019.

Under the BGEPA, a final rule was published in May 2008 in the *Federal Register* that proposed authorization for take of bald eagles for those with existing authorization under the federal ESA where the bald eagle is covered in an HCP or the golden eagle is covered as a non-listed species.[32] The final rule also established a new permit category to provide expedited permits to entities authorized to take bald eagles through Section 7 Incidental Take Permits.

Wetlands – Executive Order Number 11990

Executive Order (EO) 11990 was issued in May 1977, as a furtherance of the National Environmental Policy Act (NEPA) providing protection of wetlands. Pursuant to the EO, all new construction should be designed to the greatest extent possible to avoid long- and short-term adverse impacts that would lead to the destruction or the modification of wetlands, in order to preserve and enhance the natural and beneficial values of wetlands. Federal agencies, such as the Federal Highway Administration (FHWA), cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds that: (1) there is no practicable alternative to the construction and (2) the proposed project includes all practicable measures to minimize harm.[33]

Invasive Species – Executive Order Number 13112

This EO was signed by President Clinton on February 3, 1999. It serves to prevent activities that may promote the introduction and spread of invasive species. The order states that federal agencies whose actions "may affect the status of invasive species shall … use relevant programs and authorities to … prevent the introduction of invasive species … detect and respond rapidly to and control populations of such species in a cost-effective and environmentally sound manner…monitor invasive species populations accurately and reliably … provide for restoration of native species and habitat conditions in ecosystems that have been invaded." In order to implement EO 13112, the FHWA has established guidance to prevent the introduction and spread, and promote the control, of invasive plant species on highway rights-of-way. Under EO 13112, federal agencies are prohibited from authorizing, funding, or carrying out actions that are likely to promote or result in the introduction or spread of invasive species unless all feasible measures to minimize the impacts have been analyzed and considered.[34]

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32 Federal Register. 2008. *Notices. 73(98): 29075–84.* May.

33 U.S. Environmental Protection Agency. *Protection of Wetlands (Executive Order 11990).* Avaialble online at: https://www.epa.gov/cwa-404/protection-wetlands-executive-order-11990, accessed August 26, 2019.

34 Federal Register. 1999. *Executive Order 13112 of February 3, 1999*. Available online at: https://www.govinfo.gov/content/pkg/FR-1999-02-08/pdf/99-3184.pdf, accessed August 26, 2019.

National Environmental Policy Act

The National Environmental Policy Act (NEPA) is implemented by regulations included in the Code of Federal Regulations (40 CFR § 1500 *et seq*.), which require careful consideration of the harmful effects of federal actions or plans, including projects that receive federal funds, if they may have a significant adverse effect on the environment. NEPA mandates that all federal agencies carry out their regulations, policies, and programs in accordance with NEPA's policies of environmental protection. NEPA encourages the protection of all aspects of the environment and requires federal agencies to utilize a systematic, interdisciplinary approach to agency decision-making that will ensure the integrated use of natural sciences such as geology. While NEPA compliance is not required for the Plan, NEPA compliance will be required for transportation improvement projects that will be financed using federal funds. Some development projects (such as low-income housing) also use federal funds and are subject to NEPA. The regulations also require projects requiring NEPA review to seek to avoid or minimize adverse effects of proposed actions, and restore and enhance environmental quality as much as possible.

The Council on Environmental Quality (CEQ) oversees NEPA, and the US EPA carries out administrative aspects of the NEPA process. NEPA mandates that the federal government shall give appropriate consideration to potential adverse environmental impacts of their major actions, including impacts to biological resources.[35]

3.4.2.2 State

Section 1600 of the State Fish and Game Code, Lake or Streambed Alteration

All diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake in California are subject to the regulatory authority of the CDFW pursuant to Sections 1600 through 1603 of the Code and require preparation of a Streambed Alteration Agreement. Pursuant to the Code, a stream is defined as a body of water that flows at least periodically, or intermittently, through a bed or channel having banks and supporting fish or other aquatic life. Based on this definition, a watercourse with surface or subsurface flows that support or have supported riparian vegetation is a stream and is subject to CDFW jurisdiction. Altered or artificial waterways valuable to fish and wildlife are subject to CDFW jurisdiction. CDFW also has jurisdiction over dry washes that carry water ephemerally during storm events. [36]

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35 U.S. Environmental Protection Agency. *Summary of the National Environmental Policy Act*. Available online at: https://www.epa.gov/laws-regulations/summary-national-environmental-policy-act, accessed August 26, 2019.

36 California Department of Fish and Wildlife. *Lake and Streambed Alteration Program*. Available online at: https://www.wildlife.ca.gov/Conservation/LSA, accessed August 26, 2019.

Section 2080 of the State Fish and Game Code, California Endangered Species Act (California ESA)

The California ESA prohibits the take of listed species except as otherwise provided in state law. Unlike the federal ESA, the California ESA applies the take prohibitions to species petitioned for listing (state candidates). State lead agencies are required to consult with the CDFW to ensure that any actions undertaken by the lead agency are not likely to jeopardize the continued existence of any state-listed species or result in destruction or degradation of required habitat. CDFW is authorized to enter into Memoranda of Understanding (MOUs) with individuals, public agencies, universities, zoological gardens, and scientific or educational institutions to import, export, take, or possess listed species for scientific, educational, or management purposes.[37]

Pursuant to Section 2081 of the Code, the CDFW may authorize individuals or public agencies to import, export, take, or possess, any state-listed endangered, threatened, or candidate species. These otherwise prohibited acts may be authorized through permits or MOUs if:[38]

- The take is incidental to an otherwise lawful activity.
- The impacts of the authorized take are minimized and fully mitigated.
- The permit is consistent with any regulations adopted pursuant to any recovery plan for the species.
- The applicant ensures adequate funding to implement the measures required by CDFW.

CDFW shall make this determination based on available scientific information and shall include consideration of the ability of the species to survive and reproduce.

Sections 2800 through 2840 of the State Fish and Game Code, Natural Community Conservation Planning Act

Section 2800 through 2840 of the State Fish and Game Code provides a mechanism to conserve natural communities on an ecosystem level while accommodating compatible land use. Specifically, it is used to provide comprehensive management and conservation of multiple wildlife species and the natural communities in which they occur.[39]

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37 California Department of Fish and Wildlife. *California's Endangered Species Act Listing Process*. Available online at: http://www.dfg.ca.gov/wildlife/nongame/t_e_spp/list_proced.html, accessed August 26, 2019.

38 California Legislative Information. *Article 3. Taking, Importation, Exportation, or Sale [2080-2085], Section 2081.*

39 California Legislative Information. *Article 3. Taking, Importation, Exportation, or Sale [2080-2085].*

The Natural Community Conservation Planning Act of 1991, as amended in 2003 established the Natural Community Conservation Planning program for the protection and perpetuation of the state's biological diversity. The CDFW established the program in order to conserve natural communities at the ecosystem level while accommodating compatible land use. An NCCP identifies and provides for the regional or area-wide protection of plants, animals, and their habitats, while allowing compatible and appropriate economic activity. The CDFW provides support, direction, and guidance to participants in order to ensure that NCCPs are consistent with the state ESA.

Sections 3503 and 3503.5 of the State Fish and Game Code, Resident and Migratory Birds

Sections 3503 and 3503.5 of the State Fish and Game Code provide regulatory protection to resident and migratory birds and all birds of prey within the State of California, including the regulation of the taking of nests and eggs, unless otherwise provided for by the State Fish and Game Code. Specifically, it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, or destroy the nest or eggs of any bird of prey, except as otherwise provided.[40,41]

Sections 3511, 4700, 5050, and 5515 of the State Fish and Game Code, Fully Protected Species

The classification of Fully Protected was the state's initial effort to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish, amphibians and reptiles, birds, and mammals. Most of the species on these lists have subsequently been listed under the state and/or federal Endangered Species Acts. Sections 3511, 4700, 5050 and 5515 of the Fish and Game Code state that Fully Protected species (birds, mammals, fish, reptiles, amphibians) or parts thereof may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock.[42,43,44,45]

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40 California Legislative Information. *Chapter 1. General Provisions [3500-3516], Section 3503*.

41 California Legislative Information. *Chapter 1. General Provisions [3500-3516], Section 3503.5*.

42 California Legislative Information. *Chapter 1. General Provisions [3500-3516], Section 3511*.

43 California Legislative Information. *Chapter 8. Fully Protected Mammals [4700-4700].*

44 California Legislative Information. *Chapter 2. Fully Protected Reptiles and Amphibians [5050-5050.].*

45 California Legislative Information. *Chapter 1. Miscellaneous [5500-5523], Section 5515.*

Title 14, § 460 of the California Code of Regulations

The regulations of take of furbearing mammals are established within the California Code of Regulations (CCR), Title 14, Division 1 (Subdivision 2), Chapter 5. Take is prohibited for several furbearing mammals under Title 14, § 460 of the CCR, including, but not limited to, desert kit fox (*Vulpes macrotis arsipus*) and red fox (*Vulpes vulpes*).[46] Title 14 § 460 is supported by Sections 200, 202, 203, and 4009.5 of the State Fish and Game Code.[47,48]

California Porter-Cologne Water Quality Control Act (1969)

Pursuant to the California Porter-Cologne Water Quality Control Act (California Water Code, Division 7), the State Water Resources Control Board is granted ultimate authority over water quality policy for the State of California. The nine regional boards, the RWQCBs, oversee water quality at the local and regional levels, and regulate pollutant and nuisance discharges into waters of the state. Waters of the state are defined as any surface water or groundwater, including saline waters, within the boundaries of the state. Before allowing discharges that may affect the quality of waters of the state, a Report of Waste Discharge must be filed with the RWQCB.[49]

California Wild and Scenic Rivers Act (1972)

The objective of the California Wild and Scenic Rivers Act of 1972 (Public Resources Code [PRC] § 5093.50) is the preservation of certain rivers which possess extraordinary scenic, reaction, fishery, or wildlife values. The Act provides permanent protection for some of the state's most outstanding free flowing rivers and prohibits actions such as the construction of dams or other harmful instream activities, except to serve local needs.[50]

California Coastal Act (1976)

Through the California Coastal Act (PRC Division 20), the California Coastal Commission has unusually broad authority to regulate development in the Coastal Zone. A permit is required for any project that might change the intensity of land use in the Coastal Zone including projects that would require a building or grading permit from the city or county, major vegetation clearing, or subdividing. The coastal

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46 California Code of Regulations. *Chapter 5. Furbearing Mammals*.

47 California Legislative Information. *Article 1. Authority [200-219]*.

48 California Legislative Information. *Article 1. Trapping Provisions [4000-4012]*.

49 California State Water Resources Control Board. 2019. *Porter-Cologne Water Quality Control Act*. Available online at: https://www.waterboards.ca.gov/laws_regulations/docs/portercologne.pdf, accessed August 26, 2019.

50 Water Education Foundation. *California Wild and Scenic Rivers Act*. Available online at: https://www.watereducation.org/aquapedia/california-wild-and-scenic-rivers-act, accessed August 26, 2019.

zone generally extends three miles seaward and about 1,000 yards inland. In particularly important and generally undeveloped areas where there can be considerable impact on the coastline from inland development, the coastal zone extends to a maximum of five miles inland from mean high tide line. In developed urban areas, the coastal zone extends substantially less than 1,000 yards inland.[51]

California Native Plant Protection Act (1977)

The Native Plant Protection Act (Fish and Game Code Section 1900–1913) includes measures to preserve, protect, and enhance rare and endangered native plants. The list of native plants afforded protection pursuant to the Native Plant Protection Act includes those listed as rare and endangered under the California ESA. The Native Plant Protection Act provides limitations by stating "no person will import into this State, or take, possess, or sell within this State" any rare or endangered native plant, except in compliance with provisions of the act. Individual landowners are required to notify the CDFW at least 10 days in advance of changing land uses to allow the CDFW to salvage any rare or endangered native plant material.[52]

California Desert Native Plant Act (1981)

The main purpose of the Desert Native Plant Act (Food and Agriculture Code Division 23) is to preserve and enhance desert native plants by protecting certain species from unlawful harvesting on both public and privately owned lands. The list of desert native plants afforded protection pursuant to the Desert Native Plant Act includes species within the Mojave Desert portions of Los Angeles, San Bernardino, and Riverside Counties. The Desert Native Plant Act provides limitations that no person will harvest, transport, or possession of certain native desert plants without authorization (i.e., valid permit or wood receipt). Authorization for take of native desert plants can be obtained through the sheriff or commissioner of the county where harvesting will occur and subject to county designated fees.[53]

Natural Community Conservation Planning Act of 1991, as Amended

The Natural Community Conservation Planning Act of 1991, as amended in 2003 (Fish and Game Code Section 2800-2835) established the Natural Community Conservation Planning program for the protection and perpetuation of the state's biological diversity. The CDFW established the program in order to conserve natural communities at the ecosystem level while accommodating compatible land use. An NCCP identifies and provides for the regional or area-wide protection of plants, animals, and their

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51 *Public Resources Code Division 20 California Coastal Act*. 2019.

52 California Legislative Information. *Chapter 10. Native Plan Protection [1900-1913].*

53 California Department of Fish and Wildlife. *California Desert Native Plants Act*. Available online at: https://www.wildlife.ca.gov/Conservation/Plants/CA-Desert-Plant-Act, accessed August 26, 2019.

habitats, while allowing compatible and appropriate economic activity. The CDFW provides support, direction, and guidance to participants in order to ensure that NCCPs are consistent with the state ESA.[54]

State Senate Concurrent Resolution No. 17 – Relative to Oak Woodlands

The State Senate Concurrent Resolution No. 17, filed with the Secretary of State on September 1, 1989, states that any state agencies having land use planning duties and responsibilities shall assess the effects of their land use decisions or actions within any oak woodlands containing blue oak (*Quercus douglasii*), Engelmann oak (*Q. engelmannii*), valley oak (*Q. lobata*), or coast live oak (*Q. agrifolia*). The State Senate defines "oak woodland" as a five-acre circular area containing five or more oak trees per acre. This resolution requires that state agencies must preserve and protect native oak woodlands to the maximum extent feasible or provide for replacement plantings where blue, Engelmann, valley, or coast live oak are removed from oak woodlands.

State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State

The SWRCB adopted procedures as an amendment to the Water Quality Control Plan for Ocean Waters of California and the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California to establish a statewide wetland definition and procedures for discharges on April 2, 2019.[55]

The procedures consist of four major elements: 1) a wetland definition; 2) a framework for determining if a feature that meets the wetland definition is a water of the state; 3) wetland delineation procedures; and 4) procedures for the submittal, review and approval of applications for Water Quality Certifications and Waste Discharge Requirements for dredge or fill activities. In accordance with EO W-59-93, the procedures ensure that the SWRCB's regulation of dredge or fill activities will be conducted in a manner "to ensure no overall net loss and long-term net gain in the quantity, quality, and permanence of wetlands acreage and values.

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54 California Department of Fish and Wildlife. *Natural Community Conservation Planning (NCCP)*. Available online at: https://www.wildlife.ca.gov/Conservation/Planning/NCCP, accused August 26, 2019.

55 California Water Boards. *Plan and Policies*. Available online at: https://www.waterboards.ca.gov/plans_policies/, accessed August 26, 2019.

State Wildlife Action Plan (SWAP)

Congress created the State and Tribal Wildlife Grants (SWG) program in 2000, recognizing the need to fund programs for the conversation of wildlife diversity.[56] Congress mandated each state and territory to develop a SWAP by 2005 that provided a comprehensive wildlife conservation strategy to continue receiving federal funds through the SWG program. California's first SWAP was completed by the California Department of Fish and Game (now the CDFW) and approved by the U.S. Fish and Wildlife Services (USFWS) in 2005. California's SWAP 2005 identified and targeted Species of Greatest Conservation Need (SGCN) and the critical habitats on which they depend. The SWG program requires SWAP updates at least every 10 years. CDFW has recenty prepared SWAP 2015, which is the first comprehensive update of SWAP 2005.[57] Currently under USFWS review for approval, the SWAP 2015 focuses on conservation of the wildlife resources of the nation's most biologically diverse state using an approach that is in harmony with a growing human population and the need for resilience in the face of a changing climate. Employing an ecosystem approach to conserve and manage diverse habitats and species, SWAP 2015 provides a blueprint for actions necessary to address the highest priorities for conserving California's aquatic, marine, and terrestrial resources.

Assembly Bill 2087

This bill establishes a pilot project for the Regional Conservation Investment Strategy (RCIS) program that encourages public agencies to develop regional conservation planning documents to help local native species populations by protecting, restoring, creating, and reconnecting their habitats. No more than eight regional strategies could be approved prior to January1, 2020, the date the program sunsets.

Senate Bill 103

This bill changes Assembly Bill 2087 by: 1) removing the January 1, 2020 "sunset" provision; and 2) allowing a RCIS to be exempt from the "cap" (i.e., the limit of eight RCISs that may be approved by CDFW) if a state water or transportation infrastructure agency requests approval of the RCIS.

3.4.2.3 Local

In addition to federal, state, and county regulations described above, general plans and municipal codes

56 U.S. Fish & Wildlife Services. Accessed 29 October 2015. State Wildlife Grant Program – Overview. Available at: http://wsfrprograms.fws.gov/Subpages/GrantPrograms/SWG/SWG.htm, accessed January 10, 2019.

57 California Department of Fish and Wildlife. 2015. California State Wildlife Action Plan 2015 Update: A Conservation Legacy for Californians. Available at: https://www.wildlife.ca.gov/SWAP/Final, accessed January 10, 2019.

of counties and cities in the SCAG region may include conservation elements that identify biological resources, including mature trees and locally important species that are afforded special consideration.

County General Plans and Ordinances

Per state general plan guidelines, county's general plan is required to contain a conservation element as well as an open space element. These elements are generally where discussions regarding biological resources can be found. Each county's general plan varies in level of detail and necessary measures to preserve biological resources. The counties within the SCAG area may each have individual codes or ordinances protecting biological resources. A commonly occurring ordinance is a native tree protection or oak tree protection ordinance. These codes and ordinances generally have a limited scope, in this case the removal of specific tree species, which are afforded some level of protection.

Imperial County

The Imperial County Code of Ordinances has established two codes related to biological resources (Chapter 12.44, Wildlife Protection, and Chapter 12.48 Wild Flowers and Trees). The Conservation and Open Space Element of the Imperial County General Plan has established one goal and two policies related to biological resources.[58] The County's two codes, one goal and two supporting policies relevant to the SCAG projects provide protection to wildlife, wild flowers and trees as well as preservation of native plant communities and best restoration practices.

Los Angeles County

The Conservation and Natural Resources Element of the Los Angeles County General Plan 2035 Update has established two goals and 13 policies related to biological resources. Ten of the 13 policies are relevant to the SCAG projects.[59] The two goals and eight supporting policies that apply to SCAG activities provide protection to natural habitats, special status species, sensitive plant communities, wildlife corridors, watersheds and other sensitive biological resources. They also act to discourage development in natural or biologically sensitive areas. In addition, the Los Angeles County Code of Ordinances has established an ordinance to protect native oak trees.

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58 Imperial County Planning and Development Services. 1993. *Imperial County General Plan: Chapter 9: Conservation and Open Space Element.* Pp. 47, 54. Available at: http://www.icpds.com/CMS/Media/Conservation-and-Open-Space-Element.pdf, accessed January 10, 2019.

59 Los Angeles County Department of Regional Planning. January 2014. *Los Angeles County General Plan Public Review Draft: Chapter 9: Conservation and Natural Resources Element.* P. 146. Available at: http://planning.lacounty.gov/assets/upl/project/gp_2035_Chapter9_2014.pdf, accessed January 10, 2019.

Los Angeles County has designated several areas containing sensitive biological resources as Significant Ecological Areas (SEAs). SEAs are areas that warrant special management because they contain biotic resources that are considered to be rare or unique; are critical to the maintenance of wildlife; represent relatively undisturbed areas of Los Angeles County Habitat Types; or serve as linkages. Any development within SEAs is subject to the discretion and policies of the Significant Ecological Areas Technical Advisory Committee (SEATAC).

Orange County

The Resources Element of the Orange County General Plan has established one goal and one policy related to biological resources.[60] The one goal and one supporting policy relevant to SCAG projects provide protection to wildlife, plants and vegetation communities.

Riverside County

The Riverside County Code of Ordinances has established one ordinance related to biological resources (No. 559, Section 1). The Open Space and Conservation Element of the Riverside County General Plan has established two objectives and eight policies related to biological resources.[61] The one ordinance, two goals, and eight supporting policies relevant to the SCAG projects provide protection to native trees, native plant communities, critical habitat, sensitive habitats, sensitive species and wildlife corridors. They also ensure continued participation and compliance with the County's Multi-Species HCP Program and the San Bernardino kangaroo rat HCP.

San Bernardino County

The San Bernardino County Development Code has established one code related to biological resources (Chapter 88.01.010(c)). The Conservation Element of the San Bernardino County General Plan has established one goal and six policies related to biological resources.[62] The one code, two goals, and six supporting policies relevant to SCAG projects provide protection to native species, sensitive species and

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60 Orange County Land Use Planning and Subdivision Services. 2005. *Orange County General Plan 2005: Chapter 6: Resources Element.* P. VI-32. Available online at: http://ocplanning.net/civicax/filebank/blobdload.aspx?blobid=40235, accessed January 10, 2019.

61 Riverside County Planning Department. November 2012. *Riverside County General Plan 2025: Open Space and Conservation Element.* P. OS-40. Available online at: http://www.riversideca.gov/planning/gp2025program/GP/12_Open_Space_and_Conservation_Element.pdf, accessed January 10, 2019.

62 San Bernardino County Land Use Services. 2007. *San Bernardino County General Plan: Chapter 5: Conservation Element.* P. V-13. Available online at: http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGP.pdf, accessed January 10, 2019.

sensitive plant communities. They also warrant coordination with the appropriate resource management agencies and interested groups to maintain the County's biological resources.

Ventura County

The Ventura County Code of Ordinances has established one ordinance related to biological resources. The Resources Element of the Ventura County General Plan has established one goal and two policies related to biological resources.[63] The one code, one goal and six supporting policies relevant to SCAG projects provide protection to native trees, sensitive species, sensitive habitats, wildlife corridors and locally important species/communities.

City General Plan and Ordinances

In accordance with Sections 6530(c) and (d) of the California Government Code, like the six counties in the SCAG region, all cities are required to have a conservation element and an open space element, as mandatory elements of their general plans. The conservation element provides goals and polices related to conservation, development, and utilization of natural resources including water and its hydraulic force, forests, soils, rivers and other waters, harbors, fisheries, wildlife, minerals, and other natural resources. One of the six required aspects of the open space element is for planning, conservation and management of open space for the preservation of natural resources, including habitat for fish and wildlife species; areas required for ecologic and other scientific study purposes; rivers, streams, bays and estuaries; and coastal beaches, lakeshores, banks of rivers and streams, and watershed lands. In addition, many of the cities have ordinances related to protection, conservation and management of natural habitats, and associated plant and animal resources.

Regional Conservation Investment Strategies

The RCIS Program encourages public agencies to develop regional conservation planning documents to help local native species populations by protecting, restoring, creating, and reconnecting their habitats. [64] The RCIS was created when the Governor signed Assembly Bill 2087 (2016) to initiate the pilot program (Program). The Program went into effect on January 1, 2017, as amended by Senate Bill 103 (2017), and is

63 Ventura County Planning and Development Services. 2016. *Ventura County General Plan: Goals, Policies And Programs.* P. 16. Available at: https://docs.vcrma.org/images/pdf/planning/plans/Goals-Policies-and-Programs.pdf, accessed January 10, 2019.

64 Energy and Environmental Consulting and California Department of Fish and Wildlife. 2019. Regional Conservation Investment Strategies. Available at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=134963&inline

administered by CDFW's Habitat Conservation Planning Branch. [65]. The goal of the RCIS is to achieve regional conservation outcomes through investments in conservation and mitigation that support regional conservation priorities. Public agencies and other entities can protect natural resources in their regions, for their ecological values and for the ecosystem services they provide to their communities. This is a non-regulatory and voluntary program.

The Program consists of regional conservation assessments (RCAs), RCISs, and mitigation credit agreements (MCAs):

- RCA's are a non-regulatory and non-binding conservation assessments that provide an analysis of species, ecosystems, protected areas, and habitat linkages. This information is intended to support the development/determination of long-term conservation priorities and to support the development of RCISs.
- RCIS include conservation and habitat enhancement strategies that advance the conservation of native species, habitat. These plans also provide nonbinding and voluntary guidance for the prioritization of conservation priorities, investments in ecological resource conservation sources, or identification of locations for compensatory mitigation.

- MCAs are mitigation credit agreements developed, in coordination with CDFW, to implement the conservation or habitat enhancement actions identified in an approved RCIS. These credits may be used as compensatory mitigation for impacts under CEQA, CESA, and the Lake and Streambed Alteration Program.

In the SCAG region there are two RCIS's currently in development: the Antelope Valley RCIS in northeastern Los Angeles County and the San Bernardino County RCIS in Southwestern San Bernardino County. These two draft plans are in process but may be finalized sometime after 2020. The Antelope Valley RCIS proponent is the Desert and Mountain Conservation Authority and the San Bernardino County RCIS proponent is the San Bernardino County Transportation Authority. Although these, nor any other plans, have been finalized in the region, RCIS should be considered as part of the mitigation strategy for transportation projects in the region.

65 California Department of Fish and Wildlife. 2019. Regional Conservation Investment Strategies Program. Available at: https://www.wildlife.ca.gov/Conservation/Planning/Regional-Conservatio

3.4.3 ENVIRONMENTAL IMPACTS

3.4.3.1 Thresholds of Significance

In accordance with Appendix G of the *State CEQA Guidelines*, the Plan would have a significant impact related to biological resources if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State Habitat Conservation Plan.

3.4.3.2 Methodology

Impacts to biological resources were evaluated in accordance with Appendix G of the 2019 *CEQA Guidelines*. Biological resources within the SCAG region were evaluated at a programmatic level of detail, in relation to the General Plans of the six counties and the 191 cities within the SCAG region; and a review of related literature germane to the SCAG region.

The impact assessment for biological resources focuses on the potentially significant direct effects of the Plan on biological resources within the SCAG region. To assess potential impacts to biological resources, existing geographic information system (GIS) spatial data for natural resources, as summarized in the

existing biological resource analysis were overlain with GIS data of major transportation projects proposed in the Plan.[66] The analysis considers the 2045 Plan conditions compared to existing conditions (generally 2019). This analysis includes major highway, rail, and transit projects to identify potential impacts near biological resources in each county that have the potential to result in significant direct impact to special status species or their habitats; have the potential to result in conversion of state-designated sensitive habitats, including those habitats afforded protection pursuant to Sections 401 and 404 of the Federal Clean Water Act, and/or Section 1600 of the State Fish and Game Code; or have the potential to disrupt migratory corridors, nursery sites, or lands designated for long-term regional conservation of species.

Using GIS spatial data, potential regional-level adverse effects were identified by adding a 500-foot buffer to major transportation projects included in the Plan and overlaying project impacts within each county in the SCAG region to identify intersections between transportation projects and known locations of biological resources, including natural vegetation, wetlands and water resources, special status species and communities, and natural lands. The analysis also includes a review of adopted HCPs NCCPs and RCIPs to identify potential conflicts with their provisions. The 500-foot buffer was added to account for any potential direct or indirect impacts that may occur to biological resources during construction and operation. The methodology for determining the significance of these impacts compares the future Plan conditions to baseline conditions.

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

3.4.3.3 Impacts and Mitigation Measures

Impact BIO-1 **Have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special**

66 Southern California Association of Governments GIS Data. 2019. Major_Highway_Project_PEIR_082119.gdb, DraftRTP_2045Plan_Transit, and a2040_Urban_Rail_New.

status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or US Fish and Wildlife Service.

Significant and Unavoidable Impact – Mitigation Required.

Implementation of transportation projects identified in the Plan and development projects anticipated to occur under the Plan would affect biological resources. Direct impacts that could occur during construction of some projects include direct loss of sensitive plant and/or wildlife species resulting from injury, death, or disturbance of these species. Direct impacts may also occur through direct habitat loss and fragmentation during construction, displacement of sensitive species due to construction noise or during operation, accidental introduction of non-native plants by construction equipment or during maintenance and general operation, introduction of new lighting sources, and dust and noise during construction and operation.

Implementation of any new transportation projects or land use strategies in or adjacent to natural habitats would also increase the risk and frequency of fires that could degrade the function and value of habitats supporting sensitive species (impacts from wildfires are further discussed in **Section 3.20, Wildfire**). Further, indirect impacts could result from general development related to growth that is expected to occur with the Plan. Indirect impacts could also occur as a result of transportation projects if suitable habitat was encroached upon to the extent that it could no longer support sensitive species. Indirect impacts may include edge effects resulting from habitat fragmentation which can alter habitat structure and composition as well as negatively impact predator-prey dynamics.

Expected significant impacts include: direct loss of natural resource lands; disturbance and removal of natural vegetation used by sensitive species; barriers to wildlife movement, habitat fragmentation, and the associated decrease in habitat quality; litter, trampling, light pollution and road noise in previously undisturbed natural areas; increased noise levels related to construction and/or increased traffic volumes; temporal loss of habitat during construction; expansion of public access into previously remote lands; displacement of riparian and wetland habitat; incursion of invasive plants and animals spreading from new transportation corridors; siltation of streams and other water bodies during construction; and the loss of open space that provides habitat for native species.

Impacts to sensitive species may be further exaceberated by the effects of climate change.[67] Special status species are most susceptible to climate change due to their small population sizes and, often, specific suitable habitat conditions required for their survival. The combination of project impacts and climate

67 Native Plants and Climate Change. 2019. California Deprtmnt of Fish and Wildlfe. Available at: https://www.wildlife.ca.gov/Conservation/Plants/Climate

change can further reduce available habitat, reduce movement opportunities for wildlife, provide new corridors for invasive species infestations, and increase the risk of fires in open space to the detriment of special status species.

Regional land use and transportation strategies set forth in the Plan focus new growth in HQTAs, existing suburban town centers, and more walkable, mixed-use communities. The Plan recognizes that as population continues to grow, there is increasing pressure on natural lands. One of the goals of the Plan (See **Chapter 2.0, Project Description**) is to promote conservation of natural and agricultural lands and restoration of critical habitats. The land use mix for the Plan assumes that 60 percent of new housing and 73 percent of new jobs will be in Growth Priority Areas and therefore would be directed away from sensitive habitat. The Plan also aims to preserve, enhance, and restore regional wildlife connectivity through strategies that encourage compact urban development. SCAG's Sustainable Communities Program supports planning in local jurisdiction to advance the regional growth vision. In addition, SCAG new regional data tools, like the Regional Data Platform and Greenprint, would help local jurisdictions identify areas well suited for infill and redevelopment as well as critical habitat and lands with sensitive natural resources to be preserved.

The Plan also includes urban greening strategies. Urban Greening is a multi–benefit land use strategy that improves the relationship between the built and natural environment. Greening can support reduction in greenhouse gas emissions by sequestering carbon and reduce vehicle miles traveled by making the environment more appealing for people who are bicycling and walking. Benefits within urban, suburban and rural settings include:

- Improved traffic calming and safety;
- Increased active transportation
- Cooler street surfaces and communities
- Increased trail and greenway connectivity
- Improved water quality, groundwater recharge and watershed health
- Reduced urban runoff
- Reduced energy consumption and costs
- Expanded urban forest
- Provision of wildlife habitat and increased biodiversity
- Expanded recreation opportunities and beautification.

The Plan also includes greenbelts and community separators to serve as contiguous areas that support land conservation. Creating a sustainable, "green" region requires that the built environment and natural resource areas coexist in a well–balanced land use pattern that encourages mutual co–benefits. The quality and range of conservation, natural and agricultural areas present in the region can be reinforced and enhanced by a range of regional and local tools. Paired with an emphasis on compact development, Connect SoCal's conservation strategies promote the economic and ecological benefits of preserving natural areas and farmlands, while also maximizing their potential for greenhouse gas reduction. New housing and employment development is emphasized in Growth Priority Areas, such as Job Centers, TPAs, HQTAs and NMAs, and away from natural and farm lands on the edges of urban and suburban areas, to incentivize infill development and the concentration of varied land uses. This emphasis on concentrated, compact growth makes it easier to travel shorter distances, which reduces per–capita greenhouse gas emissions. In addition, natural areas and farmlands have the capacity to absorb and store atmospheric carbon dioxide, preventing additional contributions of GHG emissions. Natural lands conservation has the co-benefit of protecting communities from major hazards caused or exacerbated by climate change, such as wildfires and flooding.

Overall, these strategies support redirecting growth away from high value habitat areas to existing urbanized areas which would support the conservation of natural habitats capable of sustaining listed and sensitive species by including land use strategies.

Across the SCAG region there are records of and/or habitat for 63 federally or state-listed wildlife species and 72 federally or state-listed plant species, 233 sensitive wildlife species, 449 rare and locally important plant species, and over 5.5 million acres of designated critical habitat for 46 federally listed species. The development of transportation improvement projects, particularly projects involving large-scale ground disturbance during construction such as grade separation projects, mixed flow lane projects, and rail projects, within the SCAG region may result in significant impacts to these species and their habitats. For example, major transportation improvement projects in San Bernardino County are anticipated to cross known habitat for the federally threatened desert tortoise, and major transportation improvement projects in Los Angeles, Orange, Riverside, and Ventura counties are anticipated to cross critical habitat for the coastal California gnatcatcher (**Table 3.4-13, Acres of Critical Habitat For Listed Species Potentially Within 500 Feet of Connect SoCal Transportation Projects**).

Table 3.4-13
Acres of Critical Habitat for Listed Species Potentially Affected by Connect SoCal Major Transportation Projects

Species	County					
	Imperial	Los Angeles	Orange	Riverside	San Bernardino	Ventura
	Acres of Critical Habitat within 500 Feet of Major Projects					
Arroyo toad	—	744	9	—	202	—
Ash-grey paintbrush	—	—	—	—	20	—
Braunton's milk-vetch	—	—	8	—	—	10
California red-legged frog	—	—	—	—	—	52
Casey's June Beetle	—	—	—	23	—	—
Coachella Valley milk-vetch	—	—	—	342	—	—
Coastal California gnatcatcher	—	2,382	911	56	96	310
Desert tortoise	—	—	—	898	4,161	—
Least Bell's vireo	—	273	—	369	148	—
Lyon's pentachaeta	—	—	—	—	—	71
Mountain yellow-legged frog	—	—	—	—	321	—
Palos Verdes blue butterfly	—	33	—	—	—	—
Riverside fairy shrimp	—	—	6	6		52
San Bernardino Merriam's kangaroo rat	—	—	—	142	1,936	—
San Diego ambrosia	—	—	—	23	—	—
Santa Ana sucker	—	141	212	260	190	—
Southwestern willow flycatcher	—	226	—	—	401	309
Spreading navarretia	—	—	—	244	—	—
Steelhead	—	1	4	—	—	—
Thread-leaved brodiaea	—	—	—	49	—	—
Tidewater goby	—	17	4	—	—	22
Western snowy plover	—	44	56	—	—	17
Yellow-billed Cuckoo	254	44	56	—	—	17

Source: SWCA Environmental Consultants. Biological Resources Report for Connect SoCal PEIR. October 2019.
California Department of Fish and Wildlife. 2019. Rarefind 5: A Database Application for the Use of the California Department of Fish and Game Natural Diversity Data Base. Sacramento, CA.
Southern California Association of Governments GIS Data. 2019. Major_Highway_Project_PEIR_082119.gdb, DraftRTP_2045Plan_Transit, and a2040_Urban_Rail_New.

Designated critical habitat contains known suitable habitat for federally listed species and typically is an indicator of suitable habitat for state- and/or non-listed sensitive species. More than 16,000 acres of critical habitat for 23 of the 26 species covered in the SCAG region are present within 500 feet of major project areas.

Of the 72 listed plant species with records in the SCAG region, 34 species, with nearly 1,500 recorded occurrences, have CNDDB records that exist within 500 feet of major transportation projects included in the Plan (**Table 3.4-14, Records of Listed Plan Species within 500 Feet of Connect SoCal Projects**).

Of the 63 listed wildlife species with records in the SCAG region, 41 species, with nearly 6,600 occurrences, have CNDDB records that exist within 500 feet of major transportation projects included in the Plan (**Table 3.4-15**). In addition to these listed species, impacts to rare, locally important, and sensitive plant and wildlife species would be expected to occur throughout the SCAG region where suitable habitat is present.

Table 3.4-14
Records of Listed Plant Species within 500 Feet of Connect SoCal Projects

Species	Imperial	Los Angeles	Orange	Riverside	San Bernardino	Ventura	Grand Total
ash-gray paintbrush					156		**156**
beach spectaclepod		41					**41**
Big Bear Valley sandwort					78		**78**
bird-foot checkerbloom					83		**83**
Braunton's milk-vetch		9	6			2	**17**
California dandelion					60		**60**
California Orcutt grass		76		29		3	**108**
Coachella Valley milk-vetch				49			**49**
coastal dunes milk-vetch		15					**15**
conejo buckwheat						3	**3**
Conejo dudleya						3	**3**
Gambel's water cress		1	7		11		**19**
Laguna Beach dudleya			4				**4**
Lyon's pentachaeta		13				3	**16**
marsh sandwort		1		5	72		**78**
Munz's onion				12			**12**
Nevin's barberry		9			1		**10**
salt marsh bird's-beak		20	24	5	72		**121**

Species	Imperial	Los Angeles	Orange	Riverside	San Bernardino	Ventura	Grand Total
San Bernardino blue grass					40		**40**
San Bernardino Mountains bladderpod					89		**89**
San Diego ambrosia				3			**3**
San Diego button-celery		1					**1**
San Fernando Valley spineflower		34					**34**
San Jacinto Valley crownscale				20			**20**
Santa Ana River woollystar			36	5	24		**65**
Santa Susana tarplant		10				5	**15**
slender-horned spineflower		23		15	12		**50**
slender-petaled thelypodium					15		**15**
southern mountain buckwheat					119		**119**
spreading navarretia		1		17			**18**
thread-leaved brodiaea			1	9	1		**11**
triple-ribbed milk-vetch				28	3		**31**
Ventura Marsh milk-vetch		16	11			42	**69**
Wiggins' croton	2						**2**
Grand Total	**2**	**270**	**89**	**197**	**836**	**61**	**1455**

Source: SWCA Environmental Consultants. Biological Resources Report for Connect SoCal PEIR. October 2019.
California Department of Fish and Wildlife. 2019. Rarefind 5: A Database Application for the Use of the California Department of Fish and Game Natural Diversity Data Base. Sacramento, CA.
Southern California Association of Governments GIS Data. 2019. Major_Highway_Project_PEIR_082119.gdb, DraftRTP_2045Plan_Transit, and a2040_Urban_Rail_New.

Table 3.4-15
Records of Listed Wildlife Species within 500 Feet of Connect SoCal Projects

Species	Imperial	Los Angeles	Orange	Riverside	San Bernardino	Ventura	Grand Total
American peregrine falcon		46	25			9	**80**
arroyo toad		17			23		**40**
bald eagle					5		**5**
bank swallow		60	21			10	**91**
Belding's savannah sparrow			64				**64**
California black rail	3	18	15	1	37	1	**75**
California least tern		6	44				**50**
California red-legged frog					17	5	**22**

Species	Imperial	Los Angeles	Orange	Riverside	San Bernardino	Ventura	Grand Total
Casey's June beetle				3			**3**
Coachella Valley fringe-toed lizard				127			**127**
coastal California gnatcatcher		51	87	52	19	6	**215**
Delhi Sands flower-loving fly				386	1722		**2108**
desert tortoise	1	1			10		**12**
El Segundo blue butterfly		6					**6**
Gila woodpecker	3			1			**4**
gilded flicker	2						**2**
green turtle		6	7				**13**
least Bell's vireo		88	112	126	34	39	**399**
lesser long-nosed bat					2		**2**
light-footed Ridgway's rail			67				**67**
Mohave ground squirrel		7			20		**27**
Mohave tui chub					13		**13**
Pacific pocket mouse		47	2				**49**
Palos Verdes blue butterfly		77					**77**
quino checkerspot butterfly		16	1	18	21		**56**
razorback sucker	1			1			**2**
Riverside fairy shrimp		3		3			**6**
San Bernardino kangaroo rat				19	22		**41**
Santa Ana sucker		75	7	21	2	5	**110**
southern mountain yellow-legged frog		7		2	16		**25**
southern rubber boa					2060		**2060**
southwestern willow flycatcher		82		2	12		**96**
steelhead - southern California DPS		5	115	47	16	21	**204**
Stephens' kangaroo rat				99			**99**
Swainson's hawk		30		34	44		**108**
tidewater goby		5	17			6	**28**
tricolored blackbird		15	24	8	1		**48**
unarmored threespine stickleback		65					**65**
western snowy plover		3	14			3	**20**
western yellow-billed cuckoo	3	17	3	6	24	10	**63**

Species	Imperial	Los Angeles	Orange	Riverside	San Bernardino	Ventura	Grand Total
Yuma Ridgway's rail	6						**6**
Grand Total	**19**	**753**	**625**	**956**	**4120**	**115**	**6588**

Source: SWCA Environmental Consultants. Biological Resources Report for Connect SoCal PEIR. October 2019.
California Department of Fish and Wildlife. 2019. Rarefind 5: A Database Application for the Use of the California Department of Fish and Game Natural Diversity Data Base. Sacramento, CA.
Southern California Association of Governments GIS Data. 2019. Major_Highway_Project_PEIR_082119.gdb, DraftRTP_2045Plan_Transit, and a2040_Urban_Rail_New.

While implementation of land use and transportation strategies may guide development toward areas that are already disturbed through the emphasis on compact development and the strategies listed above, some new transportation projects are still anticipated in areas where sensitive species are located. The level of impact to threatened and/or endangered species, fully protected and sensitive species, locally important species, or associated critical habitat will vary on a project-by-project basis. For example, grade separation projects or rail projects located in areas containing natural, previously undisturbed vegetation are anticipated to have a greater impact on threatened and/or endangered species, fully protected and sensitive species, locally important species, or associated critical habitat than a traffic signal synchronization or lane-restriping project located in an urban environment.

This analysis of impacts of the Plan to sensitive plant and wildlife species and their habitats and designated critical habitat is at the programmatic level, and conservatively assumes that species with critical habitat and/or CNDDB records in a given area may be present in that area. However, the CNDDB record is also incomplete and may not show all sensitive species present in a given area and project specific surveys may be required. The level of impact of subsequent projects would be subject to verification at the project-level of environmental review pursuant to CEQA. All projects within the SCAG region would be subject to the provisions of the Federal and State ESAs, as well as Sections 1900–1913, 3511, 4150, 4700, 5050, 5515 of the State Fish and Game Code and Sections 80071–80075 of the State Food and Agriculture Code.

Impacts to threatened and/or endangered species, fully protected and sensitive species, locally important species, or associated critical habitat resulting from transportation improvement projects included in the Plan would be significant, requiring the consideration of mitigation measures.

Mitigation Measures

SCAG Mitigation Measures

SMM BIO-1: SCAG shall facilitate reducing future impacts to species identified as a candidate, sensitive, or special status species and its habitats through cooperation, information sharing, and program development. SCAG shall consult with the resource agencies, such as the USFWS, NMFS, USACE, USFS, BLM, and CDFW, as well as local jurisdictions including cities and counties, to incorporate designated critical habitat, federally protected wetlands, the protection of sensitive natural communities and riparian habitats, designated open space or protected wildlife habitat, local policies and tree preservation ordinances, applicable HCPs and NCCPs, or other related planning documents into SCAG's ongoing regional planning efforts, such as web-based planning tools for local government including CA LOTS, and other GIS tools and data services, including, but not limited to, Map Gallery, GIS library, and GIS applications, and direct technical assistance efforts and sharing of associated online Training materials. Planning efforts shall be consistent with the approach outlined in the California Wildlife Action Plan.

SMM BIO-2: SCAG shall continue to develop a regional conservation strategy in coordination with local jurisdictions and other stakeholders, including the county transportation commissions. The conservation strategy will build upon existing efforts including those at the sub-regional and local levels to identify potential priority conservation areas. SCAG shall develop new regional tools, like the Regional Data Platform and Regional Greenprint to help local jurisdictions identify areas well suited for infill and redevelopment as well as critical habitat and natural lands to be preserved, including natural habitat corridors. SCAG will also collaborate with stakeholders to establish a new Regional Advanced Mitigation Program (RAMP) initiative to preserve habitat.

Project Level Mitigation Measures

PMM BIO-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to threatened and endangered species. Such measures may include the following or other comparable measures identified by the Lead Agency:

a) Require project design to avoid occupied habitat, potentially suitable habitat, and designated critical habitat, wherever practicable and feasible.

b) Where avoidance is determined to be infeasible, provide conservation measures to fulfill the requirements of the applicable authorization for incidental take pursuant to Section 7 or 10(a) of the federal ESA, Section 2081 of the California ESA to support issuance of an incidental take permit, and/or as identified in local or regional plans. Conservation strategies to protect the survival and recovery of federally and state-listed endangered and local special status species may include:

   i. Impact minimization strategies

   ii. Contribution of in-lieu fees for in-kind conservation and mitigation efforts

   iii. Use of in-kind mitigation bank credits

   iv. Funding of research and recovery efforts

   v. Habitat restoration

   vi. Establishment of conservation easements

   vii. Permanent dedication of in-kind habitat

c) Design projects to avoid desert native plants protected under the California Desert Native Plants Act, salvage and relocate desert native plants, and/or pay in lieu fees to support off-site long-term conservation strategies.

d) Temporary access roads and staging areas will not be located within areas containing sensitive plants, wildlife species or non-native habitat wherever feasible, so as to avoid or minimize impacts to these species

e) Develop and implement a Worker Environmental Awareness Program (environmental education) to inform project workers of their responsibilities to avoid and minimize impacts on sensitive biological resources.

f) Retain a qualified botanist to document the presence or absence of special status plants before project implementation.

g) Appoint a qualified biologist to monitor construction activities that may occur in or adjacent to occupied sensitive species' habitat to facilitate avoidance of resources not permitted for impact.

h) Appoint a qualified biologist to monitor implementation of mitigation measures.

i) Schedule construction activities to avoid sensitive times for biological resources (e.g. steelhead spawning periods during the winter and spring, nesting bird season) and to avoid the rainy season when erosion and sediment transport is increased.

j) Develop an invasive species control plan associated with project construction

k) If construction occurs during breeding seasons in or adjacent to suitable habitat, include appropriate sound attenuation measures required for sensitive avian species and other best management practices appropriate for potential local sensitive wildlife

l) Conduct pre-construction surveys to delineate occupied sensitive species' habitat to facilitate avoidance.

m) Where projects are determined to be within suitable habitat and may impact listed or sensitive species that have specific field survey protocols or guidelines outlined by the USFWS, CDFW, or other local agency, conduct preconstruction surveys that follow applicable protocols and guidelines and are conducted by qualified and/or certified personnel.

Level of Significance after Mitigation

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

Impact BIO-2 **Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service.**

Significant and Unavoidable Impact – Mitigation Required.

Implementation of transportation projects identified in the Plan and development projects anticipated to occur under the Plan would have a substantial adverse effect on riparian habitats and other sensitive natural communities. Land use and transportation strategies in the Plan seek to minimize the conversion of natural landscapes that may contain sensitive plant communities or riparian habitats by focusing new growth in HQTAs, Growth Priority Areas, and more walkable, mixed-use communities. Some jurisdictions in the region have taken steps toward planning comprehensively for conserving natural lands and farmlands, while also meeting demands for growth. Proposed natural lands conservation strategies described in the Plan are built upon the conservation framework and complements an infill-based approach. While implementation of land use strategies may guide development projects toward areas that are already developed, some projects are still anticipated in areas where riparian habitats or other sensitive natural communities are located.

The level of impacts to riparian habitats and sensitive natural communities as a result of the Plan will differ on a project-by-project basis. For example, projects that have the potential to cross waterways or require conversion of natural open space to infrastructure, such as transit or rail projects, highway segment projects, land use development in open space areas, or have the potential to convert state-designated habitats including riparian habitats, would have the potential to have significant impacts on sensitive plant communities and riparian habitats. As described above, the Plan includes greenbelts and community separators to support land conservation and allow the built environment and natural resource areas to coexist. Transportation projects that are contained within the alignments of existing transportation corridors, such as bike lane projects and traffic demand management measures, as well as land use development within existing urbanized areas would generally not be expected to have significant impacts on sensitive plant communities and riparian habitats.

Of the nearly 23 million acres of open space in the SCAG region, 318,000 acres are currently identified by the CNDDB as containing state-sensitive plant communities, including 190,700 acres of riparian habitats. Riparian habitats in the SCAG region may fall under the jurisdiction of the CDFW. It is important to note that mapping of sensitive habitats and sensitive natural communities within the region is incomplete and the likelihood of additional state-sensitive plant communities and riparian habitat to exist within the six-county region is high. Therefore, due to large-scale ground disturbance, including grade separation

projects, mixed flow lane projects, and rail projects, and large residential subdivisions within the SCAG region, the Plan may result in significant impacts to these riparian habitats and sensitive plant communities.

It is also estimated that the Plan will result in the direct consumption of 41,546 acres of greenfield. Natural open space areas have a high potential to contain sensitive plant communities and riparian habitats, and projects constructed in these areas would require individual field analysis at the project-level to determine the level of impacts.

Impacts to CNDDB documented sensitive plant communities and CDFW documented sensitive natural communities and riparian habitats within 500 feet of major transportation projects included in the Plan would occur within each county in the SCAG region (**Table 3.4-16, Acres of Sensitive and Riparian Habitats within 500 Feet of Connect SoCal Major Transportation Projects**). It is anticipated that impacts to sensitive and riparian habitats would occur in areas beyond those identified by the CNDDB and CDFW. Of the more than 80,000 linear miles of blueline features in the SCAG region, 4,466 miles have the potential to be adversely affected within 500 feet of major transportation projects included in the Plan (**Table 3.4-17, Blueline Streams and Rivers within 500 Feet of Connect SoCal Major Transportation Projects**). These blueline features have the potential to contain riparian habitat.

Impacts associated with the conversion of sensitive and riparian habitats would include direct loss and fragmentation of sensitive communities and riparian habitats as projects are developed, temporal loss of habitat in temporary work areas, alteration of hydrology supporting these habitats, and the possible introduction of non-native plants that would degrade existing communities during construction, operation, and maintenance. Further, indirect impacts resulting from the development of transportation projects could include growth induced development of associated infrastructure to support population growth within surrounding areas which may impact sensitive plant communities and riparian habitats through the disturbance and removal of vegetation, alterations to supporting watersheds or changes (addition or removal) of up-stream water sources.

Table 3.4-16
Acres of Sensitive and Riparian Habitats within 500 Feet of Connect SoCal Major Transportation Projects

Habitat Type	Imperial	Los Angeles	Orange	Riverside	San Bernardino	Ventura	Grand Total
California Walnut Woodland		431					**431**
Desert Fan Palm Oasis Woodland				148	704		**851**
Mesquite Bosque				130			**130**
Open Engelmann Oak Woodland		308					**308**
Pebble Plains					111		**111**
Riversidian Alluvial Fan Sage Scrub		418			1475		**1893**
Sonoran Cottonwood Willow Riparian Forest	73						**73**
Southern California Arroyo Chub/Santa Ana Sucker Stream		32	379	158	13		**582**
Southern California Coastal Lagoon		8					**8**
Southern California Steelhead Stream		3				115	**118**
Southern California Threespine Stickleback Stream		515					**515**
Southern Coast Live Oak Riparian Forest		338	46			44	**428**
Southern Coastal Bluff Scrub		65					**65**
Southern Coastal Salt Marsh		48	242				**290**
Southern Cottonwood Willow Riparian Forest		551	333	487	46		**1417**
Southern Dune Scrub		407	51				**459**
Southern Foredunes			178				**178**
Southern Mixed Riparian Forest					158		**158**
Southern Riparian Forest					18		**18**
Southern Riparian Scrub		1271				184	**1456**
Southern Sycamore Alder Riparian Woodland		159	119	230	98	113	**718**
Southern Willow Scrub		98	90			162	**350**
Valley Oak Woodland		142				35	**176**
Walnut Forest		13					**13**
Grand Total	**73**	**4808**	**1438**	**1153**	**2623**	**653**	**10747**

Source: SWCA Environmental Consultants. Biological Resources Report for Connect SoCal PEIR. October 2019.
California Department of Fish and Wildlife. 2019. BIOS. Available online at: https://www.wildlife.ca.gov/data/cnddb/maps-and-data#43018410-cnddb-quickview-tool.
Southern California Association of Governments GIS Data. 2019. Major_Highway_Project_PEIR_082119.gdb, DraftRTP_2045Plan_Transit, and a2040_Urban_Rail_New.

Table 3.4-17
Blueline Streams and Rivers within 500 Feet of
Connect SoCal Major Transportation Projects

County	Miles of Blueline Streams/Rivers within 500 Feet of Major Transportation Projects
Imperial	158
Los Angeles	3399
Orange	223
Riverside	314
San Bernardino	274
Ventura	99
Grand Total	**4466**

Source: SWCA Environmental Consultants. Biological Resources Report for Connect SoCal PEIR. October 2019.
U.S. Geological Survey. National Hydrography Dataset. Available online at: https://www.usgs.gov/core-science-systems/ngp/national-hydrography/about-national-hydrography-products.
Southern California Association of Governments GIS Data. 2019. Major_Highway_Project_PEIR_082119.gdb, DraftRTP_2045Plan_Transit, and a2040_Urban_Rail_New.

This analysis of impacts of the Plan to sensitive plant communities and riparian habitats is at the programmatic level, and conservatively assumes that all natural open space areas have the potential to contain sensitive plant communities and all waterways have the potential to contain riparian habitat. However, the existing data record is also incomplete and much more sensitive habitat is likely present in the region and project specific surveys may be required. The level of impact of subsequent projects would be subject to verification at the project-level of environmental review pursuant to CEQA. All projects within the SCAG region would be subject to the provisions of Section 1600 of the State Fish and Game Code in which a Lake or Streambed Alteration Agreement would need to be obtained prior to the alteration of a state jurisdictional area.

Therefore, the Plan would result in significant impacts to state-designated riparian and other sensitive plant communities, including areas subject to Section 1600 of the State Fish and Game Code, requiring the consideration of mitigation measures.

Mitigation Measures

SCAG Mitigation Measures

See **SMM BIO-1** and **SMM BIO-2.**

Project Level Mitigation Measures

See **PMM BIO-1.**

PMM BIO-2: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to riparian habitats and other sensitive natural communities. Such measures may include the following or other comparable measures identified by the Lead Agency:

a) Consult with the USFWS and NMFS where such state-designated sensitive or riparian habitats provide potential or occupied habitat for federally listed rare, threatened, and endangered species afforded protection pursuant to the federal ESA.

b) Consult with the USFS where such state-designated sensitive or riparian habitats provide potential or occupied habitat for federally listed rare, threatened, and endangered species afforded protection pursuant to the federal ESA and any additional species afforded protection by an adopted Forest Land Management Plan or Resource Management Plan for the four national forests in the six-county area: Angeles, Cleveland, Los Padres, and San Bernardino.

c) Consult with the CDFW where such state-designated sensitive or riparian habitats provide potential or occupied habitat for state-listed rare, threatened, and endangered species afforded protection pursuant to the California ESA, or Fully Protected Species afforded protection pursuant to the State Fish and Game Code.

d) Consult with the CDFW pursuant to the provisions of Section 1600 of the State Fish and Game Code as they relate to Lakes and Streambeds.

e) Consult with the USFWS, USFS, CDFW, and counties and cities in the SCAG region, where state-designated sensitive or riparian habitats are occupied by birds afforded protection pursuant to the MBTA during the breeding season.

f) Consult with the CDFW for state-designated sensitive or riparian habitats where furbearing mammals, afforded protection pursuant to the provisions of the State Fish and Game Code for fur-beaming mammals, are actively using the areas in conjunction with breeding activities.

g) Require project design to avoid sensitive natural communities and riparian habitats, wherever practicable and feasible.

h) Where avoidance is determined to be infeasible, develop sufficient conservation measures through coordination with local agencies and the regulatory agency (i.e., USFWS or CDFW) to protect sensitive natural communities and riparian habitats and develop appropriate compensatory mitigation, where required.

i) Appoint a qualified wetland biologist to monitor construction activities that may occur in or adjacent to sensitive communities.

j) Appoint a qualified wetland biologist to monitor implementation of mitigation measures.

k) Schedule construction activities to avoid sensitive times for biological resources and to avoid the rainy season when erosion and sediment transport is increased.

l) When construction activities require stream crossings, schedule work during dry conditions and use rubber-wheeled vehicles, when feasible. Have a qualified wetland scientist determine if potential project impacts require a Notification of Lake or Streambed Alteration to CDFW during the planning phase of projects.

m) Consult with local agencies, jurisdictions, and landowners where such state-designated sensitive or riparian habitats are afforded protection pursuant an adopted regional conservation plan.

n) Install fencing and/or mark sensitive habitat to be avoided during construction activities.

o) Salvage and stockpile topsoil (the surface material from 6 to 12 inches deep) and perennial native plants, when recommended by the qualified wetland biologist, for use in restoring native vegetation to areas of temporary disturbance within the project area. Salvage of soils containing invasive species, seeds and/or rhizomes will be avoided as identified by the qualified wetland biologist.

p) Revegetate with appropriate native vegetation following the completion of construction activities. as identified by the qualified wetland biologist.

q) Complete habitat enhancement (e.g., through removal of non-native invasive wetland species and replacement with more ecologically valuable native species).

r) Use Best Management Practices (BMPs) at construction sites to minimize erosion and sediment transport from the area. BMPs include encouraging growth of native vegetation in disturbed areas, using straw bales or other silt-catching devices, and using settling basins to minimize soil transport.

Level of Significance after Mitigation

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

Impact BIO-3 **Have a substantial adverse effect on State or Federally Protected Wetlands (including but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption or other means.**

Significant and Unavoidable Impact – Mitigation Required.

Implementation of transportation projects identified in the Plan and development projects anticipated to occur under the Plan would have a substantial adverse effect on wetlands. Transportation and land use strategies in the Plan (e.g., compact growth, TSM, etc.) seek to minimize impacts to federally protected wetlands and Waters of the United States as defined by Section 404 of the Clean Water by focusing new growth in HQTAs, Growth Priority Areas, and more walkable, mixed-use communities. Impacts would occur where dredge or fill would be required within wetlands or other waters of the United States, particularly where projects need to cross drainages where a clearspan to avoid impacts is infeasible. There is potential for comparable significant impacts in areas subject to Section 10 of the Rivers and Harbors Act. The level of impacts to federally protected wetlands and Waters of the United States would

vary on a project-by-project basis. For example, grade separation projects or transit/rail projects located in areas containing coastal habitats or close to the terminal locations of major rivers or stream systems, where the width of the stream is often largest would be anticipated to have a greater impact on federally protected wetlands and waters of the United States than those located in the upstream portion of the watershed, near the headwaters where drainages are typically more numerous and narrower.

More than 800,000 acres of federally protected wetlands and waterways potentially subject to the jurisdiction of the USACE were identified by the National Wetlands Inventory to be present in the SCAG region. In addition, the SCAG region includes more than 80,000 linear miles of USGS blueline drainages that may contain waters of the United States.

While land use development projects may be focused in areas that are already developed as reflected under the Plan, some new projects are still anticipated in areas where wetlands are located.

Potential impacts to wetlands and waters of the United States within 500 feet of major transportation projects included in the Plan exist within all six counties in the SCAG region, ranging from 700 acres potentially affected in Imperial County to 5,000 acres potentially affected in Los Angeles County (**Table 3.4-18, Acres of Federally Protected Wetlands and Waterways within 500 Feet of Connect SoCal Major Transportation Projects**).

Table 3.4-18
Acres of Federally Protected Wetlands and Waterways within 500 Feet of Connect SoCal Major Transportation Projects.

Habitat	Acres
Imperial	**694**
Freshwater Emergent Wetland	26
Freshwater Forested/Shrub Wetland	142
Freshwater Pond	110
Lake	55
Riverine	361
Los Angeles	**5014**
Estuarine and Marine Deepwater	458
Estuarine and Marine Wetland	213
Freshwater Emergent Wetland	235
Freshwater Forested/Shrub Wetland	715
Freshwater Pond	531
Lake	203

Habitat	Acres
Riverine	2657
Orange	**1935**
Estuarine and Marine Deepwater	253
Estuarine and Marine Wetland	214
Freshwater Emergent Wetland	95
Freshwater Forested/Shrub Wetland	331
Freshwater Pond	179
Lake	325
Riverine	539
Riverside	**1465**
Freshwater Emergent Wetland	140
Freshwater Forested/Shrub Wetland	344
Freshwater Pond	153
Lake	47
Riverine	781
San Bernardino	**1906**
Freshwater Emergent Wetland	103
Freshwater Forested/Shrub Wetland	70
Freshwater Pond	231
Lake	606
Riverine	896
Ventura	**865**
Estuarine and Marine Deepwater	9
Estuarine and Marine Wetland	44
Freshwater Emergent Wetland	72
Freshwater Forested/Shrub Wetland	295
Freshwater Pond	80
Riverine	365
Grand Total	**11,879**

Source: SWCA Environmental Consultants. Biological Resources Report for Connect SoCal PEIR. October 2019.
U.S. Fish and Wildlife Service. National Wetlands Inventory. Available online at: https://www.fws.gov/wetlands/data/Mapper.html.
Southern California Association of Governments GIS Data. 2019. Major_Highway_Project_PEIR_082119.gdb, DraftRTP_2045Plan_Transit, and a2040_Urban_Rail_New.

Additionally, by evaluating a 500 foot buffer around major transportation projects in the Plan, it was determined that major transportation projects included in Connect SoCal are anticipated to intersect more than 75 linear miles of navigable waterways including waterways that are protected by Section 10 of the

Rivers and Harbors Appropriation Act (**Table 3.4-19, Federally Protected Waterways Under Rivers and Harbors Act within 500 Feet of Connect SoCal Major Transportation Projects**).

Table 3.4-19
Federally Protected Waterways under Rivers and Harbors Act
within 500 Feet of Connect SoCal Major Transportation Projects

Major River in the SCAG Region	Linear Miles Potentially Affected within 500 Feet of Major Transportation Projects
Los Angeles	59.0
Los Angeles River	32.3
San Gabriel River	12.3
Santa Clara River	14.4
Orange	10.5
San Gabriel River	0.0
Santa Ana River	10.5
Riverside	2.8
Santa Ana River	2.8
San Bernardino	2.2
Santa Ana River	2.2
Ventura	0.7
Santa Clara River	0.7
Grand Total	**75.3**

Source: SWCA Environmental Consultants. Biological Resources Report for Connect SoCal PEIR. October 2019.
California Department of Fish and Wildlife. 2019. BIOS. Available online at: https://www.wildlife.ca.gov/data/cnddb/maps-and-data#43018410-cnddb-quickview-tool.
Southern California Association of Governments GIS Data. 2019. Major_Highway_Project_PEIR_082119.gdb, DraftRTP_2045Plan_Transit, and a2040_Urban_Rail_New.

Potential impacts include disruption of streams and wetlands as new projects are developed, and dredge and fill activities associated with development, operation, and maintenance. All projects within the SCAG region would be subject to the provisions of Section 404 of the Federal CWA. Dredge or fill in waters of the United States is subject to the regulatory authority of the USACE pursuant to Section 404 of the Federal CWA.

Therefore, the Plan would result in significant impacts to federally protected wetlands and Waters of the United States, requiring the consideration of mitigation measures.

Mitigation Measures

SCAG Mitigation Measures

See **SMM BIO-1** and **SMM BIO-2.**

Project Level Mitigation Measures

See **PMM BIO-1** and **PMM BIO-2.**

PMM BIO-3: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to wetlands. Such measures may include the following or other comparable measures identified by the Lead Agency.

a) Require project design to avoid federally protected aquatic resources consistent with the provisions of Sections 404 and 401 of the CWA, wherever practicable and feasible.

b) Where the lead agency has identified that a project, or other regionally significant project, has the potential to impact other wetlands or waters, such as those considered Waters Of the State of California under the *State Wetland Definition and Procedures for Dischargers of Dredged or Fill Material to Waters of the State* , not protected under Section 404 or 401 of the CWA, seek comparable coverage for these wetlands and waters in consultation with the SWRCB, applicable RWQCB, and CDFW.

c) Where avoidance is determined to be infeasible, develop sufficient conservation measures to fulfill the requirements of the applicable authorization for impacts to federal and state protected aquatic resource to support issuance of a permit under Section 404 of the CWA as administered by the USACE. The use of an authorized Nationwide Permit or issuance of an individual permit requires the project applicant to demonstrate compliance with the USACE's Final Compensatory Mitigation Rule. The USACE reviews projects to ensure environmental impacts to aquatic resources are avoided or minimized as much as possible. Consistent with the administration's performance standard of "no net loss of wetlands" a USACE permit may require a project proponent to restore, establish, enhance or preserve other aquatic resources in order to replace those affected by the proposed project. This compensatory mitigation process seeks to replace the loss of existing aquatic resource functions and

area. Project proponents required to complete mitigation are encouraged to use a watershed approach and watershed planning information. The new rule establishes performance standards, sets timeframes for decision making, and to the extent possible, establishes equivalent requirements and standards for the three sources of compensatory mitigation:

- Permittee-responsible mitigation
- Contribution of in-kind in-lieu fees
- Use of in-kind mitigation bank credits
- Where avoidance is determined to be infeasible and

d) Where avoidance is determined to be infeasible and proposed projects' impacts exceed an existing Nationwide Permit (NWP) and/or California SWRCB-certified NWP, the lead agency should provide USACE and SWRCB (where applicable) an alternative analysis consistent with the Least Environmentally Damaging Practicable Alternatives in this order of priorities:

- Avoidance
- Impact Minimization
- On-site alternatives
- Off-site alternatives

e) Require review of construction drawings by a certified wetland delineator as part of each project-specific environmental analysis to determine whether aquatic resources will be affected and, if necessary, perform formal wetland delineation

Level of Significance after Mitigation

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

mitigation measures, this PEIR finds impacts on wetlands could be significant and unavoidable even with implementation of mitigation..

Impact BIO-4 **Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.**

Significant and Unavoidable Impact – Mitigation Required.

Implementation of transportation projects identified in the Plan and development projects anticipated to occur under the Plan would interfere substantially with the movement of native resident or migratory fish, or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites directly, as a result of habitat conversion to accommodate transportation projects and growth under the Plan, or indirectly through interruption of movement or migratory corridors caused by construction and operation of infrastructure for transportation projects and adjacent projects that may result from improved transportation access. The Plan would result in the direct consumption of 41,546 greenfield acres and the degradation of approximately 15,800 acres of bird habitat.[68] Indicators of wildlife movement are present across the SCAG region. More than 18 million acres of natural open space in the region can be characterized as having the potential to be suitable for, or aid in, wildlife movement. Furthermore, many bird species breed and are expected to nest within the entire SCAG region, including urban areas. Within that open space is nearly 12 million acres of habitat blocks that support native wildlife biodiversity and a significant wildlife connectivity network. These large, intact blocks are connected by more than 4.5 million acres of corridors that are classified as highly beneficial to wildlife movement.

Potential impacts exist for 16,167 acres of intact natural landscape blocks and 18,716 acres of associated major riparian connectors found within 500 feet of major transportation projects included in the Plan (**Table 3.4-20, Areas Used for Wildlife Movement Areas Potentially Affected by Connect SoCal Major Transportation Projects by County**).

Projects, particularly projects involving large-scale ground disturbance during construction such as grade separation projects, mixed flow lane projects, and rail projects, as well as large-scale land use development could result in significant impacts to the wildlife movement corridors and native wildlife nursery sites. Some projects may also have the potential to cross areas that currently support medium to high permeability to wildlife movement in Ventura, Los Angeles, San Bernardino, Riverside and Imperial Counties.

68 SCAG Scenario Planning Model Output, October 2019

Table 3.4-20
Areas Used for Wildlife Movement Potentially Affected by Connect SoCal Major Transportation Projects by County

	Acres of Natural Landscape Blocks within 500 feet of Major Transportation Projects	Acres of Potential Landscape Block Major Riparian Connectors within 500 feet of Major Transportation Projects	Grand Total
Imperial	654	666	1,321
Los Angeles	3,914	12,165	16,079
Orange	1,287	2,403	3,689
Riverside	2,862	2,210	5,072
San Bernardino	7,202	898	8,100
Ventura	248	374	622
Grand Total	**16,167**	**18,716**	**34,883**

Source: SWCA Environmental Consultants. Biological Resources Report for Connect SoCal PEIR. October 2019.
California Department of Fish and Wildlife. 2019. Habitat Connectivity Planning for Fish and Wildlife. Available online at: https://www.wildlife.ca.gov/Conservation/Planning/Connectivity.
Natural Landscape Blocks - California Essential Habitat Connectivity (CEHC). 2017. California Department of Fish and Game, Sacramento, CA. Available online at: https://map.dfg.ca.gov/metadata/ds0621.html
Southern California Association of Governments GIS Data. 2019. Major_Highway_Project_PEIR_082119.gdb, DraftRTP_2045Plan_Transit, and a2040_Urban_Rail_New.

These impacts include habitat removal and fragmentation that would disrupt wildlife corridor functionality as new projects are developed, and introduction of lighting and noise during construction and operation that may interrupt wildlife movement and disturb nursery and nesting sites. Construction, operation and maintenance of transportation and development projects across or adjacent to existing wildlife corridors could introduce new barriers to wildlife movement or increase the impact of barriers to wildlife movement by widening the barriers and thus narrowing the corridor. The linear nature of transportation projects increases the potential extent and significance of this effect. Additionally, an increase in wildlife-roadway conflicts as a result of development could increase wildlife injury and fatalities.

One of the goals of the Plan is to preserve, enhance, and restore regional wildlife connectivity through strategies that encourage compact urban development. SCAG is also developing a Regional Greenprint, a strategic web-based conservation tool to help cities, counties and transportation agencies make better land use and transportation infrastructure decisions and to conserve natural and farmlands, which has a focus on maintaining habitat connectivity. In addition, the Plan's natural lands strategies will improve natural corridor connectivity by encouraging and facilitating research, programs and policies that

identify, protect and restore natural habitat corridors, especially where corridors cross county boundaries.

Projects will be encouraged to create wildlife crossings and corridors in cases where transportation or other related projects may interrupt the flow of wildlife or otherwise cause habitat fragmentation. An example project in the SCAG region, scheduled for ground-breaking in the early 2020's, is the Liberty Canyon Wildlife Crossing proposed for the 101 Freeway in the City of Agoura Hills. This project is the first of its kind in California. The crossing will cross ten lanes of US Highway 101 and an access road, with an estimated 200-foot long by 165-foot wide structure to facilitate mountain lion and other wildlife movement across currently fragmented habitat regions. [69]

Indirect impacts to migratory corridors and nursery sites would occur when the functionality of a corridor is degraded after construction of the transportation project. The development of transportation projects through migratory corridors and/or construction on existing transportation facilities that serve as barriers through wildlife corridors would result in an increase in human disturbances locally including an increase in traffic, noise, and lighting. New projects through or adjacent to open space or natural areas could also increase the risk and frequency of wildland fires that would further degrade ecosystem functions that support diverse wildlife populations and corridor function. These projects may also impact pollinator populations or behavior that could further impact local plant community stability and function and degrade existing habitat or the permeability of corridors. Further, indirect impacts resulting from demographic growth associated with these projects may impact wildlife corridors and nursery sites.

Potential impacts from transportation projects and the related changes to land use and development that these projects facilitate may be heightened due to climate change. The changing climate is altering local ecosystems, causing increased stress on wildlife from changes in plant communities and their structure, decreasing pollinator populations, altering precipitation patterns, and many other factors that increase the risk of extinction for wildlife[70,71] In addition, the changing climate often results in conditions favorable to invasive species that further reduces the ecosystem functions necessary to support wildlife populations. Transportation corridors can act as conduits for invasive species and their adjacency to vehicle traffic can increase wildfire risk, further degrading communities and reducing wildlife corridor value. Therefore, the conversion of existing native nursery habitat and potential wildlife movement areas

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69 National Wildlife Federation/SaveLACougers. 2019. Available online at: https://savelacougars.org/ accessed November 22, 2019.

70 Pollinator Conservation Strategy, Yolo Natural Heritage Program (HCP/NCCP).2009. The Xerces Society for Invertebrate Conservation. Portland Or/Sacramento CA.

71 Warren, R., Price, J., Fischlin, A. et al. Climatic Change (2011) 106: 141. https://doi.org/10.1007/s10584-010-9923-5.

resulting from the Plan would result in a significant impact, requiring the consideration of mitigation measures.

Mitigation Measures

SCAG Mitigation Measures

See **SMM BIO-1** and **SMM BIO-2, SMM AG-1** through **SMM AG-4, SMM GHG-1, SMM WF-1.**

SMM BIO-3: SCAG shall encourage and facilitate research, programs and policies to identify, protect and restore natural habitat corridors, especially where corridors cross county boundaries. Additionally, continue support for preserving wildlife corridors and wildlife crossings to minimize the impact of transportation projects on wildlife species and habitat fragmentation.

Project Level Mitigation Measures

See **PMM BIO-1** through **PMM BIO-3.**

PMM BIO-4: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to wildlife movement. Such measures may include the following or other comparable measures identified by the Lead Agency:

a) Consult with the USFS where impacts to migratory wildlife corridors may occur in an area afforded protection by an adopted Forest Land Management Plan or Resource Management Plan for the four national forests in the six-County area: Angeles, Cleveland, Los Padres, and San Bernardino.

b) Consult with counties, cities, and other local organizations when impacts may occur to open space areas that have been designated as important for wildlife movement related to local ordinances or conservation plans.

c) Prohibit construction activities within 500 feet of occupied breeding areas for wildlife afforded protection pursuant to Title 14 § 460 of the California Code of Regulations protecting fur-bearing mammals, during the breeding season.

d) Conduct a survey to identify active raptor and other migratory nongame bird nests by a qualified biologist at least two weeks before the start of construction at project sites from February 1 through August 31.

e) Prohibit construction activities with 250 feet of occupied nest of birds afforded protection pursuant to the Migratory Bird Treaty Act, during the breeding season.

f) Ensure that suitable nesting sites for migratory nongame native bird species protected under the Migratory Bird Treaty Act and/or trees with unoccupied raptor nests should only be removed prior to February 1, or following the nesting season.

g) When feasible and practicable, proposed projects will be designed to minimize impacts to wildlife movement and habitat connectivity and preserve existing and functional wildlife corridors.

h) Conduct site-specific analyses of opportunities to preserve or improve habitat linkages with areas on- and off-site.

i) Long linear projects with the possibility of impacting wildlife movement should analyze habitat linkages/wildlife movement corridors on a broad scale to avoid critical narrow choke points that could reduce function of recognized movement corridor.

j) Require review of construction drawings and habitat connectivity mapping by a qualified biologist to determine the risk of habitat fragmentation.

k) Pursue mitigation banking to preserve habitat linkages and corridors (opportunities to purchase, maintain, and/or restore offsite habitat).

l) When practicable and feasible design projects to promote wildlife corridor redundancy by including multiple connections between habitat patches.

m) Evaluate the potential for installation of overpasses, underpasses, and culverts to create wildlife crossings in cases where a roadway or other transportation project may interrupt the flow of species through their habitat. Provide wildlife crossings in accordance with proven standards, such as FHWA's Critter Crossings or Ventura County Mitigation Guidelines and in consultation with wildlife corridor authorities.

n) Install wildlife fencing where appropriate to minimize the probability of wildlife injury due to direct interaction between wildlife and roads or construction.

o) Where avoidance is determined to be infeasible, design sufficient conservation measures through coordination with local agencies and the regulatory agency (i.e., USFWS or CDFW) and in accordance with the respective counties and cities general plans to establish plans to mitigate for the loss of fish and wildlife movement corridors and/or wildlife nursery sites. The consideration of conservation measures may include the following measures, in addition to the measures outlined in **MM-BIO-1(b),** where applicable:

   - Wildlife movement buffer zones
   - Corridor realignment
   - Appropriately spaced breaks in center barriers
   - Stream rerouting
   - Culverts
   - Creation of artificial movement corridors such as freeway under- or overpasses
   - Other comparable measures

p) Where the lead agency has identified that a RTP/SCS project, or other regionally significant project, has the potential to impact other open space or nursery site areas, seek comparable coverage for these areas in consultation with the USFWS, CDFW, NMFS, or other local jurisdictions.

Level of Significance after Mitigation

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

mitigation measures, this PEIR finds impacts on wildlife movement could be significant and unavoidable even with implementation of mitigation..

Impact BIO-5 **Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.**

Significant and Unavoidable Impact – Mitigation Required.

Implementation of transportation projects as well as land use and transportation strategies identified in the Plan have the potential to conflict with local policies and ordinances related to biological resources. Conflicts may arise when projects included in the Plan, or growth that occurs as a result of the Plan, involve the disturbance or removal of trees or other vegetation protected under city or county ordinances.

Strategies in the Plan focus growth in urban areas such as HQTAs, suburban town centers, and walkable communities. This type of compact development consumes less land and, therefore, results in less habitat loss and fewer conflicts with local policies or ordinances protecting biological resources. Nonetheless, impacts are expected to occur because many natural land areas near the edge of existing urbanized areas are vulnerable to development pressure, and transportation projects aimed to improve accessibility might require expansion in existing urbanized areas, or facilitate growth into urbanizing areas. Many urban areas have local ordinances to protect trees, as such the potential for conflicts with tree preservation policies exists not just in undeveloped area but can often occur in urban areas. As infill development increases, there may be pressure to develop on sites with protected trees. Similarly, as density increases, there may be pressure to develop more of a site, whereas previously a development project maybe could have been planned around protected trees. Although many tree preservation ordinances require planting of new trees (i.e., at one to one or greater ratios) to replace the removed trees, smaller infill sites do not always have sufficient space to accommodate more or larger trees. As such, impacts could occur.

Except for Orange County, each county within the SCAG region has ordinances regulating the removal of native trees and plants. Impacts within 500 feet of major transportation projects included in the Plan occur in unincorporated areas of all six counties that would be subject to the jurisdiction of the individual county general plans and ordinances (**Table 3.4-21, Unincorporated Areas Subject to County General Plans Potentially Affected by the Connect SoCal Major Transportation Projects**). Any conversion of land from open space or removal of protected trees or vegetation in these areas has the potential to conflict with local plans and ordinances. Applicable policies to protect biological resources are articulated in general plans for each county as well as the 191 cities. Many of the general plans in the SCAG region have additional provisions for protection of mature native and landscape trees and requirements for revegetion of landscaped areas using native plants. Each project would be subject to, and have the

potential to conflict with, the policies and ordinances applicable to the local government with jurisdiction over the project location. As discussed in **Section 3.2, Agriculture and Forestry**, major transportation projects included in the Plan would occur within, and may result in impacts to, the Angeles National Forest and the San Bernardino National Forest and may conflict with the provisions of the Angeles Forest Plan and the San Bernardino National Forest Land Management Plan, respectively.

Table 3.4-21
Unincorporated Areas Subject to County General Plans Potentially Affected by the Connect SoCal Major Transportation Projects.

County	Acres within Unincorporated County Boundaries Subject to County General Plans, Policies, and Ordinances
Imperial	598
Los Angeles	10,578
Orange	217
Riverside	6,909
San Bernardino	4,018
Ventura	377
Total	**22,697**

Source:
LAFCO City Boundaries, 2016 and County Boundaries 2016
Note: These data were reviewed by local jurisdictions and reflect each jurisdiction's input

The level of impact related to conflicts with local policies and ordinances protecting biological resources will vary on a project-by-project basis. For example, grade separation projects, rail projects or land use development located in areas with a high density of native trees protected by a local tree protection ordinance would be anticipated to have greater conflicts with local policies and ordinances protecting biological resources than a traffic signal synchronization or lane-restriping project located in an urban environment.

The Plan would have the potential to result in significant impacts related to conflicts with local policies and ordinances protecting biological resources, requiring the consideration of mitigation measures.

Mitigation Measures

SCAG Mitigation Measures

See **SMM BIO-1, SMM BIO-2** and **SMM BIO-3.**

Project Level Mitigation Measures

See PMM BIO-1 through **PMM BIO-4.**

PMM BIO-5: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce conflicts with local policies and ordinances protecting biological resources . Such measures may include the following or other comparable measures identified by the Lead Agency.

a) Consult with the appropriate local agency responsible for the administration of the policy or ordinance protecting biological resources.

b) Prioritize retention of trees on-site consistent with local regulations. Provide adequate protection during the construction period for any trees that are to remain standing, as recommended by an International Society of Arboriculture (ISA) certified arborist.

c) If specific project area trees are designated as "Protected Trees," "Landmark Trees," or "Heritage Trees," obtain approval for encroachment or removals through the appropriate entity, and develop appropriate mitigation measures at that time, to ensure that the trees are replaced. Mitigation trees shall be locally collected native species, as directed by a qualified biologist.

d) Appoint an ISA certified arborist to monitor construction activities that may occur in areas with trees are designated as "Protected Trees," "Landmark Trees," or "Heritage Trees," to facilitate avoidance of resources not permitted for impact. Before the start of any clearing, excavation, construction or other work on the site, securely fence off every protected tree deemed to be potentially endangered by said site work. Keep such fences in place for duration of all such work. Clearly mark all trees to be removed.

e) Establish a scheme for the removal and disposal of logs, brush, earth and other debris that will avoid injury to any protected tree. Where proposed development or other site work could encroach upon the protected perimeter of any protected tree, incorporate special measures to allow the roots to breathe and obtain water and nutrients. Minimize any excavation, cutting, filing, or compaction of the existing ground surface within the protected perimeter. Require that no change in existing ground level occur from the base of any protected tree at any time. Require that no burning or use of equipment with an open flame occur near or within the protected perimeter of any protected tree.

f) Require that no storage or dumping of oil, gas, chemicals, or other substances that may be harmful to trees occur from the base of any protected trees, or any other location on the site from which such substances might enter the protected perimeter. Require that no heavy construction equipment or construction materials be operated or stored within a distance from the base of any protected trees. Require that wires, ropes, or other devices not be attached to any protected tree, except as needed for support of the tree. Require that no sign, other than a tag showing the botanical classification, be attached to any protected tree.

g) Thoroughly spray the leaves of protected trees with water periodically during construction to prevent buildup of dust and other pollution that would inhibit leaf transpiration, as directed by the certified arborist.

h) If any damage to a protected tree should occur during or as a result of work on the site, the appropriate local agency will be immediately notified of such damage. If, such tree cannot be preserved in a healthy state, as determined by the certified arborist, require replacement of any tree removed with another tree or trees on the same site deemed adequate by the local agency to compensate for the loss of the tree that is removed. Remove all debris created as a result of any tree removal work from the property within two weeks of debris creation, and such debris shall be properly disposed of in accordance with all applicable laws, ordinances, and regulations. Design projects to avoid conflicts with local policies and ordinances protecting biological resources

i) Where avoidance is determined to be infeasible, sufficient conservation measures to fulfill the requirements of the applicable policy or ordinance shall be developed, such

as to support issuance of a tree removal permit. The consideration of conservation measures may include:

- Avoidance strategies
- Contribution of in-lieu fees
- Planting of replacement trees
- Re-landscaping areas with native vegetation post-construction
- Other comparable measures developed in consultation with local agency and certified arborist.

Level of Significance after Mitigation

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

Impact BIO-6 **Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.**

Significant and Unavoidable Impact – Mitigation Required.

Implementation of transportation projects identified in the Plan and development projects anticipated to occur under the Plan would have a potential to result in conflicts with the provisions of applicable adopted HCPs and NCCPs because some planned major transportation projects and development projects may occur in or adjacent to lands protected under these plans, constituting a significant impact. Regional land use strategies identified in the Plan seek to reduce conflicts with the provisions of adopted HCPs and NCCPs by focusing new growth in existing urban areas, suburban town centers, and urban areas which are conducive to more compact, densified, infill and mixed-used development. Additionally,

land use strategies aim to preserve natural habitat areas and support redirecting growth away from high value habitat areas to these urbanized areas.

Major transportation projects included in the Plan have the potential to impact land within 13 HCPs/NCCPs in the SCAG region for which GIS data was publically available (**Table 3.4-22, HCP's and NCCP's Potentially Affected by the Connect SoCal Major Transportation Projects**).

Table 3.4-22
HCP's and NCCP's Potentially Affected by the Connect SoCal Major Transportation Projects

HCP/NCCP	Imperial	Los Angeles	Orange	Riverside	San Bernardino
City of Rancho Palos Verdes		X			
Coachella Valley Multiple Species				X	
County of Orange Central/Coastal Subregion			X		
Desert Renewable Energy Conservation Plan	X	X		X	X
Imperial Irrigation District	X				
Lower Colorado River Multi-Species Conservation Program				X	
Orange County Southern Subregion			X		
Orange County Transportation Authority		X	X		
San Diego County Water Authority			X	X	
San Diego Gas and Electric Subregional			X		
Town of Apple Valley Multi-Species Conservation Plan					X
West Mojave Coordinated Management Plan		X			X
Western Riverside County Multiple Species				X	X

Source: SWCA Environmental Consultants. Biological Resources Report for Connect SoCal PEIR. October 2019.
California Department of Fish and Wildlife. 2017. Summary of Natural Community Conservation Plans (NCCP). October. Available online at: https://www.wildlife.ca.gov/Conservation/Planning/NCCP/Plans.
US Fish and Wildlife Service. 2017. ECOS Environmental Conservation Online System. Available online at https://ecos.fws.gov/ecp0/conservationPlan/region/summary?region=8&type=HCP.
Southern California Association of Governments GIS Data. 2019. Major_Highway_Project_PEIR_082119.gdb, DraftRTP_2045Plan_Transit, and a2040_Urban_Rail_New.

Implementation of Plan projects within areas of adopted HCPs and NCCPs may result in significant impacts. Potential impacts include direct impacts to lands protected under these HCPs and NCCPs as

well as potential direct and indirect impacts to plant and animal species and their habitats and connectivity of these habitats afforded protection under these HCPs and NCCPs through conversion of habitat, introduction of invasive species, habitat fragmentation, increased noise, introduction of lighting and noise during construction and operation. At least four HCPs and NCCPs located within the SCAG region contain known provisions for the construction of transportation projects as part of plan-covered activities, acknowledging that such projects normally constitute significant impacts, and specifying the requirement for mitigation measures. These HCP/NCCPs (Coachella Valley MSHCP, Orange County Transportation Authority NCCP/HCP, West Mojave HCP, and Western Riverside County MSHCP) include considerations for the development of transportation projects as part of plan-covered activities and would be significantly impacted by transportation projects included in the Plan. Therefore, implementation of the Plan could result in significant impacts related to conflicts with the provisions of four adopted HCPs and NCCPs applicable to the SCAG region, and may conflict with other plans, requiring the consideration of mitigation measures.

Mitigation Measures

SCAG Mitigation Measures

SMM BIO-1, SMM BIO-2 and **SMM BIO-3.**

Project Level Mitigation Measures

See **PMM BIO-1** through **PMM BIO-5.**

PMM BIO-6: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects on HCPs and NCCPs. Such measures may include the following or other comparable measures identified by the Lead Agency:

a) Consult with the appropriate federal, state, and/or local agency responsible for the administration of HCPs or NCCPs.

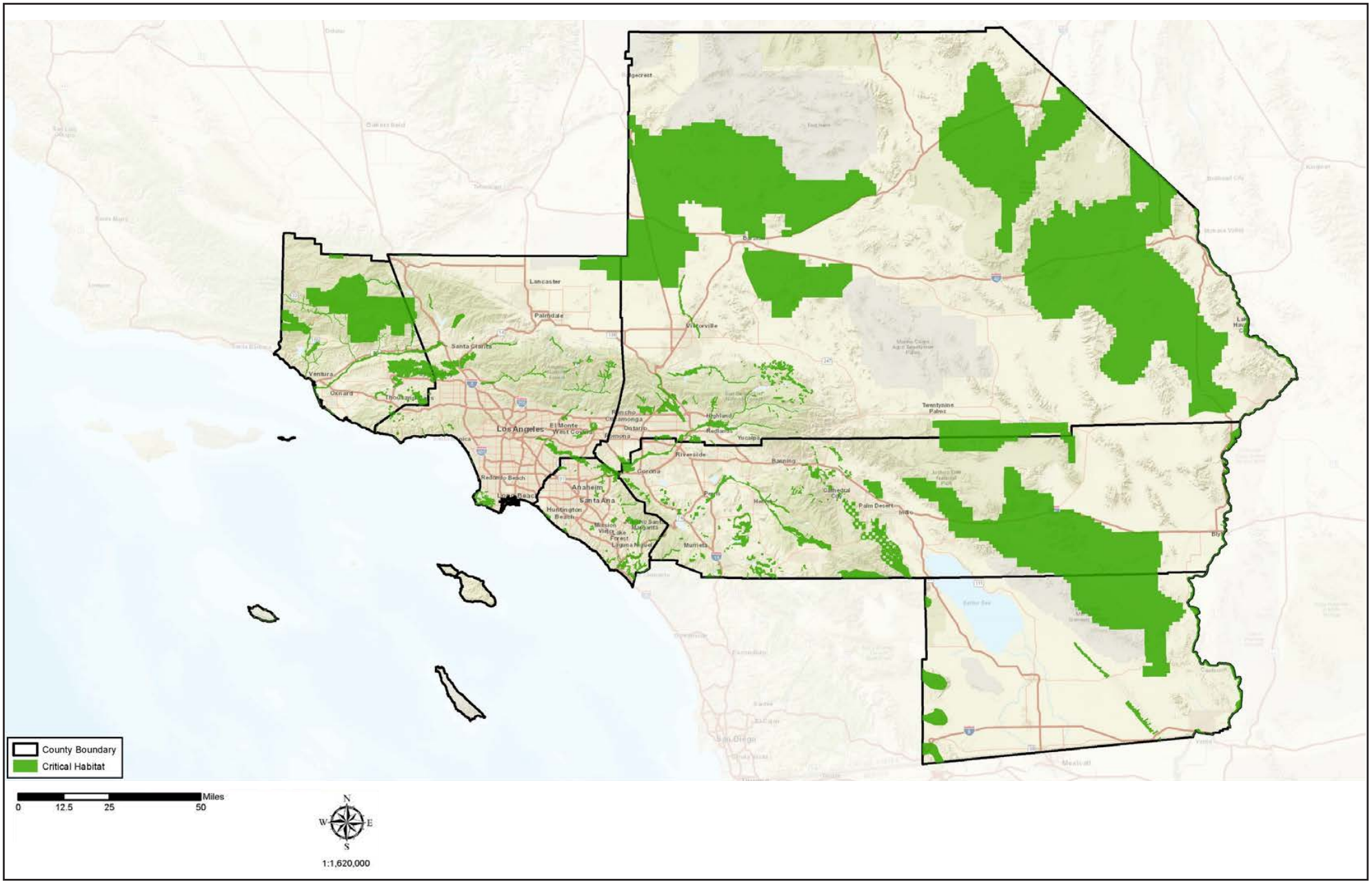
b) Wherever practicable and feasible, the project shall be designed to avoid lands preserved under the conditions of an HCP or NCCP.

c) Where avoidance is determined to be infeasible, sufficient conservation measures to fulfill the requirements of the HCP and/or NCCP, which would include but not be limited to applicable authorization for incidental take pursuant to Section 7 or 10(a) of the federal Endangered Species Act or Section 2081 of the California ESA, shall be

developed to support issuance of an incidental take permit or any other permissions required for development within the HCP/NCCP boundaries. The consideration of additional conservation measures would include the measures outlined in SMM-BIO-2, where applicable.

Level of Significance after Mitigation

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



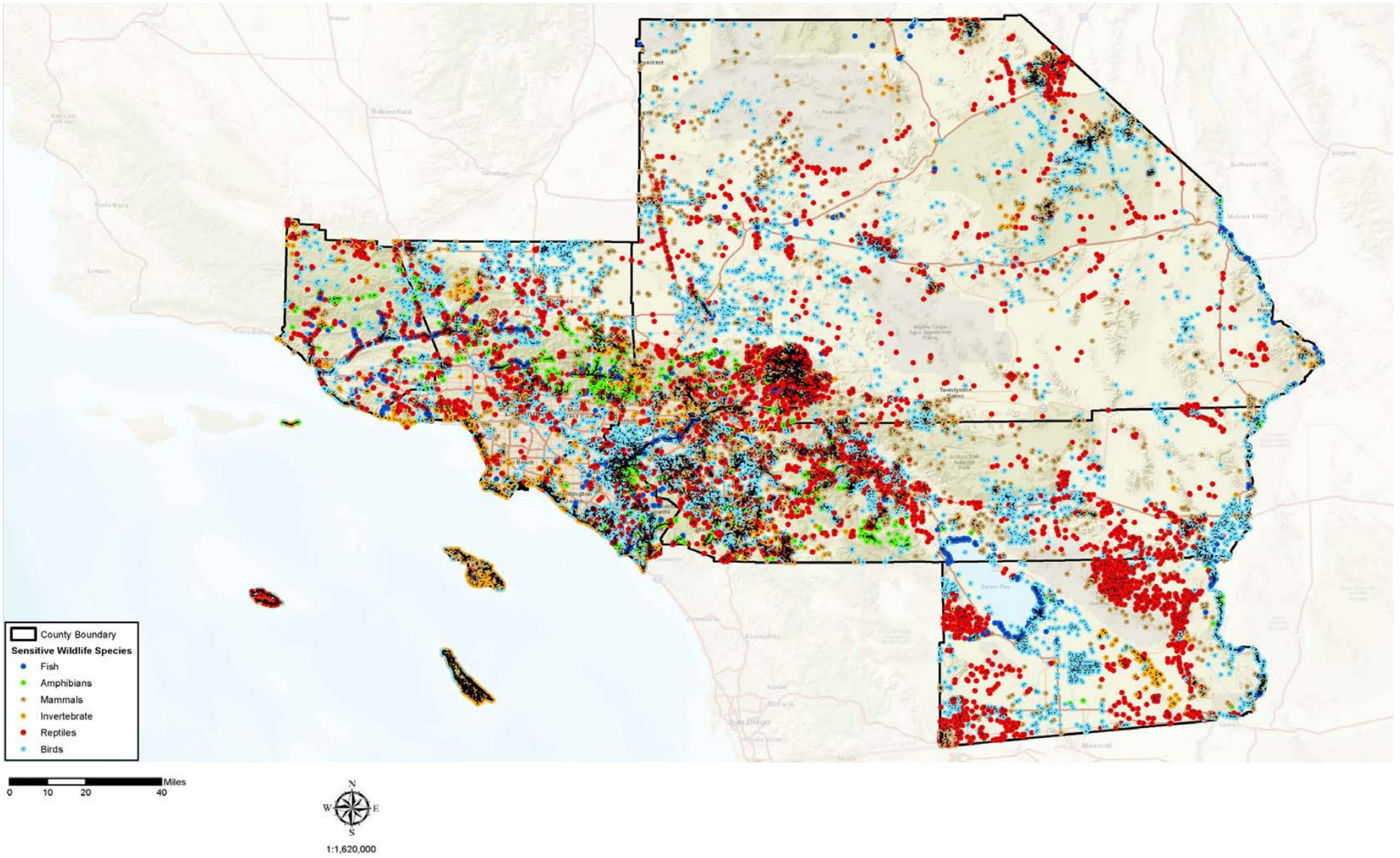
SOURCE: US Fish and Wildlife Service, SWCA, 2019

FIGURE **3.4-1**

IMPACT SCIENCES

Designated Critical Habitat in the SCAG Region

1329.001•11/19

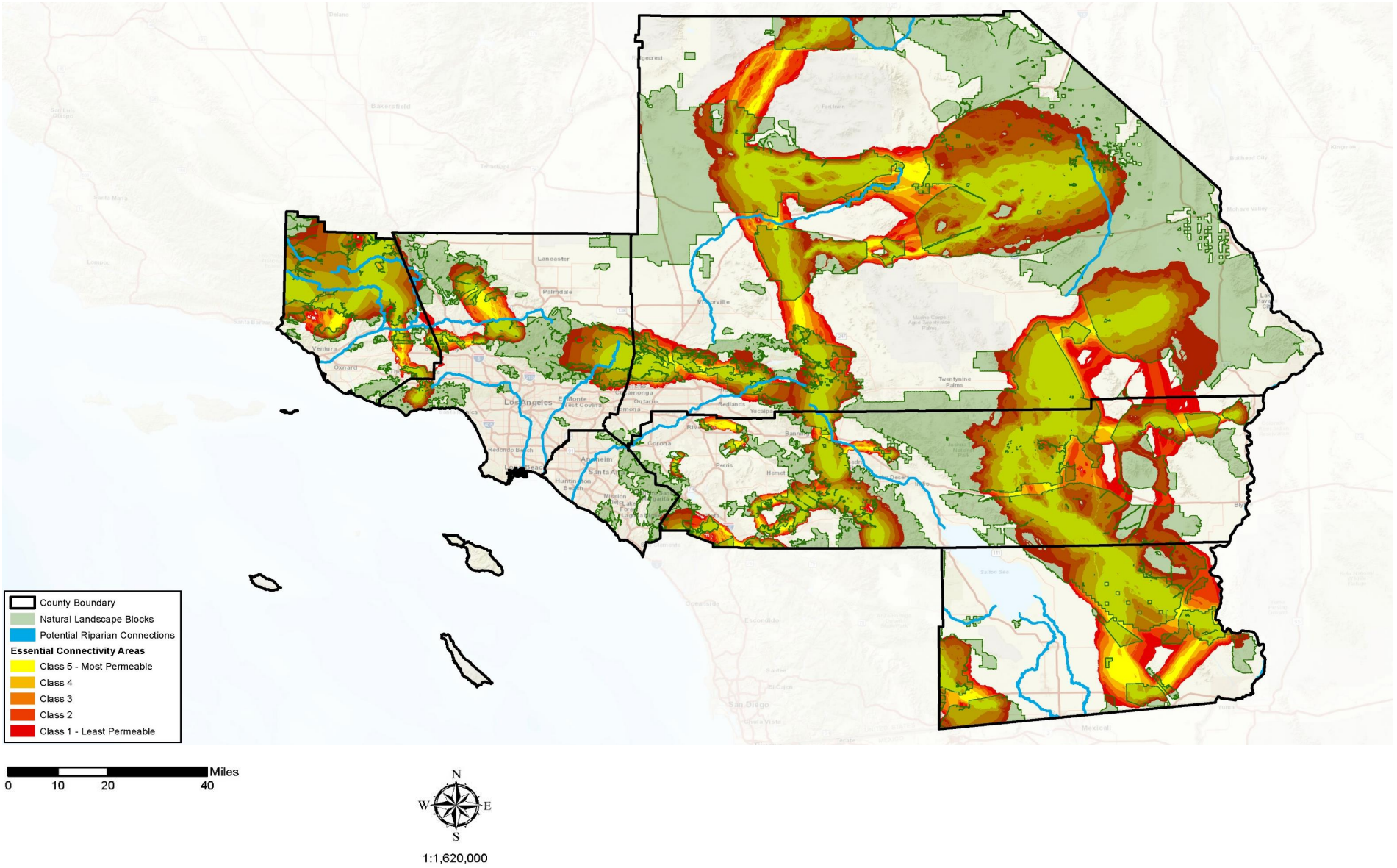


SOURCE: SWCA, ESRI, 2018

FIGURE **3.4-2**

IMPACT SCIENCES

Sensitive Wildlife Species Reported in the SCAG Region



SOURCE: SWCA, ESRI, 2018

FIGURE **3.4-2**

IMPACT SCIENCES

Essential Habitat Connectivity within the SCAG Region

1329.001•10/19

3.4.4 SOURCES

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3.5 CULTURAL RESOURCES

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

Tribal Cultural Resources are addressed in **Section 3.18, Tribal Cultural Resources**.

3.5.1 ENVIRONMENTAL SETTING

3.5.1.1 Definitions

Definitions of terms used in the regulatory framework, characterization of baseline conditions, and impact analysis for cultural resources are provided.

AD: The term Anno Domini (AD or A.D.) is used to label calendar years and is intended to be in relation to the beginning of the life of Jesus as a reference date.

Alluvium: An unconsolidated accumulation of stream-deposited sediments, including sands, silts, clays or gravels.

Archaeological site: Defined by the National Register of Historic Places (NRHP) as the place or places where the remnants of a past culture survive in a physical context that allows for the interpretation of these remains. Archaeological remains usually take the form of artifacts (e.g., fragments of tools, vestiges of utilitarian, or non-utilitarian objects), features (e.g., remnants of walls, cooking hearths, or midden deposits), and ecological evidence (e.g., pollen remaining from plants that were in the area when the activities occurred). The Office of Historic Preservation (OHP) defines an archaeological "site" as consisting of three or more related resources discovered in one locality. In the event of archaeological discovery, the resources are collected, documented, and curated at an educational institution, such as a school or a museum. These can include prehistoric (pre-European contact), historic (post-contact), or combination thereof.

BCE: The term BCE is the abbreviation for Before the Common Era, and is used to label calendar years, prior to the demarcation of AD.

BP: "Before present," which is defined as before 1950 and is used by archaeologists in conjunction with the commonly used term, AD.

Cretaceous: An interval of time relating to, or denoting the last period of the Mesozoic era, between the Jurassic and Tertiary periods.

CE: The term Common Era (CE) is an alternative naming of the calendar era AD.

Formation: A laterally continuous rock unit with a distinctive set of characteristics that make it possible to recognize and map from one outcrop or well to another. The basic rock unit of stratigraphy.

Holocene: An interval of time relating to, or denoting the present epoch, which is the second epoch in the Quaternary period, including the time period from approximately 11,000 years ago to the present.

Historic period: The period that begins with the arrival of the first nonnative population and thus varies by area. In 1769, Gaspar de Portolá became the first European to enter the San Fernando Valley, initiating the historic period in the SCAG region.

Historical resource: Defined by CEQA as any object, building, structure, site (including archaeological sites), area, place, record, or manuscript that is listed in, or is eligible for listing in, the California Register of Historical Resources (CRHR); officially designated or recognized as historically significant by a local government pursuant to a local initiative or resolution; or identified as significant in a historic resource survey conducted in accordance with the requirements of the CRHR statute (PRC Section 5024.1(g)). Properties listed in, or determined eligible for listing in, the NRHP are automatically listed in the CRHR and are therefore historical resources under CEQA.

Isolate: An isolated artifact or small group of artifacts that appear to reflect a single event, loci, or activity. It may lack identifiable context but has the potential to add important information about a region, culture, or person. Isolates are not considered under CEQA to be significant and, thus, do not require avoidance or mitigation under CEQA. All isolates located during the field effort, however, are recorded, and the data are transmitted to the appropriate California Historical Resources Information System (CHRIS) Information Center.

Miocene: An interval of time relating to or denoting the fourth epoch of the Tertiary period, between the Oligocene and Pliocene epochs, from approximately 23 to 5.5 million years ago.

Native American sacred site: An area that has been, and often continues to be, of religious significance to Native American peoples, such as an area where religious ceremonies are practiced or an area that is

central to their origins as a people. They also include areas where Native Americans gather plants for food, medicinal, or economic purposes.

Oligocene: An interval of time relating to or denoting the third epoch of the Tertiary period, between the Eocene and Miocene epochs, from approximately 34 to 23 million years ago.

Outcrop: A rock formation that is visible on earth's surface.

Paleocene: An interval of time, relating to, or denoting the earliest epoch of the Tertiary period, between the Cretaceous period and the Eocene epoch.

Phase I archaeological resources survey: A literature review (background research), consultation with the NAHC, and fieldwork. Fieldwork consists of a physical inspection of the cultural resources survey area, generally through pedestrian surveys, or by other means when appropriate. The purpose of the Phase I survey is to identify the cultural resources known or likely to be present in the initiative's impact area and in the immediate vicinity.

Phase II archaeological investigation: Consisting of testing and evaluation, is conducted when the results of a Phase I investigation indicate the presence of potentially significant cultural resources. Phase II investigations are intended to evaluate the historical significance of historic and prehistoric archaeological sites and require a comprehensive and detailed scope of work, a research design, and fieldwork. Surface and subsurface testing is conducted during Phase II investigations to collect the data necessary to establish historical significance of archaeological sites.

Phase III data recovery: Implemented on those archaeological sites that are determined to be significant as a result of the Phase II investigations and that cannot feasibly be avoided or preserved with initiative implementation. Phase III efforts typically involve the collection of data intended to answer scientific or research questions that have been formulated during Phase II testing and formalized by a comprehensive Phase III research design. Most commonly, Phase III data collections are implemented on sites determined to be significant as a means of mitigating the effects of an initiative through salvage, recordation, and archiving of scientific data associated with the site.

Pleistocene: An interval of time, relating to or denoting the first epoch of the Quaternary period, between the Pliocene and Holocene epochs, from approximately 2.6 million years ago to 11,000 years ago.

Pliocene: An interval of time, relating to or denoting the last epoch of the Tertiary period, between the Miocene and Pleistocene epochs, from approximately 5.5 to 2.6 million years ago.

Plutonic igneous rocks: Igneous rocks that have crystallized beneath the earth's surface.

Prehistoric period: The era prior to AD 1769. The later part of the prehistoric period (post–AD 1542) is also characterized as the protohistoric period in some areas, which marks a transitional period during which native populations began to be influenced by European presence resulting in gradual changes to their lifeways.

Quaternary: The most recent Period in geological time; includes the Pleistocene and Holocene Epochs.

Secretary of the Interior' Standards and Guidelines: The Standards are a series of concepts about maintaining, repairing, and replacing historic materials, as well as designing new additions or making alterations. The Guidelines offer general design and technical recommendations to assist in applying the Standards to a specific property. Together, they provide a framework and guidance for decision-making about work or changes to a historic property. The Standards and Guidelines can be applied to historic properties of all types, materials, construction, sizes, and use. They include both the exterior and the interior and extend to a property's landscape features, site, environment, as well as related new construction. Federal agencies use the Standards and Guidelines in carrying out their historic preservation responsibilities. State and local officials use them in reviewing both federal and nonfederal rehabilitation proposals. Historic district and planning commissions across the country use the Standards and Guidelines to guide their design review processes. The Standards offer four distinct approaches to the treatment of historic properties—preservation, rehabilitation, restoration, and reconstruction with Guidelines for each. The Standards for the Treatment of Historic Properties are regulatory for all grant-in-aid projects assisted through the national Historic Preservation Fund. The Standards for Rehabilitation, codified in 36 CFR 67, are regulatory for the review of rehabilitation work in the Historic Preservation Tax Incentives program. The Guidelines are advisory, not regulatory.

Unique Archeological Resource: Pursuant to Section 21083.2 of the PRC, a unique archaeological resource includes artifacts or sites that meet any one or all the following criteria:[1]

- It has made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States;
- It is associated with the lives of persons important to California's past;
- It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; and/or
- It has yielded, or may be likely to yield, information important to the prehistory or history of California.

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1 California Legislative Information. 1972. *Chapter 2.6. General [21080-21098], Section 21083.2*. Available online at: https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=PRC&sectionNum=21083.2, accessed August 27, 2019.

3.5.2 EXISTING CONDITIONS

3.5.2.1. Cultural Context

A brief context statement is provided below. The cultural context is organized by three broad temporal-cultural periods: Prehistoric, Protohistoric, and Historic. The Prehistoric and Historic periods are further divided into chronological sequences. The Prehistoric period is discussed in terms of four "horizons" that were established in the mid-twentieth century and continue to be developed by archaeologists. The Prehistoric and Protohistoric periods are intended to reflect Native American history prior to Spanish presence in the SCAG region (Prehistoric period) and shortly after (Protohistoric period). The Prehistoric horizons are based primarily on archaeological data, whereas information from the Protohistoric period also includes oral history and historical records. The divisions within the Historic period are based strictly on the years of Spanish, Mexican, and American government administration. As a result, the Protohistoric period has some overlap with the Spanish period, the former being affiliated exclusively with Native Americans, the latter with Europeans or other non-Native Americans.

Prehistoric

In the last several decades, researchers have devised numerous prehistoric chronological sequences to aid in understanding cultural changes in southern California. Building on early studies and focusing on data synthesis, Wallace (1955, 1978) developed a prehistoric chronology for the southern California coastal region that is still widely used today and is applicable to near-coastal and many inland areas. Four horizons are presented in Wallace's prehistoric sequence: Early Man, Milling Stone, Intermediate, and Late Prehistoric. The summary of prehistoric chronological sequences for southern California coastal and near-coastal areas presented below is a composite of information in Wallace (1955) and Warren (1968), as well as more recent studies using radiocarbon dates obtained by researchers in the last three decades, including Koerper and Drover (1983).

Horizon I: Early Man (ca. 10,000–6,000 BC)

The earliest accepted dates for archaeological sites on the southern California coast are from two of the northern Channel Islands, located off the coast of Santa Barbara. On San Miguel Island, Daisy Cave clearly establishes the presence of people in this area approximately 10,000 years ago (Erlandson 1991:105). On Santa Rosa Island, human remains have been dated from the Arlington Springs site to approximately 13,000 years ago (Johnson et al. 2002). Present-day Orange and San Diego counties contain several sites dating from 9,000 to 10,000 years ago (Byrd and Raab 2007:219; Macko 1998:41; Mason and Peterson 1994:55–57; Sawyer and Koerper 2006). Although the dating of these finds remains controversial, several sets of human remains from the Los Angeles Basin (e.g., "Los Angeles Man," "La Brea Woman,"

and the Haverty skeletons) apparently date to the Middle Holocene, if not earlier (Brooks et al. 1990; Erlandson et al. 2007:54).

Recent data from Horizon I sites indicate that the economy was a diverse mixture of hunting and gathering, with a major emphasis on aquatic resources in many coastal areas (e.g., Jones et al. 2002), and a greater emphasis on large-game hunting inland.

Horizon II: Milling Stone (6,000–3,000 BC)

Set during a drier climatic regime than the previous horizon, the Milling Stone horizon is characterized by subsistence strategies centered on collecting plant foods and small animals. The importance of the seed processing is apparent in the dominance of stone grinding implements in contemporary archaeological assemblages, namely milling stones (metates) and handstones (manos). Recent research indicates that Milling Stone horizon food procurement strategies varied in both time and space, reflecting divergent responses to variable coastal and inland environmental conditions (Byrd and Raab 2007:220).

Horizon III: Intermediate (3,000 BC–AD 500)

The Intermediate horizon is characterized by a shift toward a hunting and maritime subsistence strategy, along with a wider use of plant foods. An increasing variety and abundance of fish, land mammal, and sea mammal remains are found in sites from this horizon along the California coast. Related chipped stone tools suitable for hunting are more abundant and diversified, and shell fishhooks became part of the toolkit during this period. Mortars and pestles became more common during this period, gradually replacing manos and metates as the dominant milling equipment and signaling a shift away from the processing and consuming of hard seed resources to the increasing importance of the acorn (e.g., Glassow et al. 1988).

Horizon IV: late Prehistoric (AD 500–Historic Contact)

In the Late Prehistoric horizon, there was an increase in the use of plant food resources in addition to an increase in land and sea mammal hunting. There was a concomitant increase in the diversity and complexity of material culture during the Late Prehistoric horizon, demonstrated by more classes of artifacts. The recovery of a greater number of small, finely chipped projectile points suggests increased use of the bow and arrow rather than the atlatl (spear thrower) and dart for hunting. Steatite cooking vessels and containers are also present in sites from this time, and there is an increased presence of smaller bone and shell circular fishhooks; perforated stones; arrow shaft straighteners made of steatite; a variety of bone tools; and personal ornaments such as beads made from shell, bone, and stone. There was also an increased use of asphalt for waterproofing and as an adhesive.

By AD 1000, fired clay smoking pipes and ceramic vessels were being used at some sites (Drover 1971, 1975; Meighan 1954; Warren and True 1961). The scarcity of pottery in coastal and near-coastal sites implies that ceramic technology was not well developed in that area, or that occupants were trading with neighboring groups to the south and east for ceramics. The lack of widespread pottery manufacture is usually attributed to the high quality of tightly woven and watertight basketry that functioned in the same capacity as ceramic vessels.

During this period, there was an increase in population size accompanied by the advent of larger, more permanent villages (Wallace 1955:223). Large populations and, in places, high population densities are characteristic, with some coastal and near-coastal settlements containing as many as 1,500 people. Many of the larger settlements were permanent villages in which people resided year-round. The populations of these villages may have also increased seasonally.

In Warren's (1968) cultural ecological scheme, the period between AD 500 and European contact, which occurred as early as 1542, is divided into three regional patterns: Chumash (Santa Barbara and Ventura counties), Takic/Numic (Los Angeles, Orange, and western Riverside counties), and Yuman (San Diego County). The seemingly abrupt introduction of cremation, pottery, and small triangular arrow points in parts of modern-day Los Angeles, Orange, and western Riverside counties at the beginning of the Late Prehistoric period is thought to be the result of a Takic migration to the coast from inland desert regions. Modern Gabrielino, Juaneño, and Luiseño people in this region are considered the descendants of the Uto-Aztecan, Takic-speaking populations that settled along the California coast in this period.

Protohistoric

The Protohistoric period does not have a clear chronological timeline but may be defined by the boundaries of 500 to approximately 1600. Although early Spanish explorers and mission fathers recorded information on the local Native American populations, professional anthropological studies did not begin until the end of the 19th century after most of the Indian groups had been decimated by genocide, mixed with other Indigenous groups, were assimilated by Spanish, Mexican, and American cultures, or were forced to relocated to reservations.

The SCAG region once was the home to at least 11 distinct Native American groups. These include the Cahuilla, Chumash, Gabrielino, Halchidhoma, Kitanemuk, Luiseno, Mohave, Quechan, Serrano, Southern Paiute, Tataviam, and Tipai. The territorial boundaries of the Native Americans who were residing in Southern California at the time of first European contact do not coincide with today's political boundaries. Moreover, many tribal boundaries overlapped, and most groups migrated within their general boundaries throughout the years.

Between 1851 and 1852 federal agents, negotiated 18 treaties that included 139 tribes, to establish reservation lands across almost a third of California. The treaties were not ratified by Congress, and as a rule, Congress no longer negotiated with American Indians from 1871. However, the federal government continued the policy of forced migration and established a number of reservations in Southern California between 1875 and 1891. In all 17 reservations were established within the SCAG region, within Imperial, Riverside, and San Bernardino Counties. Riverside County holds the most, including Chemehuevi, Fort Mojave, Torres, Cabazon, Augustine, Santa Rosa, Ramona, Pechanga, Soboba, Agua Caliente, Mission Creek, and Morongo. Within Imperial County are the Martinez, Fort Yuma, and Colorado River reservations. The two reservations in San Bernardino County are the San Manuel and Twentynine Palms reservations. No reservations were established in Los Angeles, Ventura, or Orange Counties as it was believed that the local Native American groups in those counties had become extinct.

Historic

Post-contact history for the state of California is generally divided into three periods: the Spanish period (1769–1822), the Mexican period (1822–1848), and the American period (1848–present). Although there were brief visits by Spanish, Russian, and British explorers from 1529 to 1769, the Spanish period in California began with the establishment of Mission San Diego de Alcalá, the first of 21 missions constructed between 1769 and 1823. Independence from Spain marks the beginning of the Mexican period, and the signing of the Treaty of Guadalupe Hidalgo in 1848, ending the Mexican-American War, signals the beginning of the American period, when California became a territory of the United States.

Spanish Period (1769–1821)

Spanish explorers made numerous expeditions into California between the mid-1500s and mid-1700s. In the process of delivering supplies to another expedition, Hernando de Alarcon followed the Colorado River in 1950 and reached what is now Andrade in Imperial County. Two years later, in search of the legendary Northwest Passage, Juan Rodríquez Cabríllo stopped in 1542 at present-day San Diego Bay. With his crew, Cabríllo explored the shorelines of present Catalina Island as well as San Pedro and Santa Monica Bays. Much of the present California and Oregon coastline was mapped and recorded in the next half-century by Spanish naval officer Sebastián Vizcaíno. Vizcaíno's crew also landed on Santa Catalina Island and at San Pedro and Santa Monica Bays, giving each location its long-standing name. The Spanish crown laid claim to California based on the surveys conducted by Cabríllo and Vizcaíno (Bancroft 1886:96–99; Gumprecht 2001:35).

More than 200 years passed before Spain began the colonization and inland exploration of Alta California. With the renewed interest into the area by other European nations, such as Britain, France,

and Russia, who all sent expeditions into the area, Spain officially moved to settle the territory. The 1769 overland expedition by Captain Gaspar de Portolá marks the beginning of California's Historic period, occurring just after the King of Spain installed the Franciscan Order to direct religious and colonization matters in assigned territories of the Americas. With a band of 64 soldiers, missionaries, Baja (lower) California Native Americans, and Mexican civilians, Portolá established the Presidio of San Diego, a fortified military outpost, as the first Spanish settlement in Alta California. In July 1769, while Portolá was exploring Southern California, Franciscan Fr. Junípero Serra founded Mission San Diego de Alcalá at Presidio Hill, the first of the 21 missions that would be established in Alta California by the Spanish and the Franciscan Order between 1769 and 1823.

These missions were part of the Spanish plan that included the settlement of three pueblos and four presidios, that would provide Spain control over Alta California. While one of the pueblos, Branciforte would fail, the other aspects of this plan would be successful.

Mexican Period (1822–1848)

A major emphasis during the Spanish period in California was the construction of missions and associated presidios to integrate the Native American population into Christianity and communal enterprise. Incentives were also provided to bring settlers to pueblos or towns, but just three pueblos were established during the Spanish period, only two of which were successful and remain as California cities (San José and Los Angeles). Several factors kept growth within Alta California to a minimum, including the threat of foreign invasion, political dissatisfaction, and unrest among the indigenous population. After more than a decade of intermittent rebellion and warfare, New Spain (Mexico and the California territory) won independence from Spain in 1821. In 1822, the Mexican legislative body in California ended isolationist policies designed to protect the Spanish monopoly on trade, and decreed California ports open to foreign merchants.

Extensive land grants were established in the interior during the Mexican period, in part to increase the population inland from the more settled coastal areas where the Spanish had first concentrated their colonization efforts. The secularization of the missions following Mexico's independence from Spain resulted in the subdivision of former mission lands and establishment of many additional ranchos.

During the supremacy of the ranchos (1834–1848), landowners largely focused on the cattle industry and devoted large tracts to grazing. Cattle hides became a primary southern California export, providing a commodity to trade for goods from the east and other areas in the United States and Mexico. The number of nonnative inhabitants increased during this period because of the influx of explorers, trappers, and ranchers associated with the land grants. Many newcomers were Americans that had traveled west and

married into landed families. The rising California population contributed to the introduction and rise of diseases foreign to the Native American population, who had no associated immunities.

An attempted northern California revolt in 1946, was quickly stopped, but the American Navy arrived soon after, and on January 13, 1847, Governor Pio Pico and Commander Jose Maria Flores officially surrender to US Captain John C. Freemont. The Treaty of Guadalupe Hidalgo in 1848 was the end of Mexican rule in California.

American Period (1848–Present)

The Mexican–American War officially ended with the Treaty of Guadalupe Hidalgo in 1848, which resulted in the annexation of California and much of the present-day southwest, ushering California into its American period. While gold was first found by Francisco Lopez in 1842 within Placerita Canyon, it wasn't until James Marshall's gold find in 1948 that the Gold Rush began, drastically changing California.

California officially became a state with the Compromise of 1850, which also designated Utah and New Mexico (with present-day Arizona) as U.S. territories. With Statehood and the population boom, legal battles over the land rights of the rancho's were prevalent. By the time American courts decided upon each case, many of the ranches had already be lost by their original Mexican landowners, through deceit, debt, or marriage.

With the huge influx of people seeking gold, the cattle industry flourished as cattle were no longer desired mainly for their hides, but also as a source of meat and other goods. During the 1850s cattle boom, rancho vaqueros drove large herds from southern to northern California to feed that region's burgeoning mining and commercial boom. Cattle were at first driven along major trails or roads such as the Gila Trail or Southern Overland Trail, then were transported by trains when available. The cattle boom ended for southern California as neighbor states and territories drove herds to northern California at reduced prices. Operation of the huge ranchos became increasingly difficult, and droughts severely reduced their productivity (Cleland 1941). With that, many of the rancho lands were transformed to agricultural fields.

The connection of California to the rest of the United States by rail in the 1970s resulted in another population boom, as well as a land boom. Towns began to be established along rail lines, and with them additional mineral deposits were identified and mined. These mining camps existed for only short periods of time before being abandoned.

3.5.2.2. Existing Conditions

This section characterizes the existing conditions related to cultural resources in the SCAG region, which encompasses an area of more than 38,000 square miles within the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. The discussion of cultural resources includes archaeological resources associated with various time periods, as well as non-archaeological resources such as buildings, structures, and other elements of the historical built environment.

Historical and Archeological Resources

Historical resources are defined in Section 15064.5(a) of the *State CEQA Guidelines* and are evaluated according to the provisions of Section 15126.4 of the *State CEQA Guidelines*. Furthermore, AB 52 requires that CEQA lead agencies consider the effects of projects on tribal cultural resources. Such resources may be underrepresented in the record and archival information available in the information centers, existing in developed areas of a community, where development occurred prior to enactment of CEQA.

Archaeological resources consist of the physical remains of past human activity, and the occupation of Southern California by humans for thousands of years has created innumerable such resources. If an archeological resource is determined to be a historical resource as defined in Section 15064.5(a) of the *State CEQA Guidelines*, it is evaluated in light of the provisions of Section 15126.4 of the *State CEQA Guidelines*. If the resource is not a historical resource but meets the definition of a unique archeological resource as established in Section 21083.2 of the PRC, the site is required to be treated in accordance with the provisions of Section 21083.2 of the PRC. For projects that are subject to the provisions of AB 52 (i.e., when a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report are prepared), consideration must include archeological resources that are determined to be tribal cultural resources. Such resources may be underrepresented in the record and archival information available in the information centers, as they may be present in existing developed areas, developed prior to enactment of CEQA.

As of July 2019, over 109,000 archaeological resource locations have been identified in the SCAG region (**Table 3.5-1, Archeological Resources Listed in the California Historical Resources Information System [CHRIS]**). In order to protect these archaeological sites, and the artifacts contained within their boundaries, from scavenging and looting, their locations are confidential. Under state law, detailed information about these sites, especially their location, is considered confidential.

Table 3.5-1
Archeological Resources Listed in the California Historical Resources Information System (CHRIS)

County	Archeological Resources	Archeological Resources Listed in CHRIS
Imperial*	12,398	16,500 (approx.)
Los Angeles	4,886	18,599
Orange	1,775	5,498
Riverside**	20,200 (approx..)	28,612
San Bernardino	8,236	36,924
Ventura	1,864	3,226
SCAG Region Total	**49,359**	**109,359**

Source:
SWCA Environmental Consultants, Inc. (2019).
** The SCIC database is currently being revised and the count of total resources is an approximation based on current listings. The number of resources with archaeological components is taken from the 2016 General Plan, Open Space & Conservation Element. The total number of resources was approximated by SCIC staff and provided to SWCA via email on July 1, 2019.*
*** The EIC database is not currently configured to distinguish historic-period archaeological resources from non-archaeological historic resources (i.e., buildings, structures, etc.). Instead, the EIC provided tallies of resources with components dating to the respective periods as follows: 13,993 Prehistoric archaeological sites; 1 Protohistoric archaeological site; 15,313 Historic period cultural resources (archaeological sites and historic resources); 202 sites of unknown cultural or temporal affiliation. Because an individual resource may have components that fall into multiple periods, the sum of all resources listed for each period is greater than the total number of resources. The total number of archaeological sites was estimated for Riverside County to allow for comparison with other counties across the SCAG region. This was done for Riverside County by taking the 13,994 archaeological sites listed as Prehistoric and Protohistoric (because these resources can only be archaeological sites) and adding an estimated fraction of those listed as Historic and Unknown Period, which could consist of historic resources (i.e., non-archaeological). The estimate provided here assumes 40 percent of those resources listed as Historic or Unknown Period have archaeological components that are not multi-component resources (and already tallied as Prehistoric or Protohistoric).*

Due to the proprietary nature of archaeological information, the exact location of most of these locales cannot be discussed. However, some of the sites have been made public in county, regional, state, and federal parks, or listed on public registers:

- The site of the Puvunga India Village (NR) Los Angeles County
- Vasquez Rocks (NR) Los Angeles County
- Black Star Canyon Indian Village Site (CHL-217) Orange County
- Fairview Indian Site (NR) Orange County
- Desert Intaglios (CHL-101) Riverside County
- Site of the Indian Village of Pochea (CHL-104) Riverside County
- Carved Rock (CHL-187) Riverside County
- Painted Rock (CHL-190) Riverside County
- The Hemet Maze (CHL-557) Riverside County
- The Calico "Early Man" Site San Bernardino County
- Anacapa Island Archaeological District (NR) Ventura County

The SCAG region was occupied during both the prehistoric and protohistoric periods; therefore, archaeological sites are widespread and numerous. Rock outcrops, river and stream drainages, and coastal strips were often prime locations for Native American village sites or processing camps. These locations now include highly urbanized locations, such as cities, and undeveloped areas of the high desert. Often archaeological sites are covered by three feet or more of topsoil; however, it is possible that construction may not disturb the surface soils by more than a foot or two, thereby protecting remains even after an area has been fully urbanized. In 1998, a large undisturbed Native American burial ground, dating from the Protohistoric Period, was exposed during construction at the ARCO Refinery in Los Angeles. The refinery had been there for 75 years, yet the burial level was located under three to five feet of flood deposits from the nearby Los Angeles River.[2]

There are numerous historical resources that have been listed or determined eligible for listing in the National Register of Historic Places and/or the California Register of Historical Resources. These historical sites are generally open to the public. Additionally, registries are maintained by counties, cities, and local historical societies within the SCAG region. There are more than 85,000 listings in the NRHP, of which 1,123 are located in the SCAG region **(Table 3.5-2, National Register of Historic Places Properties within the SCAG Region).** A complete listing is provided in **Appendix 3.5**, **Cultural Resources Technical Report**.

Table 3.5-2
National Register of Historic Places Properties within the SCAG Region

County	Listed	Approved	Accepted	Eligible	Total
Imperial	10	0	0	13	23
Los Angeles	564	2	1	142	709
Orange	124	0	0	17	141
Riverside	87	0	0	7	94
San Bernardino	69	0	0	34	103
Ventura	37	0	0	16	59
Total	**891**	**2**	**1**	**229**	**1,123**

Source:
National Park Service, National Historic Landmarks Program. Accessed August 2019. National Historic Landmarks Survey. Available at: https://www.nps.gov/subjects/nationalhistoriclandmarks/list-of-nhls-by-state.htm

Also recognized by the federal government are NHLs. These are districts, sites, buildings, structures, and objects that the Secretary of the Interior has determined to be significant to the nation's history and

2 Bonner, Wayne H. Human Burials. *W.H. Bonner and* Associates. Available online at: https://scahome.org/publications/proceedings/Proceedings.13BonnerW1.pdf, accessed August 27, 2019.

culture or illustrate events or places that were important contributions to the historical development of the United States. There are currently over 2,500 listings in the NHL Database of which 29 are located in the SCAG region (**Table 3.5-3, National Historic Landmarks within the SCAG Region**). A full accounting of these landmarks is located within **Appendix 3.5**.

Table 3.5-3
National Historic Landmarks within the SCAG Region

County	Structure	Building	Site	District	Total
Imperial	0	0	0	0	0
Los Angeles	13	5	2	3	23
Orange	2	0	0	0	2
Riverside	2	0	0	0	2
San Bernardino	0	1	0	0	1
Ventura	0	0	0	1	1
Total	**17**	**6**	**2**	**4**	**29**

Source:
National Park Service, National Historic Landmarks Program. Accessed August 2019. National Historic Landmarks Survey. Available at: https://www.nps.gov/subjects/nationalhistoriclandmarks/list-of-nhls-by-state.htm

The State of California keeps a record of districts, places, sites, and buildings determined to hold historic or prehistoric significance. Two registers, administered by the California OHP and the SHRC, are part of the California Department of Parks and Recreation. There are over 1,000 listings in the register of CHL, of which 226 are located in the SCAG region (**Table 3.5-4, California Historical Landmarks within the SCAG Region**), and with the CPHI, there are 850 listings, of which 284 are located in the SCAG region (**Table 3.5-5, California Points of Historical Interest within the SCAG Region**).

Table 3.5-4
California Historical Landmarks within the SCAG Region

County	Prehistoric, Protohistoric	Prehistoric, Protohistoric, Spanish	Prehistoric, Protohistoric, Mexican	Prehistoric, American	Protohistoric	Spanish	Mexican	American	Total
Los Angeles	0	0	0	0	0	4	1	9	14
Orange	1	1	0	1	0	17	13	71	104
Riverside	0	1	0	0	0	2	4	19	26
San Bernardino	5	1	1	0	1	3	4	12	27
Imperial	1	1	1	0	0	4	7	27	41
Ventura	0	0	0	0	0	7	4	3	14
Total	7	4	2	1	1	37	33	141	226

Source: OHP, 2019

Table 3.5-5
California Points of Historical Interest within the SCAG Region

County	Points of Historical Interest
Imperial	4
Los Angeles	64
Orange	21
Riverside	72
San Bernardino	119
Ventura	4
Total	**284**

Source: OHP, 2019

Historic places are also recorded and can be identified in county, city, and local registers. These resources are also under various ordinances specific to the county, city, or locality. City and county registers may also be maintained by various county and city commissions. Examples of these types of organizations include the Riverside County Historical Commission, the Santa Ana Historic Resources Commission, and the Santa Monica Landmarks Commission. Local groups have also created registries within their area of interest, generally at the community level. An example of such local registers is the Ontario Heritage, a local non-profit organization that aims to protect the historic and cultural resources of Ontario, California. Furthermore, several local cities and counties maintain historic districts. Projects within the borders of these districts are often subject to additional conditions and review by planning staff and historic commissions. A full detailing of these resources is located in **Appendix 3.5** (Tables C-1 through C-4) and (Table D-1).

Human Remains

Human remains in the SCAG region occur within the nearly 200 formal cemeteries in the six-county area and those interred outside of formal cemeteries. In the SCAG region, there are many circumstances in which human remains outside formal cemeteries could be encountered. In additional to existing formal cemeteries, many cemeteries have been relocated. While the goal of such relocation projects is to repatriate human remains to a new location, there have been instances where human remains have been encountered at the original location of a relocated cemetery during subsequent ground-disturbing activities. There is also a potential to find human remains that are the result of foul play. There are also burial features associated with historic settlements and other indigenous people. Burial features can range in complexity from a simple isolated inhumation (burial or cremation) to more elaborate interments containing numerous bodies. These features may represent specially designated interment areas or

remnants of larger archaeological sites. Burial associations can include shell beads and ornaments as well as ground and polished stone artifacts. In some areas, human burials are expected to be found in raised earthen mounds. Native American groups within the SCAG region varied in their burial practices with respect to interment and cremation.

3.5.3 REGULATORY FRAMEWORK

3.5.3.1 Federal

Antiquities Act of 1906

The Antiquities Act of 1906 (16 U.S. Code [USC] 431–433), which aimed to protect important historic and archaeological sites, initiated historic preservation legislation. It established a system of permits for conducting archaeological studies on federal land, as well as setting penalties for noncompliance. This permit process controls the disturbances that may be caused to archaeological sites.[3] New permits are currently issued under the Archaeological Resources Protection Act (ARPA) of 1979. The purpose of ARPA is to enhance preservation and protection of archaeological resources on public and Native American lands.[4]

Historic Sites Act of 1935

The Historic Sites Act (16 USC 461–467) became law on August 21, 1935, and declared that it is national policy to "Preserve for public use historic sites, buildings, and objects of national significance."[5] The National Historic Preservation Act (NHPA) expanded the scope to include important state and local resources. Provisions of NHPA established the National Register maintained by the National Park Service, advisory councils on Historic Preservation, State Historic Preservation Offices, and grants-in-aid programs. Section 106 of the NHPA requires all federal agencies to consult the Advisory Council before continuing any activity affecting a property listed on or eligible for listing on the National Register.[6] The

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3 National Park Service. *American Antiquities Act of 1906, 16 USC 431-433*. Available online at: https://www.nps.gov/history/local-law/anti1906.htm, accessed August 27, 2019.

4 National Park Service. *Archaeological Resources Protection Act*. Available online at: https://www.nps.gov/history/local-law/FHPL_ArchRsrcsProt.pdf, accessed August 27, 2019.

5 National Park Service. *Historic Sites Act of 1935, 16 USC sec. 461-467*. Available online at: https://www.nps.gov/history/local-law/hsact35.htm, accessed August 27, 2019.

6 National Park Service. *National Historic Preservation Act of 1966, Public Law 102-575*. Available online at: https://www.nps.gov/history/local-law/nhpa1966.htm, accessed August 27, 2019.

Advisory Council has developed regulations for Section 106 to encourage coordination of agency cultural resource compliance requirements (Executive Order 11593).[7]

United States Department of Transportation Act of 1966 (Section 4[f])

Section 4(f) of the United States Department of Transportation (USDOT) Act of 1966 affords special protection to public recreational lands and facilities, including: local parks and school facilities that are open and available to the general public for recreational purposes; significant cultural resources; historical resources; and natural wildlife refuges. Federally funded transportation improvement projects are prohibited from the encroachment (direct or constructive use, or a take) of Section 4(f) lands unless it can be demonstrated that no feasible and prudent alternative exists.[8]

National Register of Historic Places (National Register)

The National Register recognizes properties that are significant at the national, state, and/or local levels. Although administered by the National Park Service, the federal regulations explicitly provide that National Register listing of private property "does not prohibit under federal law or regulation any actions which may otherwise be taken by the property owner with respect to the property." Listing in the National Register assists in preservation of historic properties through: recognition that a property is of significance to the nation, the state, or the community; consideration in the planning for federal or federally-assisted projects; eligibility for federal tax benefits; consideration in the decision to issue a surface coal mining permit; and qualification for federal assistance for historic preservation, when funds are available. In addition, for projects that receive federal funding, a clearance process must be completed in accordance with Section 106 of the NHPA. Furthermore, state and local regulations may apply to properties listed in the National Register.[9]

The criteria for listing in the National Register follow the standards for determining if properties, sites, districts, structures, or landscapes of potential significance are eligible for nomination. In addition to meeting any or all of the following criteria, properties nominated must also possess integrity of location,

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7 Federal Register. *Executive Order 11593 – Protection and enhancement of the cultural environment*. Available online at: https://www.archives.gov/federal-register/codification/executive-order/11593.html, accessed August 27, 2019.

8 U.S. Department of Transportation. *Section 4(f) of the Department of Transportation Act*. Available online at: https://www.transit.dot.gov/regulations-and-guidance/environmental-programs/section-4f-department-transportation-act, accessed August 27, 2019.

9 Government Publishing Office. 2019. *Title 36: Parks, Forests, and Public Property, Part 60 – National Register of Historic Places*. Available online at: https://www.ecfr.gov/cgi-bin/text-idx?SID=c5a07c14e9b695af2ef0cae29b4b4f23&mc=true&node=pt36.1.60&rgn=div5, accessed August 27, 2019.

design, setting, feeling, workmanship, association, and materials that[10] a property is eligible for the NRHP if it is significant under one or more of the following criteria:

Criterion A: It is associated with events that have made a significant contribution to the broad patterns of our history;

Criterion B: It is associated with the lives of persons who are significant in our past;

Criterion C: It embodies the distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components may lack individual distinction; and/or

Criterion D: It has yielded, or may be likely to yield, information important in prehistory or history.

Ordinarily cemeteries, birthplaces, or graves of historic figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, and properties that are primarily commemorative in nature, are not considered eligible for the NRHP, unless they satisfy certain conditions. In general, a resource must be 50 years of age to be considered for the NRHP, unless it satisfies a standard of exceptional importance.

In addition to meeting these criteria, a property must retain historic integrity, which is defined in National Register Bulletin 15 as the "ability of a property to convey its significance" (NPS 1990). In order to assess integrity, the NPS recognizes seven aspects or qualities that, considered together, define historic integrity. To retain integrity, a property must possess several, if not all, of these seven qualities, which are defined in the following manner in National Register Bulletin 15:

Location: the place where the historic property was constructed or the place where the historic event occurred;

Design: the combination of elements that create the form, plan, space, structure, and style of a property;

Setting: the physical environment of a historic property;

Materials: the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property.

Workmanship: the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory;

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10 Ibid.

Feeling: a property's expression of the aesthetic or historic sense of a particular period of time;

Association: the direct link between an important historic event or person and a historic property.

Procedures for listing a property in the NRHP are outlined in Procedures for State, Tribal, and Local Government Historic Preservation Programs (36 CFR 61) and in Determinations of Eligibility for Inclusion in the National Register (36 CFR 63). The Secretary of the Interior's Professional Qualifications Standards for who is allowed to conduct cultural resources studies and evaluations are outlined in 36 CFR 61.

Procedures for artifact curation are noted in Curation of Federally Owned and Administered Archeological Collections (36 CFR 79) for artifacts recovered under the authority of the Antiquities Act (16 USC 431- 433), the Reservoir Salvage Act (16 USC 469-469c), Section 110 of the NHPA (16 USC 470h-2), or the ARPA (16 USC 470aa-mm).

National Landmarks Program

36 CFR 65 identifies and designates NHLs and encourages the long-range preservation of nationally significant properties that illustrate or commemorate the history and prehistory of the United States. The NPS administers the National Historic Landmarks Program on behalf of the Secretary of the Interior. Properties designated as NHLs are listed in the NRHP upon designation. All NHLs are NRHP Properties but not all NRHP Properties are NHLs. The criteria for designation as an NHL are similar to those for inclusion in the NRHP but are more stringent and have a greater emphasis on national significance. The Landmark Program Criterion 3, which does not have a counterpart in the NRHP regulations, applies to a resource that represents some great idea or ideal of the American people. Agencies should, to the maximum extent possible, minimize harm to NHLs affected by undertakings.

Archeology and Historic Preservation: Secretary of the Interior Standards and Guidelines

As established by 36 CFR 67, one recognized method for generally avoiding adverse effects to historic properties is following the Secretary of the Interior's Standards for Rehabilitation & Illustrated Guidelines for Rehabilitating Historic Buildings (Secretary's Standards). Created under Sections 101(f), (g), and (h), and Section 110 of the amended NHPA of 1966, the Secretary's Standards offer guidelines and approaches for preserving, maintaining, repairing, and replacing historical materials and features, as well as designing additions or making alterations. Guidance is also provided for new construction adjacent to historic properties, in order to avoid adverse impacts to neighboring properties through a change in setting and feeling. In this way, the Secretary's Standards outline common-sense approaches that allow

for the retention of and/or sensitive changes to the distinctive materials and features that lend a historical resource its significance. These standards and guidelines are not regulatory in nature, nor do they set of interpret policy. Instead that serve as technical advice regarding archaeological and historic preservation procedures.

State CEQA Guidelines Section 15126.4(b)(1) states that a project determined to conform with the Secretary's Standards can generally be considered to be a project that will not cause material impairment to a historical resource. Nonconformance with the Secretary's Standards, however, does not uniformly result in material impairment to a historical resource, and some projects that do not comply with the Secretary's Standards do not cause a significant adverse impact. Project elements must be studied on a case-by-case basis, depending upon the resource and the reasons for its significance. However, projects that comply with the Secretary's Standards benefit from a regulatory presumption that they would have a less-than-significant adverse impact on historic resources.

National Historic Preservation Act of 1966 (NHPA)

The NHPA, as amended (54 U.S.C. section 470 *et seq*.), established guidelines to "preserve important historic, cultural, and natural aspects of our national heritage, and to maintain, wherever possible, an environment that supports diversity and a variety of individual choice." The NHPA includes requirements (Section 106) which pertain to all projects that are funded, permitted, or approved by any federal agency and which have the potential to affect cultural resources. Under the Section 106 consultation process (36 CFR section 800 *et seq*.), federal agencies taking such actions are required to consult with the Advisory Council on Historic Preservation (ACHP), State Historic Preservation Officer (SHPO), local agencies, and Indian tribes, and avoid or mitigate adverse effects on National Register-listed or -eligible properties. Provisions of NHPA establish a National Register of Historic Places (National Register); see above for details.[11]

Archaeological and Historic Preservation Act of 1974

Passed and signed into law in 1974, The Archaeological and Historic Preservation Act of 1974 (AHPA), 16 USC Section 469 *et seq*.) amended and expanded the Reservoir Salvage Act of 1960. The AHPA as amended requires that federal agencies provide for the preservation of historical and archaeological data (including relics and specimens) which might otherwise be irreparably lost or destroyed as the result of

11 National Park Service. *National Historic Preservation Act of 1966 as amended through 1992*. Available online at: https://www.nps.gov/history/local-law/nhpa1966.htm, accessed August 27, 2019.

any alteration of the terrain caused by any federal construction project or federally-licensed activity or program.[12]

Archaeological Resources Protection Act of 1979

The ARPA (16 USC Section 470aa *et seq*.) applies when a project may involve archaeological resources located on federal or tribal land. ARPA requires that a permit be obtained before excavation of an archaeological resource on such land can take place.[13]

American Indian Religious Freedom Act

AIRFA establishes U.S. policy to protect and preserve American Indian, Eskimo, Aleut, and Native Hawaiian freedom to believe, express, and exercise traditional religions and ways. This includes access to religious sites and the freedom to worship through ceremonial and traditional rites. Federal agencies must determine if policy and procedure changes are needed to protect such rights and freedoms. The act is aligned with the First Amendment guarantee of religious freedom. It is not implemented with regulations.

Native American Graves Protection and Repatriation Act of 1990

The Native American Graves Protection and Repatriation Act (NAGPRA) of 1990 (25 USC 3001 et seq.) protects human remains, funerary objects, sacred objects, and items of cultural patrimony of indigenous peoples on federal lands. NAGPRA stipulates priorities for assigning ownership or control of such cultural items excavated or discovered on federal or tribal lands, or in the possession and control of an agency that has received federal funding.

NAGPRA also provides for the repatriation of human remains and associated items previously collected from federal lands and in the possession or control of a federal agency or federally funded repository. Implementing regulations are codified in 43 CFR Part 10. In addition to defining procedures for dealing with previously collected human remains and associated items, these regulations outline procedures for negotiating plans of action or comprehensive agreements for treatment of human remains and associated items encountered in intentional excavations, or inadvertent discoveries on federal or tribal lands.

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12 National Park Service. *Archeological and Historic Preservation Act as Amended*. Available online at: https://www.nps.gov/history/local-law/FHPL_ArchHistPres.pdf, accessed August 27, 2019.

13 National Park Service. *The Archaeological Resources Protection Act of 1979 (ARPA)*. Available online at: https://www.nps.gov/archeology/tools/Laws/ARPA.htm, accessed August 27, 2019.

This regulation (last amended March 21, 2007) provides a Plan of Action (POA) for NAGPRA. To prevent work stoppages that last 30 days each time cultural items (as defined by NAGPRA) are encountered, it allows the responsible federal agency to create a POA to follow if these cultural items (as defined by NAGPRA) are encountered. POAs require consultation with the *appropriate Indian tribe or Native Hawaiian organization with respect to tribal lands, if known or readily ascertainable, and, in the case of lands that have been selected by an Alaska Native Corporation or group organized pursuant to the Alaska Native Claims Settlement Act of 1971[43 USC 1601 et seq.], the appropriate corporation or group (25 USC 3002d).*

3.5.3.2 State

California Implementation of Federally and State-Mandated Historic Preservation Program

The California OHP is responsible for administering federally and state mandated historic preservation programs to further the identification, evaluation, registration and protection of California's irreplaceable archaeological and historical resources under the direction of the State Historic Preservation Officer (SHPO), a gubernatorial appointee, and the State Historical Resources Commission.

OHP's responsibilities include:

- Identifying, evaluating, and registering historic properties;
- Ensuring compliance with federal and state regulatory obligations;
- Encouraging the adoption of economic incentives programs designed to benefit property owners; and
- Encouraging economic revitalization by promoting a historic preservation ethic through preservation education and public awareness and, most significantly, by demonstrating leadership and stewardship for historic preservation in California.

OHP reviews and comments on thousands of federally sponsored projects annually pursuant to Section 106 of the National Historic Preservation Act and state programs and projects pursuant to Sections 5024 and 5024.5 of the Public Resources Code (PRC). OHP also reviews and comments on local government and state projects pursuant to CEQA.

The purpose of OHP's project review program is to promote the preservation of California's heritage resources by ensuring that projects and programs carried out or sponsored by federal and state agencies comply with federal and state historic preservation laws and that projects are planned in ways that avoid any adverse effects to heritage resources. If adverse effects cannot be avoided, the OHP assists Lead Agencies in developing measures to minimize or mitigate such effects.

OHP administers the NRHP, the CRHR, the CHL, and the CPHI programs. Each program has different eligibility criteria and procedural requirements; all register nominations must be submitted to the Commission for review and approval.[14]

California Register of Historical Resources (California Register)

Created in 1992 and implemented in 1998, the CRHR is "an authoritative guide in California to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change" (PRC Sections 21083.2 and 21084.1). Certain properties, including those listed in or formally determined eligible for listing in the NRHP and CHL numbered 770 and higher, are automatically included in the CRHR.

Other properties recognized under the CPHI program, identified as significant in historical resources surveys, or designated by local landmarks programs may be nominated for inclusion in the CRHR. According to PRC Section 5024.1(c), a resource, either an individual property or a contributor to a historic district, may be listed in the CRHR if the State Historical Resources Commission determines that it meets one or more of the following criteria, which are modeled on NRHP criteria:

Criterion 1: It is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.

Criterion 2: It is associated with the lives of persons important in our past.

Criterion 3: It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.

Criterion 4: It has yielded, or may be likely to yield, information important in history or prehistory.

Resources nominated to the CRHR must retain enough of their historic character or appearance to convey the reasons for their significance. Resources whose historic integrity does not meet NRHP criteria may still be eligible for listing in the CRHR.

14 Office of Historic Preservation. *About the Office of Historic Preservation*. Available online at: http://ohp.parks.ca.gov/?page_id=27961, accessed August 27, 2019.

California Historical Landmarks

CHL are sites, buildings, features, or events that are of statewide significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value. The specific standards now in use were first applied in the designation of Landmark #770. CHL #770 and above are automatically listed in the CRHR.

To be designated as a CHL, a resource must meet at least one of the criteria listed below; have the approval of the property owner(s); be recommended by the State Historical Resources Commission; and be officially designated by the Director of California State Parks.

Criteria for Designation. To be eligible for designation as a Landmark, a resource must meet at least one of the following criteria:

- The first, last, only, or most significant of its type in the state or within a large geographic region (Northern, Central, or Southern California).
- Associated with an individual or group having a profound influence on the history of California.
- A prototype of, or an outstanding example of, a period, style, architectural movement or construction or is one of the more notable works or the best surviving work in a region of a pioneer architect, designer or master builder.

Effects of Designation:

- Limited protection: Environmental review may be required under CEQA if property is threatened by a project. Contact your local planning agency for more information.
- Local assessor may enter into contract with property owner for property tax reduction (Mills Act).
- Local building inspector must grant code alternative provided under State Historic Building Code. Registration will be recorded on the property deed.
- Automatic listing in CRHR.
- Bronze plaque at site (underwritten by local sponsor) ordered through OHP; highway directional sign available through local Department of Transportation (Caltrans) district office.

California Points of Historical Interest

If a site is primarily of local interest, it may meet the criteria for the CPHI program. California Points of Historical Interest are sites, buildings, features, or events that are of local (city or county) significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value. Points of Historical Interest designated after December 1997 and

recommended by the State Historical Resources Commission are also listed in the California Register. No historical resource may be designated as both a Landmark and a Point. If a Point is subsequently granted status as a Landmark, the Point designation will be retired.

Criteria for Designation. To be eligible for designation as a Point of Historical Interest, a resource must meet at least one of the following criteria:

- The first, last, only, or most significant of its type within the local geographic region (City or County).
- Associated with an individual or group having a profound influence on the history of the local area.
- A prototype of, or an outstanding example of, a period, style, architectural movement or construction or is one of the more notable works or the best surviving work in the local region of a pioneer architect, designer or master builder.

Effects of Designation.

- Limited protection: Environmental review may be required under CEQA if property is threatened by a project. Contact your local planning agency for more information.
- Local assessor may enter into contract with property owner for property tax reduction (Mills Act).
- Local building inspector must grant code alternative provided under State Historic Building Code.
- Registration is recorded on property deed.
- A small enamel directional sign (no text) available through local Caltrans district office.
- Owner may place his or her own marker at the site.

California Public Resources Code, Sections 5097.5, 5097.9, 5097.98–99, and 50907.9

Section 5097.5 of the Public Resources Code defines as a misdemeanor the unauthorized disturbance or removal of archaeological, historical, or paleontological resources located on public lands. This Section also prohibits the knowing destruction of objects of antiquity without a permit (expressed permission) on public lands, and provides for criminal sanctions. In 1987, the Code was amended to require consultation with the California Native American Heritage Commission whenever Native American graves are found. It also established that violations for taking or possessing remains or artifacts are felonies.[15]

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15 California Legislative Information. *Chapter 1.7. Archaeological, Paleontological, and Historic Sites [5097-5097.7], Section 5097.5*. Available online at: http://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=PRC&sectionNum=5097.5, accessed August 27, 2019.

Public Resources Code Section 5097.9 establishes the California Native American Heritage Commission to make recommendations to encourage private property owners to protect and preserve sacred places in a natural state and to allow appropriate access to Native Americans for ceremonial or spiritual activities. The Commission is authorized to assist Native Americans in obtaining appropriate access to sacred places on public lands, and to aid state agencies in any negotiations with federal agencies for the protection of Native American sacred places on federally-administered lands in California.[16]

Public Resources Code sections 5097.98 through 5097.99 require that the Governor's California Native American Heritage Commission be consulted whenever Native American graves are found. According to these sections, it is illegal to take or possess remains or artifacts taken from Native American graves; however, it does not apply to materials taken before 1984. Violations occurring after January 1, 1988 are felonies.[17,18]

Public Resources Code Section 50907.9 (Section 7050 of the Health and Safety Code) authorizes the Native American Heritage Commission (NAHC) to regulate Native American concerns regarding the excavation and disposition of Native American cultural resources. Among its duties, the Commission is authorized to resolve disputes relating to the treatment and disposition of Native American human remains and items associated with burials. Upon notification of the discovery of human remains by a county coroner, the Commission notifies the Native American group or individual most likely descended from the deceased. PRC 5097.98(b) requires that landowners ensure that the immediate vicinity (according to generally accepted cultural or archaeological standards of practices) are not damaged or disturbed by further development until the landowner has discussed and conferred with most likely descendants.[19]

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16 California Legislative Information. *Chapter 1.75. Native American Historical, Cultural, and Sacred Sites [5097.9-5097.991], Section 5097.9*. Available online at: http://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=PRC&sectionNum=5097.9, accessed August 27, 2019.

17 California Legislative Information. *Chapter 1.75. Native American Historical, Cultural, and Sacred Sites [5097.9-5097.991], Section 5097.98*. Available online at: http://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=PRC&sectionNum=5097.98, accessed August 27, 2019.

18 California Legislative Information. *Chapter 1.75. Native American Historical, Cultural, and Sacred Sites [5097.9-5097.991], Section 5097.99*. Available online at: http://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=PRC&sectionNum=5097.99, accessed August 27, 2019.

19 California Legislative Information. *Chapter 2. General Provisions [7050.5-7055], Section 7050.5*. Available online at: http://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=HSC&sectionNum=7050.5, accessed August 27, 2019.

California Coastal Act

The California Coastal Act (CCA; PRC Sections 30000 et seq.) was enacted in 1976, four years after the Coastal Commission was created by Proposition 20. It requires the implementation of reasonable mitigations measures to protect archaeological resources as identified by the SHPO when development would adversely impact such resources. [20]

California Health and Safety Code, Section 7050 and Sections 18950 through 18961

Consistent with the provisions of Section 50907.9 of the PRC, Section 7050 of the Health and Safety Code HSC) authorizes the Native American Heritage Commission (NAHC) to regulate Native American concerns regarding the excavation and disposition of Native American cultural resources. Among its duties, the Commission is authorized to resolve disputes relating to the treatment and disposition of Native American human remains and items associated with burials. Upon notification of the discovery of human remains by a county coroner, the Commission notifies the Native American group or individual most likely descended from the deceased.[21]

The State Historic Building Code (HSC; Sections 18950–18961) provide alternative building regulations and building standards for the rehabilitation, preservation, restoration (including related reconstruction), or relocation of buildings or structures designated as historic buildings. Such alternative building standards and building regulations are intended to facilitate the restoration or change of occupancy so as to preserve their original or restored architectural elements and features, to encourage energy conservation and a cost-effective approach to preservation, and to provide for the safety of the building occupants.[22]

California Penal Code Section 622 – Destruction of Historical Properties

Penal Code Section 622 establishes that the willful injury, disfiguration, defacement, or destruction of any object, thing, or site, of archaeological or historical interest or value, as a misdemeanor. This applies to

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20 *Public Resources Code Division 20 California Coastal Act (2019)*. Available online at: https://www.coastal.ca.gov/coastact.pdf, accessed August 27, 2019.

21 California Legislative Information. *Chapter 2. General Provisions [7050.5-7055], Section 7050.5*. Available online at: http://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=HSC&sectionNum=7050.5, accessed August 27, 2019.

22 California Legislative Information. *Part 2.7. State Historical Building Code [18950-18962]*. Available online at: https://leginfo.legislature.ca.gov/faces/codes_displayText.xhtml?lawCode=HSC&division=13.&title=&part=2.7.&chapter=&article=, accessed August 27, 2019.

resources situated on both private and public land. Furthermore, Section 622.5 sets the applicable penalties for any such damage or removal of cultural resources. [23]

Senate Bill 18 – Traditional Tribal Cultural Places

Signed into law in 2004, Senate Bill (SB) 18 requires that cities and counties notify and consult with California Native American tribes about proposed local land use planning decisions for the purpose of protecting traditional tribal cultural sites. Cities and counties must provide general and specific plan amendment proposals to California Native American tribes that the NAHC has identified as having traditional lands located within the city's boundaries. If requested by the Native American tribes, the city must also conduct consultations with the tribes prior to adopting or amending their general and specific plans.

Assembly Bill 52

Assembly Bill 52 of 2014 (AB 52) amended PRC Section 5097.94 and added PRC Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3.

AB 52 formalizes the lead agency–tribal consultation process, requiring the lead agency to initiate consultation with California Native American groups that are traditionally and culturally affiliated with the project, including tribes that may not be federally recognized. Lead agencies are required to begin consultation prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report.

Section 4 of AB 52 adds Sections 21074(a) and (b) to the PRC, which address tribal cultural resources and cultural landscapes. Section 21074(a) defines tribal cultural resources as one of the following:

1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

   A. Included or determined to be eligible for inclusion in the CRHR.

   B. Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.

2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria

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23 California Legislative Information. *Title 14. Malicious Mischief [594-625c], Section 622 ½.* Available online at: https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=PEN&sectionNum=622½, accessed August 27, 2019.

set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

Section 1(a)(9) of AB 52 establishes that "a substantial adverse change to a tribal cultural resource has a significant effect on the environment." Effects on tribal cultural resources should be considered under CEQA. Section 6 of AB 52 adds Section 21080.3.2 to the PRC, which states that parties may propose mitigation measures "capable of avoiding or substantially lessening potential significant impacts to a tribal cultural resource or alternatives that would avoid significant impacts to a tribal cultural resource." Further, if a California Native American tribe requests consultation regarding project alternatives, mitigation measures, or significant effects to tribal cultural resources, the consultation shall include those topics (PRC Section 21080.3.2[a]). The environmental document and the mitigation monitoring and reporting program (where applicable) shall include any mitigation measures that are adopted (PRC Section 21082.3[a]).

Executive Order B-10-11

Executive Order B-10-11 establishes the states policy regarding Native American groups, including the recognition of their sovereign rights, and the states desire that all agencies subject to executive control is to encourage the communication and consultation with California Native tribes. Furthermore, in order to implement this policy, it created the position of Governor's Tribal Advisor as part of the Office of the Governor of California. This position was established to serve as the direct link between the Governor's Office and the numerous tribal governments regarding matters of policy, including legislation and regulation.

3.5.3.3 Local

County General Plans

In addition to federal and state regulations, cities and counties in the SCAG region may also provide regulatory protection and advisement regarding cultural resources (**Table 3.5-6, County Policies and Ordinances Relevant to the SCAG Region**). California law requires that a general plan include seven elements (land use, open space, conservation, housing, circulation, noise, and safety). Many jurisdictions incorporate policies related to cultural and historical resources into the conservation element. Other jurisdictions choose to prepare a separate (optional) element dealing with cultural and/or historic preservation issues. Many jurisdictions also prepare ordinances addressing cultural resources and historic preservation.

Table 3.5-6
County Policies and Ordinances Relevant to the SCAG Region

County	County Policies and Ordinances
Imperial	Conservation and Open Space Element of General Plan **Policy Numbers:** Only one policy, Section IV.B.2 **Policies Specific to Archaeological Resources:** Yes, brief **Policies Specific to Paleontological Resources:** No **Policies Specific to Historic Resources:** No
Los Angeles	Chapter 9: Conservation and Natural Resources Element of General Plan **Policy Numbers:** C/NR 14.1 – C/NR 14.6 **Policies Specific to Archaeological Resources:** Yes, very brief **Policies Specific to Paleontological Resources:** Yes, very brief **Policies Specific to Historic Resources:** Yes, very brief
Orange	Chapter VI: Resources Element of General Plan **Policy Numbers:** Goals 1, 2 and 3, each with multiple policy numbers **Policies Specific to Archaeological Resources:** Yes, extensive **Policies Specific to Paleontological Resources:** Yes, extensive **Policies Specific to Historic Resources:** Yes, extensive
Riverside	Chapter 5: Multipurpose Open Space Element of General Plan **Policy Numbers:** 19.1 – 19.9 **Policies Specific to Archaeological Resources:** Yes, brief **Policies Specific to Paleontological Resources:** Yes, brief **Policies Specific to Historic Resources:** Yes
San Bernardino	Conservation Element (Subchapter C2) of General Plan **Policy Numbers:** CO 3.1 – CO 3.5 **Policies Specific to Archaeological Resources:** No – together with historic resources, extensive **Policies Specific to Paleontological Resources:** Yes, extensive **Policies Specific to Historic Resources:** No – together with archaeological resources, extensive
Ventura	Chapter 1: Resources (Subchapter 1.8) of General Plan **Policy Numbers:** 1 – 6 **Policies Specific to Archaeological Resources:** Yes, Policies 1-3 **Policies Specific to Paleontological Resources:** Yes, Policies 4 & 5 **Policies Specific to Historic Resources:** Yes, Policy 6

City General Plans and Ordinances

In accordance with Sections 65560 (g) and (i) of the California Government Code, like the six counties in the SCAG region, all cities are required to have a conservation element and an open space element, as mandatory elements of their general plans.[24] Many city general plans have provisions for historic

[24] California Legislative Information. *Article 10.5. Open-Space Lands [65560-65570], Section 65560.* Available online at: https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=GOV&sectionNum=65560, accessed August 27, 2019.

districts and protection of locally important cultural resources that may or may not meet the criteria for eligibility for listing in the NRHP or CRHR.

3.5.4 THRESHOLDS OF SIGNIFICANCE

In accordance with Appendix G of the *State CEQA Guidelines*, the Plan would have a significant impact related to cultural resources if it would:

- Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5;
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5; and/or
- Disturb any human remains, including those interred outside of dedicated cemeteries.

3.5.5 METHODOLOGY

Cultural Resources have been evaluated in accordance with Appendix G of the *State CEQA Guidelines*. Cultural resources within the SCAG region were evaluated at a programmatic level of detail, in relation to the general plans of the six counties and 191 cities within the SCAG region.

The methodology for determining the significance of cultural impacts compares the existing conditions to the future (2045) Connect SoCal conditions, as required by *CEQA Guidelines* Section 15126.2(a). The known historical, and archaeological resources located within the SCAG region were evaluated using the criteria set forth by the OHP, the California Register of Historic Resources, and the *State CEQA Guidelines*. The research analysis for archeological and historic was limited to state and federally recognized resources and landmarks, consistent with the definitions provided in Section 15064.5 of the *State CEQA Guidelines*.

All of the counties within the SCAG region are rich with fossil-bearing sedimentary formations and have been documented to contain historic and archaeological sites. All areas within the region have the potential for yielding yet undiscovered paleontological and archaeological resources. The development of new transportation facilities may affect archaeological resources, primarily through the disturbance of buried resources. Frequently, these resources are previously unidentified.

Nearly 50,000 archaeological resources have been identified in the SCAG region (see **Table 3.5-1**). Each of these sites is documented at an Archaeological Information Center, which holds location information on archaeological sites for each region in California. These known resources are limited to areas that have subject to various levels of research or investigation. Areas that have been subject to pedestrian surveys

or sub-surface explorations represent only a fraction of the total area with the potential to yield such resources. Therefore, the analysis focuses on the potential for major transportation projects to necessitate ground-disturbing activities in areas where significant archeological resources have been previously recorded or require work in sediments that have not been previously investigated.

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

3.5.6 IMPACT ANALYSIS

Impact 3.5-1 **Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5.**

Significant and Unavoidable Impacts – Mitigation Required.

The Plan has the potential to effect more than 1,000 historical resources in the SCAG region, including the 1,123 sites listed in the NRHP (**Table 3.5-2** and **Appendix 3.5)**; 29 sites listed in the NHL (**Table 3.5-3** and **Appendix 3.5**); 226 sites listed in the CHL (**Table 3.5-4** and **Appendix 3.5)**; and 284 listed in the CPHI (**Table 3.5-5** and **Appendix 3.5**). In addition to historical sites that have been recognized in federal and state lists, there is the potential for the Plan to affect unrecognized historical resources (structures that exist whose historic value has not previously been assessed or documented). In more remote areas, or areas not previously subject to any type of survey, structures of historic importance may not be currently listed on state or federal registers. In urban areas some jurisdictions have not undertaken a detailed inventory of potential resources. In addition, over time, additional resources become eligible to be identified as historic. Therefore, potential exists for the Plan to affect unrecognized historical resources throughout the region.

In instances where buildings 50 years or older are located on or adjacent to a project site, it is important to evaluate these structures, in accordance with professional standards, as potential historical resources, to determine if they meet the criteria that would make them eligible for the NRHP or the CRHR. In general, it is recommended that, depending on circumstances, for new construction, the evaluation of the

potential for indirect and direct impacts to historical resources should extend 1,000 feet from new construction. However, the geography and circumstance of each site will affect the appropriate means and protocols for evaluation.

Projects that would have the potential to cause an impact to historical resources include transportation projects that entail the development of new lanes, tracks, arterials, or interchanges that may require the acquisition of new right-of-ways, as well as development projects influenced by the land use strategies in the Plan. Such projects may result in direct demolition of historical resources or more indirect impacts such as changing the aesthetic context of the resource and/or increasing levels of corrosive air contaminants that affect historical features, and/or project construction activity that can result in vibrations that damage to fragile buildings.

Transportation projects proposed in existing "rights of way," such as high-occupancy vehicle (HOV) lanes, high- occupancy toll (HOT) lanes, bus rapid transit (BRT) and goods movement capacity enhancement projects, mixed flow lanes, and "right of way" maintenance (such as pot-hole repair) would have a limited potential to result in an impact to historic resources because they result in changes to existing facilities within an existing impact footprint. In circumstances where widening would occur, there would be greater potential for impacts, for example, by changing the view of a resource.

The Plan includes regional land use and transportation strategies that if implemented, may focus new growth in urbanized areas such as HQTAs,. These include an expanded transit network, including multiple Metro Rail extensions and the first urban rail services in Orange County (OC Streetcar) and San Bernardino County (Redlands Rail/Arrow). New bus rapid transit and rapid bus routes will be implemented across Los Angeles, Orange, Riverside and San Bernardino Counties. On the land use side, the Plan includes the Regional Housing Supportive Infrastructure Initiatives that will help make it quicker and easier for local jurisdictions to plan and produce needed housing by implementing tax increment finance districts. Many urbanized areas are older urban or suburban town centers where structures of architectural or historical significance are likely to be located. Changes in visual character of a neighborhood both through increases in density and through the addition of new transportation infrastructure (such as elevated transit platforms) could alter the significance of a historical resource. Further, as development is focused in urban areas, there may be pressure to redevelop existing historical resources (or eligible resources) that may be of lower density than new development. Redevelopment of historic properties could result in significant impacts to historical resources.

In summary, construction of transportation projects and development projects anticipated to occur under the Plan could impact the physical and aesthetic integrity of historic buildings and communities. These effects would constitute a significant impact, requiring the consideration of mitigation measures.

Mitigation Measures

SCAG Mitigation Measure

SMM CULT-1: Impacts to cultural resources shall be minimized through cooperation, information sharing, and SCAG's ongoing regional planning efforts such as web-based planning tools for local governments including CA LOTS, and other GIS tools and data services, including, but not limiting to, Map Gallery, GIS library, and GIS applications; and direct technical assistance efforts such as Toolbox Tuesday series and sharing of associated online Training materials. SCAG shall consult with resource agencies such as the National Park Service, Office of Historic Preservation, and Native American Heritage Commission to identify opportunities for early and effective consultation to identify archaeological sites, historical resources, and cemeteries to avoid such resources wherever practicable and feasible and reduce or mitigate for conflicts in compatible land use to the maximum extent practicable.

Project Level Mitigation Measures

PMM CULT-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to historical resources. Such measures may include the following or other comparable measures identified by the Lead Agency:

a. Pursuant to *CEQA Guidelines* Section 15064.5, conduct a record search during the project planning phase at the appropriate Information Center to determine whether the project area has been previously surveyed and whether historical resources were identified.

b. During the project planning phase, retain a qualified architectural historian, defined as an individual who meets the Secretary of the Interior's (SOI) Professional Qualification Standards (PQS) in Architectural History, to conduct historic architectural surveys if a built environment resource greater than 45 years in age may be affected by the project or if recommended by the Information Center.

c. Comply with Section 106 of the National Historic Preservation Act (NHPA) including, but not limited to, projects for which federal funding or approval is required for the individual project. This law requires federal agencies to evaluate the

impact of their actions on resources included in or eligible for listing in the National Register. Federal agencies must coordinate with the State Historic Preservation Officer in evaluating impacts and developing mitigation. These mitigation measures may include, but are not limited to the following:

- Employ design measures to avoid historical resources and undertake adaptive reuse where appropriate and feasible. If resources are to be preserved, as feasible, carry out the maintenance, repair, stabilization, rehabilitation, restoration, preservation, conservation or reconstruction in a manner consistent with the Secretary of the Interior's Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings. If resources would be impacted, impacts should be minimized to the extent feasible.

- Where feasible, noise buffers/walls and/or visual buffers/landscaping should be constructed to preserve the contextual setting of significant built resources.

d. If a project requires the relocation, rehabilitation, or alteration of an eligible historical resource, the Secretary of the Interior's Standards for the Treatment of Historic Properties should be used to the maximum extent possible to ensure the historical significance of the resource is not impaired. The application of the standards should be overseen by an architectural historian or historic architect meeting the SOI PQS. Prior to any construction activities that may affect the historical resource, a report, meeting industry standards, should identify and specify the treatment of character-defining features and construction activities and be provided to the Lead Agency for review and approval.

e. If a project would result in the demolition or significant alteration of a historical resource eligible for or listed in the National Register of Historic Places (NRHP), California Register of Historical Resources (CRHR), or local register, recordation should take the form of Historic American Buildings Survey (HABS), Historic American Engineering Record (HAER), or Historic American Landscape Survey (HALS) documentation, and should be performed by an architectural historian or historian who meets the SOI PQS. Recordation should meet the SOI Standards and Guidelines for Architectural and Engineering, which defines the products acceptable for inclusion in the HABS/HAER/HALS collection at the Library of Congress. The specific scope and details of documentation should be developed at the project level in coordination with the Lead Agency.

f. During the project planning phase, obtain a qualified archaeologist, defined as one who meets the SOI PQS for archaeology, to conduct a record search at the appropriate Information Center of the California Historical Resources Information System (CHRIS) to determine whether the project area has been previously surveyed and whether resources were identified.

g. Contact the NAHC to request a Sacred Lands File search and a list of relevant Native American contacts who may have additional information.

h. During the project planning phase, obtain a qualified archaeologist or architectural historian (depending on applicability) to conduct archaeological and/or historic architectural surveys as recommended by the qualified professional, the Lead Agency, or the Information Center. In the event the records indicate that no previous survey has been conducted, the qualified professional or Information Center will make a recommendation on whether a survey is warranted based on the sensitivity of the project area for archaeological resources.

i. If potentially significant archaeological resources are identified through survey, and impacts to these resources cannot be avoided, a Phase II Testing and Evaluation investigation should be performed by a qualified archaeologist prior to any construction-related ground-disturbing activities to determine significance. If resources determined significant or unique through Phase II testing, and avoidance is not possible, appropriate resource-specific mitigation measures should be established by the lead agency and undertaken by qualified personnel. These might include a Phase III data recovery program implemented by a qualified archaeologist and performed in accordance with the OHP's Archaeological Resource Management Reports (ARMR): Recommended Contents and Format and Guidelines for Archaeological Research Designs. Additional options can include 1) interpretative signage, or 2) educational outreach that helps inform the public of the past activities that occurred in this area. Archaeological materials collected from a significant resource should be curated with a recognized scientific or educational repository

j. If a record search or archaeological assessment indicates that the project is located in an area sensitive for archaeological resources, as determined by the Lead Agency in consultation with a qualified archaeologist, retain an archaeological monitor to observe ground disturbing operations, including but not limited to grading, excavation, trenching, or removal of existing features of the subject property. The

archaeological monitor should be supervised by an archaeologist meeting the SOI PQS

k. Conduct construction activities and excavation to avoid cultural resources (if identified). If avoidance is not feasible, further work may be needed to determine the importance of a resource. Retain a qualified archaeologist, and/or as appropriate, a qualified architectural historian who should make recommendations regarding the work necessary to assess significance. If the cultural resource is determined to be significant under state or federal guidelines, impacts to the cultural resource will need to be mitigated.

l. Stop construction activities and excavation in the area where cultural resources are found until a qualified archaeologist can determine whether these resources are significant. If the archaeologist determines that the discovery is significant, it should be curated with a recognized scientific or educational repository.

Level of Significance after Mitigation

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

Impact 3.5-2 **Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5.**

Significant and Unavoidable Impacts – Mitigation Required.

Transportation projects and anticipated growth under the Plan have the potential to cause a substantial adverse change in the significance of archaeological resources in the SCAG region, pursuant to *CEQA Guidelines* Section 15064.5, constituting a significant impact.

The OHP defines an archaeological "site" as consisting of three or more related resources discovered in one locality. In the event of archaeological discovery, the resources are collected, documented, and curated at an educational institution, such as a school or a museum. Transportation projects considered in the Plan have the potential to impact the nearly 100,000 archaeological resources in the SCAG region **(Table 3.5-1)**. Many of the more than 100,000 archeological resources may also constitute tribal cultural resources (see **Section 3.18, Tribal Cultural Resources**) and be designated a Native American sacred site. In addition to the archeological sites that have been recognized and listed in federal and state lists, there are many unrecognized archaeological resources. Unrecognized archeological resources are those that have not previously been assessed or documented.

Construction of any new transportation facilities has the potential to impact archaeological resources by changing the context of the resource or directly through disturbing previously undisturbed resources. Changes to existing transportation facilities such as improvements and modifications to existing rights-of-way, such as HOV lanes, HOT lanes, bus-ways and capacity enhancement facilities, mixed flow lanes, other transportation facilities and right-of-way maintenance, would have less potential to impact archaeological resources because these project locations have previously been disturbed. However, it is possible for archaeological resources to be present within or immediately adjacent to disturbed sediments. Activities to increase roadway capacity such as the construction of additional lanes would potentially impact archaeological resources, if it would entail grading, trenching, excavation, and/or soil removal in an area not previously disturbed.

The Connect SoCal Plan also includes land use strategies that focus new growth in urbanized areas that are generally developed and therefore subject to varying levels of disturbance. In most cases the potential for discovering buried archeological resources in previously disturbed areas is low, as any resources that may have existed have likely been either removed or destroyed during previous excavations. Nonetheless, it is possible that some development pursuant to the land use strategies included in the Plan could be expected to occur on previously undisturbed sites. It is also possible that disturbance of archaeological resources could occur where such resource are buried and may not be visible at the ground surface, and in some instances are located below recent development. In such an instance, the potential to disturb previously undiscovered archeological resources would result in similar types of impacts to those described above for transportation facilities and would constitute a significant impact requiring the consideration of mitigation measures.

Construction and implementation of transportation projects contained in the Plan, as well as anticipated growth and land use development have the potential to expose and/or displace archeological resources, constituting a potentially significant impact requiring the consideration of mitigation measures.

Mitigation Measures

SCAG Mitigation Measure

See **SMM CULT-1.**

Project Level Mitigation Measures

See **PMM CULT-1.**

Level of Significance after Mitigation

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

Impact 3.5-3 Disturb human remains, including those interred outside of dedicated cemeteries.

Significant and Unavoidable Impacts – Mitigation Required.

Construction and implementation of transportation projects included in the Connect SoCal Plan would not be expected to disturb human remains within areas being operated as existing formal cemeteries. However, the Plan includes transportation projects that have the potential to disturb human remains interred outside of formal cemeteries or those interred in Native American sacred sites, constituting a significant impact.

Humans have occupied the six-county SCAG region for at least 10,000 years. Although it is not always possible to predict where human remains may occur outside of formal burials, it is possible that excavation and construction activities, regardless of depth, may yield human remains that may not be interred in marked, formal burials. Earthmoving activities for transportation projects would generally be

within 150 feet on either side of any project and could result in a significant impact relative to the discovery of human remains.

Development that focuses new growth in urbanized areas while preserving natural lands may have a potential to encounter human remains as well. The transportation projects and anticipated growth under the Plan would result in 41,546 acres of greenfield land consumed. Although 60 percent of jobs and 73 percent of housing units would be in Growth Priority Areas under the Plan, 16 percent of the new housing would be in a standard suburban pattern that could disturb previously undisturbed resources. Under CEQA, human remains are protected under the definition of archaeological materials as being "any evidence of human activity." Human remains are also protected under NAGPRA, which was enacted to provide protection to Native American graves, as well as culturally affiliated items, associated funerary objects, unassociated funerary objects, sacred objects, and objects of cultural patrimony.

Transportation projects and anticipated growth under the Plan could take place in previously undisturbed or areas with only little previous disturbance, and excavation and soil removal of any kind, irrespective of depth, has the potential to encounter human remains, implementation of the Plan has the potential to disturb previously undiscovered human remains. While existing law strictly governs the procedures to address such remains, due to the volume of transportation projects and growth anticipated to occur under the Plan, it is possible that significant impacts could occur thus requiring the consideration of mitigation measures.

Mitigation Measures

SCAG Mitigation Measure

See **SMM CULT-1.**

Project Level Mitigation Measures

PMM CULT-2: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to human remains. Such measures may include the following or other comparable measures identified by the Lead Agency:.

a. In the event of discovery or recognition of any human remains during construction or excavation activities associated with the project, in any location other than a dedicated cemetery, cease further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until the coroner of the

county in which the remains are discovered has been informed and has determined that no investigation of the cause of death is required.

b. If any discovered remains are of Native American origin:

- Contact the County Coroner to contact the NAHC to designate a Native American Most Likely Descendant (MLD). The MLD should make a recommendation to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods. This may include obtaining a qualified archaeologist or team of archaeologists to properly excavate the human remains.

- If the NAHC is unable to identify a MLD, or the MLD fails to make a recommendation within 48 hours after being notified by the commission, or the landowner or his representative rejects the recommendation of the MLD and the mediation by the NAHC fails to provide measures acceptable to the landowner, obtain a culturally affiliated Native American monitor, and an archaeologist, if recommended by the Native American monitor, and rebury the Native American human remains and any associated grave goods, with appropriate dignity, on the property and in a location that is not subject to further subsurface disturbance.

Level of Significance after Mitigation

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

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3.6 ENERGY

This section of the Program Environmental Impact Report (PEIR) describes the existing conditions related to energy in the SCAG region, identified the regulatory framework with respect to laws and regulations that address energy, and analyzes the significance of the potential energy impacts that could occur from development of the Connect SoCal Plan ("Connect SoCal" or "Plan"). In addition, this PEIR provides regional-scale mitigation measures, as well as project-level mitigation measures to be considered by lead agencies for subsequent, site-specific environmental review to reduce identified impacts as appropriate and feasible.

3.6.1 ENVIRONMENTAL SETTING

3.6.1.1 Definitions

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

Natural Gas: Natural gas is a naturally occurring hydrocarbon mixture consisting primarily of methane and formed when layers of decomposing carbon material is exposed to intense heat under the Earth's surface over millions of years.

Petroleum: Petroleum is a naturally occurring liquid mixture of hydrocarbons found in geological formations beneath earth's surface and is refined into various types of fuels including gasoline, kerosene, and diesel oil.

Renewable energy: Renewable energy is a form of energy that is collected from renewable resources which are naturally replenishes on a human timescale such as sunlight, wind, rain, tides, waves, and geothermal heat. Renewable energy often provides energy for electricity generation, air and water heating/cooling, transportation, and off-grid energy services.

Acre-Feet: Unit of volume used to reference large-scale water resources, such as reservoirs, aqueducts, canals, and river flows. One acre-foot is equivalent to approximately 326,000 gallons or enough water to cover an acre of land by one foot.

British Thermal Units (Btu): The amount of heat required to raise the temperature of one pound of water by one-degree Fahrenheit.

Therms: Unit of heat equivalent to 100,000 Btu.

Watt: Unit of power equivalent to one joule per second, corresponding to the power in an electric circuit.

Watt-hour: Unit of energy equivalent to one watt of power expended for one hour of time.

3.6.1.2 Energy Supply

Electricity

Electricity produced within California in 2017 was from natural gas (43 percent), renewable resources (30 percent), large hydroelectric (18 percent), nuclear (9 percent), and coal (<1 percent). California uses energy generated in-state and imports electricity from the Southwest or Pacific Northwest of the United States. The State's electric generation mix, based on in-state generation and out-of-state purchases in 2017 was comprised of natural gas (34 percent), renewable resources (29 percent), large hydroelectric (15 percent), coal (4 percent), nuclear (9 percent), and additional unspecific sources of power (9 percent)[1]. In 2017, the total electrical system power generated was 292,039 GWh, which is up about 0.5 percent from 2016's total system electric generation of 290,567 GWh.[2] This results in a per capita electricity use of approximately 7.38 MWh/person/year.[3]

Natural Gas

In 2018, the total natural gas usage across California was 12,638.16 million therms. The six counties making up the SCAG region used approximately 4,600 million therms in 2018, approximately 36% of the state's total usage for the year.[4]

Natural gas production across the country increased with technological advances in horizontal drilling and hydraulic fracking. However, in Southern California, natural gas production has steadily declined. In 2016, Governor Jerry Brown declared a state of emergency in Porter Ranch due to a natural gas leak that sickened people and forced the relocation of approximately 7,000 homes and several schools.[5, 6] In 2018,

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1 California Energy Commission. 2018. *Total System Electric* Generation. Available online at: https://ww2.energy.ca.gov/almanac/electricity_data/system_power/2017_total_system_power.html, accessed September 3, 2019.

2 Ibid.

3 U.S. Census Bureau. *QuickFacts: California*. Available online at: https://www.census.gov/quickfacts/CA, accessed September 26, 2019.

4 California Energy Commission. *Gas Consumption by County*. Available online at: http://www.ecdms.energy.ca.gov/gasbycounty.aspx, accessed September 16, 2019.

5 Los Angeles Times. 2016. *Story So Far: Porter Rach gas leak updates*. Available online at: https://www.latimes.com/local/lanow/la-me-porter-ranch-gas-leak-live-htmlstory.html, accessed September 16, 2019.

6 U.S. Energy Information Administration. 2018. *Profile Analysis*. Available online at: https://www.eia.gov/state/analysis.php?sid=CA, accessed September 16, 2019.

it was announced that NRG Energy would close three natural gas plants in Southern California, including: Etiwanda in Rancho Cucamonga, Ormond Beach in Oxnard, and Ellwood in Goleta.[7]

Petroleum Based Fuel

In 2015, 15.1 billion gallons of gasoline (non-diesel) were sold statewide.[8] In 2015, California also reported a total of 29,830,797 registered on-road vehicles, including light-duty cars (54 percent), light-duty trucks (43 percent), and medium and heavy-duty trucks (3.3 percent).[9] In 2015, refineries in the state of California sold approximately 4,341 thousand gallons of gasoline a day, steadily decreasing since peaking at selling 8,452.8 thousand gallons per day in 2006.[10] However, in 2017 and 2018, refinery sales increased to 4,369.6 thousand gallons a day and 4,455.9 thousand gallons per day, respectively.[11]

Nuclear Power

After closure of the San Onofre Nuclear Generating Station (SONGS) in 2012, California has one operating nuclear power plant, Diablo Canyon. Diablo Canyon is located near San Luis Obispo and can generate approximately 2,160 megawatts (MW). The operating license expires in 2024 and Pacific Gas and Electric (PG&E), the owners of the plant, would be required to apply for a new permit in order to extend the license to 2044.[12]

Hydroelectric Power

California has 270 hydroelectric facilities with an installed capacity of 14,009 megawatts (MW). The amount of hydroelectricity varies each year due to snowmelt runoff and rainfall. From 1983 to 2018, the annual average hydroelectric generation was 271.8 GWh. Within the SCAG region, Imperial, Orange, Los

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7 Clean Technica. 2018. *NRG Energy Announces 2018 Retirement of 3 Southern California Natural Gas Power Plants*. Available online at: https://cleantechnica.com/2018/03/14/nrg-energy-announces-2018-retirement-of-3- southern-california-natural-gas-power-plants/, accessed September 16, 2019.

8 California Energy Commission. 2019. *California Gasoline Data, Facts, and Statistics*. Available online at: https://ww2.energy.ca.gov/almanac/transportation_data/gasoline/, accessed September 3, 2019.

9 Ibid.

10 U.S. Energy Information Administration. *California Total Gasoline Retail Sales by Refiners*. Available online at: https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=a103650061&f=a, accessed November 1, 2019.

11 U.S. Energy Information Administration. 2019. *Refiner Motor Gasoline Sales Volumes*. Available online at: https://www.eia.gov/dnav/pet/pet_cons_refmg_c_SCA_EPM0_mgalpd_a.htm, accessed November 5, 2019.

12 California Energy Commission. *Nuclear Energy in California*. 2019. Available online at: https://ww2.energy.ca.gov/nuclear/california.html, accessed September 26, 2019.

Angeles, Riverside, San Bernardino, Riverside, and Ventura have a combined hydroelectric capacity of 2,596.2 MW.[13]

Renewable Energy

Renewable energy includes biomass, geothermal plants, small hydroelectric (under 30 MW), solar, and wind. In 2018, California produced 63,028 GWh of electricity in renewable energy, 43% of which was solar.[14] California is on the trajectory to meet the goal of 33% renewable energy by 2020 and is working towards achieving 50% renewable energy by 2030.[15] The 2019 Building Energy Efficiency Standards go into effect on January 1, 2020 and will require most new residences to install solar panels which will decrease demand on electrical suppliers.[16]

3.6.1.3 Energy and Water

Water and energy are dependent on one another as water is essential in the production of electricity and electricity is required to pump, treat, and heat water.

In electricity generation, water is essential to hydropower (although hydro power does not result in consumption of water), thermoelectric power plants, as well as oil and gas extraction. In order to decrease thermoelectric power production's reliance on water many coastal power plants are changing from "once-through cooling" methods to "closed-cycle wet cooling" or "dry cooling" in order to reuse water. Moreover, the state's shift toward producing electricity from more renewables will decrease water use as few renewables require water.

California's water system requires electricity and accounts for approximately 20% of the state's total electrical consumption. While California's agricultural sector uses almost four times as much water as cities, cities use most of the water-related energy. Water heating makes up 90% of water-energy use and the pumping, conveying, and treating of water and wastewater make up the remaining 10%. As California moves to increase water efficiency, many measures will in turn reduce energy requirements. As discussed in **Section 3.19.3, Water Supply**, Southern California is increasing local water supply

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13 California Energy Commission. *California Hydroelectric Statistics and Data*. Available online at: https://ww2.energy.ca.gov/almanac/renewables_data/hydro/index_cms.php, accessed September 26, 2019.

14 California Energy Commission. 2018. *Total System Electric* Generation. Available online at: https://ww2.energy.ca.gov/almanac/electricity_data/system_power/2017_total_system_power.html, accessed September 3, 2019.

15 CARB.

16 California Energy Commission. 2019. *2019 Building Energy Efficiency Standards*. Available online at: https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2019-building-energy-efficiency, accessed September 26, 2019.

through investments in desalination and water recycling. While both processes are energy intensive, they would replace a portion of the water being pumped from Northern California, creating an overall decrease in the energy required.[17]

3.6.2 REGULATORY FRAMEWORK

3.6.2.1 Federal

Energy Policy and Conservation Act of 1975

The Energy Policy and Conservation Act of 1975 (EPCA; Public Law 94–163, 89 Stat. 871, enacted December 22, 1975) was enacted for the purpose of serving the nation's energy demands and promoting conservation methods when feasibly obtainable.

The EPCA was amended to:

- Grant specific authority to the President to fulfill obligations of the U.S. under the international energy program;
- Provide for the creation of a Strategic Petroleum Reserve capable of reducing the impact of severe energy supply interruptions;
- Conserve energy supplies through energy conservation programs, and the regulation of certain energy uses;
- Provide for improved energy efficiency of motor vehicles, major appliances, and certain other consumer products;
- Provide a means for verification of energy data to assure the reliability of energy data; and
- Conserve water by improving the water efficiency of certain plumbing products and appliances.[18]

National Energy Act of 1978

In response to the energy crisis in the 1970s, Congress passed the National Energy Act of 1978 (NEA) to establish energy efficiency programs, tax incentives, tax disincentives, energy conservation programs, alternative fuel programs, and regulatory and market-based initiatives.[19] It includes five statutes:

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17 PPIC Water Policy Center. 2016. *Energy and Water*. Available online at: https://www.ppic.org/content/pubs/report/R_1016AER.pdf, accessed September 18, 2019.

18 US Legal, Inc. *Energy Policy and Conservation*. Available online at: http://energylaw.uslegal.com/energy-policy-and-conservation/, accessed December 13, 2018.

- Public Utility Regulatory Policies Act (PURPA) (Public Law 95–617)
- Energy Tax Act (Public Law 95–618)
- National Energy Conservation Policy Act (NECPA) (Public Law 95–619)
- Power Plant and Industrial Fuel Use Act (Public Law 95–620)
- Natural Gas Policy Act (Public Law 95–621)

Of the five statutes, one, PURPA, is relevant to the consideration of the Plan and is therefore discussed in detail below.

Public Utility Regulatory Policies Act of 1978 (PURPA)

PURPA was passed in response to the unstable energy climate of the late 1970s. PURPA sought to promote conservation of electric energy. Additionally, PURPA created a new class of nonutility generators, small power producers, from which, along with qualified cogenerators, utilities are required to buy power.

PURPA was in part intended to augment electric utility generation with more efficiently produced electricity and to provide equitable rates to electric consumers. Utility companies are required to buy all electricity from "Qfs" (qualifying facilities) at avoided cost (avoided costs are the incremental savings associated with not having to produce additional units of electricity). PURPA expanded participation of nonutility generators in the electricity market, and demonstrated that electricity from nonutility generators could successfully be integrated with a utility's own supply. PURPA requires utilities to buy whatever power is produced by Qfs (usually cogeneration or renewable energy). Utilities want these provisions repealed, critics argue that it will decrease competition and impede development of the renewable energy industry. The Fuel Use Act (FUA) of 1978 (repealed in 1987) also helped Qfs become established. Under FUA, utilities were not allowed to use natural gas to fuel new generating technologies but Qfs which were by definition not utilities, were able to take advantage of abundant natural gas and abundant new technologies (such as combined cycle). The technologies lowered the financial threshold for entrance into the electricity generation business as well as shortened the lead time for constructing new plants.[20]

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19 Government Publishing Office. 1978. *Public La 95-619- Nov. 9, 1978*. Available online at: https://www.govinfo.gov/content/pkg/STATUTE-92/pdf/STATUTE-92-Pg3206.pdf, accessed August 9, 2019.

20 *Public Utility Regulatory Policies Act of 1978*. Available online at: https://www.usbr.gov/power/legislation/purpa.pdf, accessed August 28, 2019.

Energy Policy Act of 1992

The Energy Policy Act (Public Law 102-486; abbreviated as EPACT92) is a United States government act. It was passed by Congress and set goals, created mandates, and amended utility laws to increase clean energy use and improve overall energy efficiency in the United States. EPACT92 established regulations requiring certain federal, state, and alternative fuel provider fleets to build an inventory of alternative fuel vehicles. It was amended several times in the Energy Conservation and Reauthorization Act of 1998 and in 2005 via the Energy Policy Act in 2005, which emphasized alternative fuel use and infrastructure development.[21]

Energy Policy Act of 2005

On August 8, 2005, President George W. Bush signed the National Energy Policy Act of 2005 (Public Law 109-58) into law. This comprehensive energy legislation contains several electricity-related provisions that aim to:

- Help ensure that consumers receive electricity over a dependable, modern infrastructure;
- Remove outdated obstacles to investment in electricity transmission lines;
- Make electric reliability standards mandatory instead of optional; and
- Give Federal officials the authority to site new power lines in DOE-designated national corridors in certain limited circumstances.

The Renewable Fuel Standard (RFS) program was created under the Energy Policy Act (EPAct) of 2005 and established the first renewable fuel volume mandate in the United States. The program regulations were developed in collaboration with refiners, renewable fuel producers, and many other stakeholders. As required under EPAct, the original RFS program (RFS1) required 7.5 billion gallons of renewable fuel to be blended into gasoline by 2012.[22]

Energy Independence and Security Act of 2007

The Energy Independence and Security Act (EISA; Public Law 110-140) was signed into law by President George W. Bush on December 19, 2007. The Act's goal is to achieve energy security in the United States by increasing renewable fuel production, improving energy efficiency and performance, protecting

21 U.S. Department of Energy, Alternative Fuels Data Center. Key Federal Legislation. Available online at: http://www.afdc.energy.gov/laws/key_legislation, accessed December 13, 2018.

22 Government Publishing Office. *Energy Policy Act of 2005*. Available online at: https://www.govinfo.gov/content/pkg/PLAW-109publ58/pdf/PLAW-109publ58.pdf, accessed August 28, 2019.

consumers, improving vehicle fuel economy, and promoting research on greenhouse gas capture and storage. Under the EISA, the RFS program (RFS2) was expanded in several key ways:

- EISA expanded the RFS program to include diesel, in addition to gasoline.
- EISA increased the volume of renewable fuel required to be blended into transportation fuel from 9 billion gallons in 2008 to 36 billion gallons by 2022.
- EISA established new categories of renewable fuel, and set separate volume requirements for each one.
- EISA required EPA to apply lifecycle greenhouse gas performance threshold standards to ensure that each category of renewable fuel emits fewer greenhouse gases than the petroleum fuel it replaces.

RFS2 lays the foundation for achieving significant reductions of greenhouse gas emissions from the use of renewable fuels, for reducing imported petroleum, and encouraging the development and expansion of our nation's renewable fuels sector.

The EISA also includes a variety of new standards for lighting and for residential and commercial appliance equipment. The equipment includes residential refrigerators, freezers, refrigerator-freezers, metal halide lamps, and commercial walk-in coolers and freezers. [23]

Moving Ahead for Progress in the 21st Century

MAP-21 (Public Law 112-141) is the nation's surface transportation program and extended the provisions for fiscal year (FY) 12 with new provisions for FY 13. MAP-21 funded surface transportation programs at over $105 billion for FY 2013 and FY 2014. It was intended to create a streamlined, performance-based, and multimodal program to address challenges facing the U.S. transportation system. These challenges include improving safety, maintaining infrastructure condition, reducing traffic congestion, improving efficiency of the system and freight movement, protecting the environment, and reducing delays in project delivery. MAP-21 addresses economic growth, accessibility, social equity, energy security and public health by setting transparent performance benchmarks.[24]

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23 Government Publishing Office. *Energy Independence and Security Act of 2007*. Available online at: https://www.govinfo.gov/content/pkg/PLAW-110publ140/pdf/PLAW-110publ140.pdf, accessed August 28, 2019.

24 Federal Highway Administration. 2018. *MAP-21 – Moving Ahead for Progress in the 21st Century*. Available online at: https://www.fhwa.dot.gov/map21/, accessed August 28, 2019.

After MAP-21 funding ended in FY 2014, President Obama issued the Fixing America's Surface Transportation Act (Fast Act) that largely maintains the MAP-21 program structure and funding shares and will continue to be implemented by the Federal Motor Carrier Safety Administration.[25,26]

Heavy-Duty National Program

The Heavy-Duty National Program was adopted on August 9, 2011, to establish the first fuel efficiency requirements for medium- and heavy-duty vehicles beginning with the model year 2014.[27]

Final Rule: Phase 2 Greenhouse Gas Emissions Standards and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles

In June 2015, the U.S. Environmental Protection Agency (EPA) and the Department of Transportation's National Highway Traffic Safety Administration (NHTSA) jointly proposed a national program that established the next phase of greenhouse gas (GHG) emissions and fuel efficiency standards for medium- and heavy-duty vehicles. The Phase 2 program significantly reduces carbon emissions and improves the fuel efficiency of heavy-duty vehicles, helping to address the challenges of global climate change and energy security. In October 2016, the final rule was published, and anticipates saving the heavy duty vehicle industry billions of dollars' worth of fuel, reducing the cost of transporting goods, cutting fuel consumption, and reducing GHG emissions by 1 billion metric tons. Fuel consumption of tractor trailers alone is anticipated to decrease by 24 percent. The Phase 2 standards, which begin in the model year 2021 (model year 2018 for trailers and 2021 for NHTSA's trailer standards) and culminate in standards for model year 2027, are the product of a comprehensive assessment of existing and advanced technologies and extensive stakeholder outreach.[28]

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25 U.S. Department of Transportation. 2019. *The Fixing America's Surface Transportation Act or "FAST Act."* Available online at: https://www.transportation.gov/fastact/, accessed September 16, 2019.

26 Federal Highway Administration. 2018. *MAP-21 – Moving Ahead for Progress in the 21st Century*. Available online at: https://www.fhwa.dot.gov/map21/, accessed August 28, 2019.

27 The White House President Barack Obama. 2011. *President Obama Announces First Ever Fuel Economy Standards for Commercial Vehicles*. Available online at: https://obamawhitehouse.archives.gov/blog/2011/08/09/president-obama-announces-first-ever-fuel-economy-standards-commercial-vehicles, accessed August 28, 2019.

28 Environmental Protection Agency. 2016. Final Rule for Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy- Duty Engines and Vehicles- Phase 2. October. Available online at: https://www.epa.gov/regulations-emissions-vehicles-and-engines/final-rule-greenhouse-gas-emissions-and-fuel-efficiency, accessed December 13, 2018.

Executive Order 13514, Federal Leadership in Environmental, Energy, and Economic Performance

Executive Order (EO) 13514 was signed by President Obama on October 5, 2009. It expands on the energy reduction and environmental performance requirements for federal agencies identified in EO 13423, Strengthening Federal Environmental, Energy, and Transportation Management. The goals of EO 13514 are as follows:

- Reduce petroleum consumption by 2% per year through FY2020 (applies to agencies with fleets of more than 20 vehicles) (Baseline FY2005).
- Reduce by 2% annually:
  - Potable water intensity by FY2020 (26% total reduction) (Baseline FY2007).
  - Industrial, landscaping, and agricultural water intensity by FY2020 (20% total reduction) (Baseline FY2010).
- Achieve 50% or higher diversion rate:
  - Non-hazardous solid waste by FY2015.
  - Construction and demolition materials and debris by FY2015.
- Ensure at least 15% of existing buildings and leases (>5,000 gross square feet) meet the Guiding Principles by FY2015, with continued progress towards 100%.
- Ensure 95% of all new contracts, including non-exempt contract modifications, require products and services that are energy-efficient, water-efficient, bio-based, environmentally preferable, non-ozone depleting, contain recycled-content, non-toxic or less-toxic alternatives.[29]

Executive Order 13693, Planning for Federal Sustainability in the Next Decade

EO 13693 was signed by President Obama on March 19, 2015 and revoked EO 13514. The goal of EO 13693 is to maintain federal leadership in sustainability and GHG emissions reductions. EO 13693 promotes building energy conservation, efficiency, and management by reducing agency building energy intensity measured in British thermal units per gross square foot by 2.5 percent annually through the end

[29] The White House President Barack Obama. 2009. *Executive Order 13514 Focused on Federal Leadership in Environmental, Energy, and Economic Performance*. Available online at: https://obamawhitehouse.archives.gov/the-press-office/president-obama-signs-executive-order-focused-federal-leadership-environmental-ener, accessed August 28, 2019.

of FY 2025, relative to the baseline of the agency's building energy use in FY 2015 and taking into account agency progress to date. EO 13693 also sets agency water use efficiency standards and management practices as well as mandates a fleet-wide per-mile GHG emissions reduction from agency fleet vehicles.[30]

Executive Order 13834, Efficient Federal Operations

President Trump issued EO 13834 on May 17, 2018 which revokes EO 13693. EO 13834 confirms that it is US policy that Federal agencies meet energy and environmental performance statutory requirements in order to increase efficiency, optimize performance, eliminate unnecessary use of resources, and protect the environment and includes the following goals for the agencies:

- Achieve and maintain annual reductions in building energy use and implement energy efficiency measure that reduce costs;
- Meet statutory requirements relating to the consumption of renewable energy and electricity;
- Reduce potable and non-potable water consumption, and comply with stormwater management requirements;
- Utilize performance contracting to achieve energy, water, building modernization, and infrastructure goals;
- Ensure that new construction and major renovation conform to applicable building energy efficiency requirements and sustainable design principles; consider building efficiency when renewing or entering into leases; implement space utilization and optimization practices; and annually assess and report on building conformance to sustainability metrics;
- Implement waste prevention and recycling measures and comply with all Federal requirements with regard to solid, hazardous, and toxic waste management and disposal;
- Acquire, use, and dispose of products and services, including electronics, in accordance with statutory mandates for purchasing preference, Federal Acquisition Regulation requirements, and other applicable Federal procurement policies; and

30 Government Publishing Office. 2015. *Planning for Federal Sustainability in the Next Decade*. Available online at: https://www.govinfo.gov/content/pkg/CFR-2016-title3-vol1/pdf/CFR-2016-title3-vol1-eo13693.pdf, accessed August 28, 2019.

- Track and report on energy management activities, performance improvements, cost reductions, greenhouse gas emissions, energy and water savings, and other appropriate performance measures.[31]

Clean Air Act Waiver for California's GHG Emission Standards for New Motor Vehicles

Due to the unique topography and rapid population increase within the Los Angeles basin, federal standards may not be effective enough to meet clean air standards, therefore the state was granted the ability to create stricter standards than set by the CAA. Utilizing the ability to set stricter emission standards, California was granted a waiver of the CAA in July 2009 so that the state may set its own vehicle emission standards for new motor vehicles in order to reduce GHG and ozone emissions.[32] In 2018, the Trump administration announced that the government would ease the federal vehicle fuel standards. As a response, and as a result of the autonomy provided by this waiver, California along with four major antimanufacturing companies pledged to produce vehicle fleets averaging approximately 50 miles per gallon (mpg) by 2026.

On September 19, 2019, under the Safer, Affordable, Fuel-Efficient (SAFE) Vehicles Rule, the U.S. Department of Transportation's National Highway Traffic Safety Administration (NHSTA) and the U.S. EPA issued the final "One National Program Rule." The rule states that federal law preempts state and local laws regarding tailpipe GHG emissions standards, zero emissions vehicle mandates, and fuel economy for automobiles and light duty trucks. The rule revokes California's Clean Air Act waiver and preempts California's Advanced Clean Car Regulations and may potentially impact SCAG's Connect SoCal and transportation projects in the SCAG region.[33, 34]On September 20, 2019, California, a coalition of 22 other states, and the cities of Los Angeles, New York and Washington, D.C., filed a lawsuit in the United States District Court for the District of Columbia (Case 1:19-cv-02826) challenging the SAFE Rule

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31 Fed Center. 2019. *EO 13834*. Available online at: https://www.fedcenter.gov/programs/eo13834/, accessed September 16, 2019.

32 Federal Register. 2009. *Environmental Protection Agency: California State Motor Vehicle Pollution Control Standards; Notice of Decision Granting a Waiver of Clean Air Act Preemption for California's 2009 and Subsequent Model Year Greenhouse Gas Emission Standards for New Motor Vehicles; Notice*. Available online at: https://www.govinfo.gov/content/pkg/FR-2009-07-08/pdf/E9-15943.pdf, accessed September 18, 2019.

33 U.S. Department of Transportation and U.S. EPA. 2019. *One National Program Rule on Federal Preemption of State Fuel Economy Standards*. Available online at: https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100XI4W.pdf, accessed October 29, 2019.

34 Southern California Association of Governments. 2019. *Final Federal Safer, Affordable, Fuel-Efficient Vehicles Rule Part I (Supplemental Report).* Available online at: http://www.scag.ca.gov/committees/CommitteeDocLibrary/EEC_Item8_RC_Item10%20Supplemental%20Report.pdf, accessed October 29, 2019.

and arguing that EPA lacks the legal authority to withdraw the California waiver. As such, at the time of this PEIR, it is unclear whether the SAFE Rule will remain in place.[35]

Code of Federal Regulations Chapter 40, Parts 1039, 1065, and 1068

The Code of Federal Regulations established tiered emissions standards for construction equipment in order to phase in cleaner burning equipment that will reduce NOx and particulate matter emissions from exhaust. After 2014, all construction equipment manufactured in the US is required to meet the highest tier of emission standards, Tier 4. The U.S. EPA oversees the implementation of these regulations.[36]

3.6.2.2 State

Assembly Bill 2076, Reducing Dependence on Petroleum

The California Energy Commission (CEC) and California Air Resources Board (CARB) are directed by law, AB 2076 (2000), to develop and adopt recommendations for reducing dependence on petroleum. A performance-based goal is to reduce petroleum consumption to 15 percent below 2003 demand by 2020. The options include the following:[37]

Mid-Term Options (could be fully implemented in the 2010–2020 timeframe):

- Double fuel efficiency of current model light duty vehicles to 40 miles/gallon; and
- Use natural gas-derived Fischer-Tropsch fuel as a 33 percent blending agent in diesel.

Long-Term Options:

- Introduce fuel cell light duty vehicles in 2012, increasing to 10 percent of new vehicle sales by 2020, and 20 percent by 2030.

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35 If the SAFE Rule remains in place, the State and region would have to develop other means of achieving the NAAQS.

36 U.S. EPA. 2018. *Regulations for Emissions from Heavy Equipment with Compression-Ignition (Diesel) Engines*. Available online at: https://www.epa.gov/regulations-emissions-vehicles-and-engines/regulations-emissions-heavy-equipment-compression, accessed September 26, 2019.

37 State of California Air Resources Board. 2003. *Notice of Public Meeting to Consider Adoption of Recommendations to Reduce California's Dependence on Petroleum*. Available online at: https://ww3.arb.ca.gov/regact/petdeprpt.htm, accessed August 28, 2019.

Recommendations include:[38]

- The Governor and Legislature should adopt the recommended statewide goal of reducing demand for on-road gasoline and diesel to 15 percent below the 2003 demand level by 2020 and maintaining that level for the foreseeable future;

- The Governor and Legislature should work with the California delegation and other states to establish national fuel economy standards that double the fuel efficiency of new cars, light trucks and SUVs; and

- The Governor and Legislature should establish a goal to increase the use of non-petroleum fuels to 20 percent of on-road fuel consumption by 2020 and 30 percent by 2030.

Since this bill was passed, California has set stricter standards for many of the goals laid out in AB 2076. For example, in January 2018, Governor Jerry Brown issued Executive Order B-48-18 that guarantees $2.5 billion dollars to help Californian's buy electric vehicles and expand a network of charging stations in order to have 5 million electric cards on the road by 2030.[39] Moreover, as stated above, see **Section 3.6.2.1, Federal Regulations**, California worked with four major automotive manufacturers to announce that the state would have a fleet of vehicles averaging approximately 50 mpg by 2026.[40]

Warren-Alquist Act

The Warren-Alquist Act was passed in 1974 in order to establish the California Energy Commission to respond to the energy crisis in the early 1970's and to address the state's unsustainable growing demand for energy resources. The Energy Commission's Chief Counsel's Office publishes updated versions of the Warren-Alquist Act every two years. The most recent version was approved in February 2019.[41]

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38 Ibid.

39 California Fuel Cell Partnership. 2018. *Workshop on Governor's Executive Order B-48-18*. Available online at: https://cafcp.org/content/workshop-governor's-executive-order-b-48-18, accessed September 18, 2019.

40 The Washington Post. 2019. *Trump Administration to Revoke California's Power to Set Stricter Auto Emissions Standards*. Available online at: https://www.washingtonpost.com/climate-environment/trump-administration-to-revoke-californias-power-to-set-stricter-auto-emissions-standards/2019/09/17/79af2ee0-d97b-11e9-a688-303693fb4b0b_story.html?noredirect=on, accessed September 18, 2019.

41 California Energy Commission. *Warren-Alquist Act*. Available online at: https://www.energy.ca.gov/rules-and-regulations/warren-alquist-act, accessed September 26, 2019.

Senate Bill 1368, Greenhouse Gas Emissions Performance Standard for Major Power Plant Investments

SB 1368 was passed in September 2006 and requires the CEC to develop and adopt by regulation a GHG emissions performance standard for long-term procurement of electricity by local publicly owned utilities.[42]

Assembly Bill 32: Global Warming Solutions Act

Governor Arnold Schwarzenegger signed AB 32 (Global Warming Solutions Act) into law on September 27, 2006, requiring that the CARB reduce GHG emissions by 25 percent by 2020. In the interim, CARB will begin to measure the GHG emissions of the industries it determines to be significant emitters. The bill also provides the governor the ability to invoke a safety valve and suspend the emissions caps for up to one year in the case of an emergency or significant economic harm. Pursuant to AB 32, CARB must adopt regulations to achieve the maximum technologically feasible and cost-effective GHG emissions reductions. The full implementation of AB 32 will help mitigate risks associated with climate change, while improving energy efficiency, expanding the use of renewable energy resources, cleaner transportation, and reducing waste.

AB 32 requires CARB to develop a Scoping Plan which lays out California's strategy for meeting the goals. The Scoping Plan must be updated every five years. In December 2008, CARB approved the initial Scoping Plan, which included a suite of measures to sharply cut GHG emissions. The most recent Climate Change Scoping Plan Update was published in January 2017 and highlights California's progress toward meeting the near-term 2020 GHG emissions reduction goals, highlights the latest climate change science, and provides direction on how to achieve long-term emission reduction goal described in EO S-3-05. As energy is one of the state's largest contributors to GHG emissions, efforts to reduce energy-related emissions are a key component of the Scoping Plan. The actions outlined in the Update also support California's efforts to build a state-of-the-art energy generation, supply and distribution system that is clean, affordable and reliable. A core element of the Update is the effort to reduce greenhouse gas emissions, specifically through low carbon energy, waste and water management, and sustainable agriculture, transportation and industry. [43]

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42 California Legislative Information. *Senate Bill No. 1368*.

43 California Legislative Information. *Assembly Bill No. 32*.

Senate Bill 32 (SB 32) and Assembly Bill 197 (AB 197)

On September 8, 2016, California signed into law Senate Bill 32 (SB 32), which adds Section 38566 to the Health and Safety Code and requires a commitment to reducing statewide GHG emissions by 2020 to 1990 levels and by 2030 to 40 percent less than 1990 levels.[44] SB 32 was passed with companion legislation AB 197 Chapter 250, Statutes of 2016), which provides greater legislative oversight of CARB's GHG regulatory programs, requires CARB to account for the social costs of GHG emissions, and establishes a legislative preference for direct reductions of GHG emissions.[45]

Assembly Bill 1007, Alternative Fuels Plan

The Alternative Fuels Plan adopted in 2007 by the State Energy Resources Conservation and Development Commission and the State Air Resources Board as required under state law, AB 1007, recommends that the governor set targets on a gasoline gallon equivalent basis for use of 10 different alternative motor fuels in the on-road and off-road sectors by nine percent by 2012, which has been achieved, and 11 percent by 2017 and 26 percent by 2022. These targets do not apply to air, rail or marine fuel uses. These goals will require a dramatic expansion in the use of such fuels as electricity, compressed natural gas, hydrogen, renewable diesel, bio-diesel and ethanol in motor vehicles.

Also built into the Alternative Fuels Plan, is a multi-part strategy to develop hybrid and electric vehicle technologies; build the infrastructure to deliver the alternative fuels; increase the blending of more biofuels into gasoline and diesel; improve the fuel efficiency of vehicles; and reduce vehicle miles traveled by California motorists with more effective land use planning.[46]

Assembly Bill 758 Energy: Energy Audit

New state law promulgated under AB 758 mandates the California Energy Commission (CEC) to develop a comprehensive energy efficiency program for existing buildings. This bill will be implemented in three phases. In phase I, during the American Recovery and Reinvestment Act of 2009 (ARRA) implementation period (2010–2012), the CEC used ARRA funds to do state and local upgrade programs, workforce training, financing, and an outreach campaign. The CEC published the Comprehensive Energy Efficiency Program for Existing Buildings Scoping Report and adopted the AB 758 Action Plan. Phase II will focus on implementing the roadmap necessary for foundational No Regrets Strategies to take hold and Voluntary Pathways to scale to achieve energy efficiency goals, partnerships, and market development.

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44 California Legislative Information. 2016. *Senate Bill 32.*

45 California Legislative Information. 2016. *Assembly Bill 197*. 2019.

46 California Legislative Information. *Assembly Bill No. 1007*..

Phase III will develop and institute Mandatory Approaches that will move energy efficiency practices into the mainstream. Transformation and maturation of the energy efficiency marketplace will require the formation of partnerships and cooperation among all stakeholders.[47]

On December 14, 2016, the CEC published the updated version of the Existing Buildings Energy Efficiency Action Plan. The Plan provides a 10-year roadmap to activate market forces and transform California's existing residential, commercial, and public building stock into high-performing and energy-efficient buildings. The results of this effort will be accelerated growth of energy efficiency markets, more effective targeting and delivery of building upgrade services, improved quality of occupant and investor decisions, and vastly improved performance of California's buildings. Equally important, this effort will deliver substantial energy savings and greenhouse gas emissions reductions, contributing to the collective goal of reducing the impacts of climate change while improving the resilience of the state's built environment and economy.[48]

Assembly Bill 1493 (2009) / Advanced Clean Cars Program

The Advanced Clean Cars Program under AB 1493 (referred to as Pavley I), requires the California Air Resources Board (CARB) to develop and adopt standards for vehicle manufacturers to reduce GHG emissions coming from passenger vehicles and light-duty trucks at a "maximum feasible and cost effective reduction" by January 1, 2005. Pavley I took effect for model years starting in 2009 to 2016 and Pavley II, which is now referred to as "LEV (Low Emission Vehicle) III GHG" will cover 2017 to 2025.[49]

In January 2012, CARB adopted the Advanced Clean Cars program to extend AB 1493 through model years 2017 to 2025. This program will promote all types of clean fuel technologies such as plug-in hybrids, battery electric vehicles, compressed natural gas (CNG) vehicles, and hydrogen powered vehicles while reducing smog and saving consumers' money in fuel costs. By 2025, when the rules will be fully implemented:

- New automobiles will emit 34 percent fewer global warming gases and 75 percent fewer smog-forming emissions.

47 California Energy Commission. 2012. *Comprehensive Energy Efficiency Program for Existing Buildings Scoping Report*. August. Available online at: http://www.aiacc.org/wp-content/uploads/2013/05/Comp-Ener-Efficiency-Programs-CEC-400-2012-01511.pdf, accessed August 28, 2019.

48 California Energy Commission. 2016. *2016 Existing Buildings Energy Efficiency Plan Update December 2016*.

49 California Air Resources Board. 2017. *Clean Car Standards – Pavley, Assembly Bill 1493*. January. Available online at: http://www.arb.ca.gov/cc/ccms/ccms.htm, accessed December 14, 2018.

- Environmentally superior cars will be available across the range of models, from compacts, to SUVs, pickups and minivans.

- Consumer savings on fuel costs will average $6,000 over the life of the car. The savings more than offsets the average $1,900 increase in vehicle price for the ultra-clean, high-efficiency technology.[50]

Heavy-Duty (Tractor-Trailer) Greenhouse Gas Regulation

In December 2008, CARB adopted a new regulation aimed at reducing GHG emissions by improving the fuel efficiency of heavy-duty tractors pulling 53-foot or longer trailers. Increases in fuel efficiency were achieved through improvements in the aerodynamics of the tractor and trailer as well as the use of low rolling resistance tires. The rule went into effect in 2010 and by the end of 2020 is anticipated to have reduced diesel fuel consumption by 500 million gallons in California and 3.3 billion gallons nationwide.[51]

Senate Bill 2 Renewable Portfolio Standard

California's Renewable Portfolios Standard (RPS), under Senate Bill (SB) 2 of 2011, sets a procurement goal for electricity retail sellers including investor-owned utilities, electric service providers, and community choice aggregators to 33 percent renewable energy sources by 2020. The RPS has three compliance periods: Period 1 (2011–2013), Period 2 (2014–2016), and Period 3 (2017–2020) as intermediate targets before full compliance in 2020. The CEC is responsible for designating electrical generation facilities as renewable energy sources and enforcing RPS.[52]

Part 11 of the California Code of Regulations: Green Building Code

The California Green Building Standards Code, which is Part 11 of the California Code of Regulations, is commonly referred to as the CALGreen Code. The 2008 edition, the first edition of the CALGreen Code, contained only voluntary standards. The 2010 CALGreen Code is a code with mandatory requirements for state-regulated buildings and structures throughout California beginning on January 1, 2011. The code

50 California Air Resources Board. 2018. *Advanced Clean Car Program*. Available online at: https://ww2.arb.ca.gov/our-work/programs/advanced-clean-cars-program, accessed December 14, 2018.

51 CARB. 2013. *Heavy-Duty (Tractor-Trailer) Greenhouse Gas Regulation*. Available online at: https://ww3.arb.ca.gov/cc/hdghg/hdghg.htm, accessed September 26, 2019.

52 California Public Utilities Commission. *California Renewables Portfolio Standard*. Available online at: http://www.cpuc.ca.gov/PUC/energy/Renewables/, accessed December 14, 2018.

requires building commissioning, which is a process for the verification that all building systems, such as heating and cooling equipment and lighting systems, are functioning at their maximum efficiency.[53]

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

The Code California Energy Code (Title 24, Section 6) was created as part of the California Building Standards Code (Title 24 of the California Code of Regulations) by the California Building Standards Commission in 1978 to establish statewide building energy efficiency standards to reduce California's energy consumption.[54] These standards include provisions applicable to all buildings, residential and nonresidential, which describe requirements for documentation and certificates that the building meets the standards.[55] These provisions include mandatory requirements for efficiency and design of the following types of systems, equipment, and appliances:

- Air conditioning systems
- Heat pumps
- Water chillers
- Gas- and oil-fired boilers
- Cooling equipment
- Water heaters and equipment
- Pool and spa heaters and equipment
- Gas-fired equipment including furnaces and stoves/ovens
- Windows and exterior doors
- Joints and other building structure openings ("envelope")
- Insulation and cool roofs
- Lighting control devices

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53 CARB. 2018. *Green Building Standards Code*. Available online at: https://ww3.arb.ca.gov/cc/greenbuildings/standards.htm, accessed August 28, 2019.

54 California Energy Commission. 2013 Building Energy Efficiency Standards. Available online at: https://www.energy.ca.gov/title24/2013standards/, accessed December 14, 2018.

55 Ibid.

The standards include additional mandatory requirements for space conditioning (cooling and heating), water heating, and indoor and outdoor lighting systems and equipment in non-residential, high-rise residential, and hotel or motel buildings. Mandatory requirements for low-rise residential buildings cover indoor and outdoor lighting, fireplaces, space cooling and heating equipment (including ducts and fans), and insulation of the structure, foundation, and water piping. In addition to the mandatory requirements, the standards call for further energy efficiency that can be provided through a choice between performance and prescriptive compliance approaches. Separate sections apply to low-rise residential and to non-residential, high-rise residential, and hotel or motel buildings. In buildings designed for mixed use (e.g., commercial and residential), each section must meet the standards applicable to that type of occupancy.

The performance approach set forth under these standards provides for the calculation of an energy budget for each building and allows flexibility in building systems and features to meet the budget. The energy budget addresses space-conditioning (cooling and heating), lighting, and water heating. Compliance with the budget is determined by the use of a CEC-approved computer software energy model. The alternative prescriptive standards require demonstrating compliance with specific minimum efficiency for components of the building such as building envelope insulation R-values, fenestration (areas, U-factor and solar heat gain coefficients of windows and doors) and heating and cooling, water heating and lighting system design requirements. These requirements vary depending on the building's location in the state's 16 climate zones.

California's Building Energy Efficiency Standards are updated on an approximately three-year cycle as technology and methods have evolved. As a result of new law under AB 970, passed in the fall of 2000 in response to the state's electricity crisis, an emergency update of the standards went into effect in June 2001. The CEC then initiated an immediate follow-on proceeding to consider and adopt updated standards that could not be completed during the emergency proceeding. The 2013 Standards went into effect July 1, 2014. The 2016 Standards went into effect on January 1, 2017, and the 2019 Standards go into effect on January 1, 2020 and will continue to improve upon the current Standards for new construction of, and additions and alterations to, residential and nonresidential buildings.[56]

The 2013 Standards focus on several key areas to improve the energy efficiency of newly constructed buildings and additions and alterations to existing buildings, and include requirements that will enable both demand reductions during critical peak periods and future solar electric and thermal system installations.

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56 California Energy Commission. 2019. *2019 Building Energy Efficiency Standards*. Available online at: https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2019-building-energy-efficiency, accessed August 28, 2019.

California Solar Initiative

On January 12, 2006, the California Public Utilities Commission (CPUC) approved the California Solar Initiative (CSI; R.04-03-017), which provides $2.9 billion in incentives between 2007 and 2017. The CPUC oversaw a $2.5 billion program for commercial and existing residential customers, funded through revenues and collected from gas and electric utility distribution rates. Furthermore, the CEC managed $350 million targeted for new residential building construction, utilizing funds already allocated to the CEC to foster renewable projects between 2007 and 2011.

On March 2, 2006, the CPUC opened a proceeding to develop rules and procedures for the California Solar Initiative and to continue consideration of policies for the development of cost-effective, clean, and reliable distributed generation. On August 21, 2006, the governor signed SB 1, which directed the CPUC and the CEC to implement the CSI program consistent with specific requirements and budget limits set forth in the legislation, and directed the CPUC and the CEC to create 3,000 megawatts of new, solar-produced electricity by 2017. In 2017 alone, customers installed 1,262 MW of solar capacity.[57]

California's 2019 Building Energy Efficiency Standards

In December 2018, the California Building Standards Commission gave the final approval to a solar PV requirement mandating all new buildings under three stories tall be equipped with solar systems. The standards officially take effect on January 1, 2020 and include solar installation, battery storage, and improved energy savings through high-performance walls, attics, and windows.[58]

California Cap and Trade Program

CARB adopted the California Cap and Trade Program final regulations on October 20, 2011. An amended regulation was adopted on September 12, 2012, with the first auction for GHG allowances on November 14, 2012. The cap and trade program is a market- based mechanism to reduce GHG emissions in a cost-effective and economically efficient manner. California is the first multi-sector cap and trade program in North America following the northeast Regional Greenhouse Gas Initiative (RGGI) and the European Union Emission Trading Scheme (EU-ETS). It sets a GHG emissions limit that will decrease by 2 percent each year until 2015 and then 3 percent from 2015 to 2020 to achieve the goals set forth in AB 32. The

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57 California Public Utilities Commission. 2018. *California Solar Initiative, Annual Program Assessment.* June.

58 California Energy Commission. 2019. *2019 Building Energy Efficiency Standards*. Available online at: https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2019-building-energy-efficiency, accessed August 28, 2019.

program initially applied to large electric power plants and large industrial plants, and, in 2015, expanded to include fuel distributors.[59]

CARB's 2017 Update to Climate Change Scoping Plan (November 2017)

CARB's Climate Change Scoping Plan, which functions as a roadmap to achieve the California GHG reductions required by AB 32 and SB 32 through subsequently enacted regulations, is discussed in detail in 3.6, *Greenhouse Gases*. On December 14, 2017, CARB approved the final version of *California's 2017 Climate Change Scoping Plan* (2017 Scoping Plan Update), which outlines the proposed framework of action for achieving California's new SB 32 2030 GHG target: a 40 percent reduction in GHG emissions by 2030 relative to 1990 levels. The 2017 Scoping Plan Update identifies key sectors of the implementation strategy, which includes improvements in low carbon energy, industry, transportation sustainability, natural and working lands, waste management, and water. The Scoping Plan references a 2013 study by the CEC that shows 12 percent of the total energy used in the state is related to water, with 10 percent associated with water-related end uses (e.g., heating, cooling, pressurizing, and industrial processes) and 2 percent associated with energy used by water and wastewater systems (e.g., pump, convey, treat). These figures indicate that the greatest potential for water-related energy savings resides with water end users, while water agencies have a role in improving end-user water conservation and in reducing the energy intensity of their portfolios. SB 350 and other regulations are expected to decarbonize the electricity sector over time, which will in turn reduce the consumption of fossil-fuel-based energy to produce water.[60]

Executive Order S-06-06

Governor Arnold Schwarzenegger signed EO S-06-06 into law on April 25, 2006, which requires the state to meet the following targets regarding bioenergy production and use:[61]

- The state produce a minimum of 20 percent of its biofuel within California by 2010, 40 percent by 2020, and 75 percent by 2050; and

- The state meet a 20 percent target within the established state goals for renewable generation for 2010 and 2020.

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59 CARB. 2019. *Cap-and-Trade Regulatory Guidance*. Available online at: https://ww3.arb.ca.gov/cc/test/cap-and-trade-faq.htm, accessed August 28, 2019.

60 CARB. 2017. *The 2017 Climate Change Scoping Plan Update*. January. Available online at: https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf, accessed December 14, 2018.

61 Office of the Governor. 2006. *Executive Order S-06-06*. Available online at: https://ww2.energy.ca.gov/biomass/documents/EXEC_ORDER_S-06-06.PDF, accessed November 1, 2019.

Executive Order S-01-07

Governor Schwarzenegger signed EO S-01-07 into law on January 18, 2007, which establishes a statewide goal to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020.[62]

Low Carbon Fuel Standard

Pursuant to EO S-01-07 and AB 32 (discussed in **Section 3.8, Greenhouse Gas**), the California Air Resources Board (CARB) developed the Low Carbon Fuel Standard in order to encourage the use of cleaner low-carbon fuels in California, encourage the production of those cleaner fuels, and therefore, reduce greenhouse gas (GHG) emissions. The program is based on the principle that each fuel has "life cycle" GHG emissions which includes the production, transportation, and consumption of a given fuel. Each fuel is assigned a carbon intensity score, which is then compared to a declining carbon intensity benchmark for each year. Low carbon fuels below the benchmark generate credits, while fuels above the CI benchmark generate deficits. Credits and deficits are denominated in metric tons of GHG emissions. Providers of transportation fuels must demonstrate that the mix of fuels they supply for use in California meets the LCFS carbon intensity standards, or benchmarks, for each annual compliance period. A deficit generator meets its compliance obligation by ensuring that the amount of credits it earns or otherwise acquires from another party is equal to, or greater than, the deficits it has incurred.[63]

Executive Order B-18-12

Governor Edmund G. Brown, Jr., signed EO B-18-12 into law on April 25, 2012, which directs state agencies to reduce their grid-based energy purchases by at least 20 percent by 2018, as compared to a 2003 baseline. Pursuant to EO B-18-12, all new state buildings and major renovations beginning design after 2025 shall be constructed as Zero Net Energy facilities with an interim target for 50 percent of new facilities beginning design after 2020 to be Zero Net Energy. State agencies shall also take measures toward achieving Zero Net Energy for 50 percent of the square footage of existing state-owned building area by 2025. Further, the following measures relevant to energy are required:[64]

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62 Office of the Governor. 2007. *Executive Order S-01-07*. Available online at: https://ww3.arb.ca.gov/fuels/lcfs/eos0107.pdf, accessed November 1, 2019.

63 CARB. 2019. *Low Carbon Fuel Standard*. Available online at: https://ww3.arb.ca.gov/fuels/lcfs/lcfs.htm, accessed November 1, 2019.

64 California Climate Change. *Executive Order B-18-12*. Available online at: https://www.climatechange.ca.gov/climate_action_team/documents/Executive_Order_B-18-12.pdf, accessed August 28, 2019.

- Any proposed new or major renovation of state buildings larger than 10,000 square feet shall use clean, on-site power generation, such as solar photovoltaic, solar thermal and wind power generation, and clean back-up power supplies, if economically feasible;

- New or major renovated state buildings and build-to-suit leases larger than 10,000 square feet shall obtain LEED "Silver" certification or higher, using the applicable version of LEED;

- New and existing buildings shall incorporate building commissioning to facilitate improved and efficient building operation; and

- State agencies shall identify and pursue opportunities to provide electric vehicle charging stations, and accommodate future charging infrastructure demand, at employee parking facilities in new and existing buildings.

Executive Order B-48-18

On January 26, 2018, Governor Edmund G. Brown, Jr. signed EO-48-18 to boost the use of zero-emission vehicles (ZEVs), electric vehicle charging infrastructure, and hydrogen refueling infrastructure in California. The order will implement the Governor's target of 5 million ZEVs on the road by 2030 and 250,000 vehicle charging stations and 200 hydrogen refueling stations by 2025.[65]

Executive Order B-30-15

EO B-30-15 reiterates a 2050 GHG emissions target of 80 percent below 1990 levels and sets a new interim target of 40 percent below 1990 levels by 2030. It further orders in relevant part: [66]

- CARB to update the Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent;

- CARB to update every three years the state's climate adaptation strategy;

- "State agencies shall take climate change into account in their planning and investment decisions, and employ full life-cycle cost accounting to evaluate and compare infrastructure investments and alternatives;"

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65 California Fuel Cell Partnership. 2018. *Workshop on Governor's Executive Order B-48-18*. Available online at: https://cafcp.org/content/workshop-governor's-executive-order-b-48-18, accessed September 18, 2019.

66 Office of Governor Edmund G. Brown Jr., *Governor Brown Establishes Most Ambitious Greenhouse Gas Reduction Target in North America*. Available online at: https://www.ca.gov/archive/gov39/2015/04/29/news18938/, accessed August 28, 2019.

- "State agencies' planning and investment shall be guided by the following principles:
  - Priority should be given to actions that both build climate preparedness and reduce greenhouse gas emissions;
  - Where possible, flexible and adaptive approaches should be taken to prepare for uncertain climate impacts;
  - Actions should protect the state's most vulnerable populations; and
  - Natural infrastructure solutions should be prioritized; and
- OPR to establish a technical advisory group to help state agencies incorporate climate change impacts into planning and investment decisions.

Executive Order N-19-19

On September 20, 2019, Governor Newsom issued Executive Order N-19-19 which requires the redoubling of the state's "efforts to reduce greenhouse gas emissions and mitigate the impacts of climate change while building a sustainable, inclusive economy." EO N-19-19 requires the Department of Finance to create a Climate Investment Framework with a strategy to align the state's $700 billion investment portfolio towards industries and sectors that contribute to the reduction of carbon emissions and increased resilience to the impacts of climate change. The State Transportation Agency shall leverage over $5 billion in annual state transportation spending to reduce fuel consumption and GHG emissions associated with the transportation sector. The Department of General Services shall reduce the state government's GHG footprint. Finally, the California Air Resources Board (CARB) shall develop new criteria for the clean vehicle incentive programs, propose new strategies to increase demand for zero emission vehicles, and consider strengthening existing or adopting new transportation-GHG reduction regulations in order to meet California's goal of five million zero emissions vehicle sales by 2030.[67]

Senate Bill 375 (SB 375)

SB 375, adopted in 2008, builds on AB 32, SB 375 (Chapter 728, Statutes of 2008) seeks to coordinate land use planning, housing planning, regional transportation planning, and GHG reductions. SB 375 addresses that reductions can be made through energy conservation and amended Government Code 65583 to

[67] Adaptation Clearinghouse. 2019. *State of California Executive Order N-19-19*. Available online at: https://www.adaptationclearinghouse.org/resources/state-of-california-executive-order-n-19-19.html, accessed October 29, 2019.

ensure the housing element of a sustainable communities strategy provide a proper analysis of energy conservation.[68] See **Section 3.8, Greenhouse Gas,** for further discussion of SB 375.

Senate Bill 350 (SB 350)

SB 350 was approved by Governor Brown on October 7, 2015. SB 350 does the following: (1) increases the standards of the California RPS program by requiring that the amount of electricity generated and sold to retail customers per year from eligible renewable energy resources be increased to 50 percent by December 31, 2030; (2) requires the State Energy Resources Conservation and Development Commission to establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas final end uses of retail customers by January 1, 2030; (3) provides for the evolution of the Independent System Operator (ISO) into a regional organization; and (4) requires the state to reimburse local agencies and school districts for certain costs mandated by the state through procedures established by statutory provisions. Among other objectives, the Legislature intends to double the energy efficiency savings in electricity and natural gas end uses of retail customers through energy efficiency and conservation.[69]

Senate Bill 100 (SB 100)

Under SB 350, the state of California committed to reaching 50% renewable energy by December 31, 2030. SB 100, also known as "The 100 Percent Clean Energy Act of 2018," revises the goals of SB 350 in order to achieve 50% renewable resources target by December 31, 2026 and achieve a 60% target by December 31, 2030 in order to plan for 100 percent of total retail sales of electricity in California to come from eligible renewable energy and zero-carbon resources by December 31, 2045. The transition to renewable energy resources is intended to provide the following benefits to California:[70]

- Displacing fossil fuel consumption within the state.
- Adding new electrical generating facilities in the transmission network within the West Electricity Coordinating Council (WECC).
- Reducing air pollution, particularly criteria air pollutant emissions and toxic air contaminants, in the state.

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68 California Legislative Information. 2008. *Senate Bill 375*.

69 California Legislative Information. *Senate Bill No. 350*.

70 California Legislative Information. *Senate Bill No. 100*.

- Meeting the state's climate change goals by reducing emissions of greenhouse gases associated with electrical generation.
- Promoting stable retail rates for electric service.
- Meeting the state's need for a diversified and balanced energy generation portfolio.
- Assisting with meeting the state's resource adequacy requirements.
- Contributing to the safe and reliable operation of the electrical grid, including providing predictable electrical supply, voltage support, lower line losses, and congestion relief.
- Implementing the state's transmission and land use planning activities related to development of eligible renewable energy resources.

3.6.2.3 Regional

Many of the cities and counties within the region address energy in their general plans. Sections devoted to energy or utilities discuss the current state of energy procurement and utilization within specific jurisdictions and the local plans to improve current methods and move towards cleaner, renewable energy sources.

Clean Cities Program

The U.S. Department of Energy's Clean Cities Program promotes voluntary, locally based government/industry partnerships for the purpose of expanding the use of alternatives to gasoline and diesel fuel by accelerating the deployment of alternative fuel vehicles (AFVs) and building a local AFV refueling infrastructure. The mission of the Clean Cities Program is to advance the nation's economic, environmental and energy security by supporting local decisions to adopt practices that contribute to the reduction of petroleum consumption. The Clean Cities Program carries out this mission through a network of more than 80 volunteer coalitions, which develop public/private partnerships to promote alternative fuels and vehicles, fuel blends, fuel economy, hybrid vehicles, and idle reduction.[71]

The Southern California/SCAG Clean Cities Coalition was first designated by the U.S. Department of Energy on March 1, 1996. SCAG directly administers the SCAG Clean Cities Program. This coalition supports government and industry partnerships to expand alternative fuel vehicles and infrastructure throughout the SCAG region.

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71 U.S. Department of Energy. *Clean Cities Coalition Network*. Available online at: https://cleancities.energy.gov/about/, accessed August 28, 2019.

SCAG Future Communities Framework

The Future Communities Framework was developed to improve data collection, analysis, and application across Southern California. New technologies are critical to policy-making and planning decisions and the Framework presents SCAG with strategic recommendations for addressing big data and new technologies and the potential adoption of innovative policies. Advanced efficiency and innovation are especially critical when considering energy generation and utilization, as the state transitions to a clean energy future. The Framework outlines the potential for SCAG to increase outreach and data sharing with agencies within the region on climate adaptation, environmental, and energy data.

Los Angeles Countywide Sustainability Plan

The Los Angeles Countywide Sustainability Plan, also named OurCounty, is a regional sustainability plan for Los Angeles focused around the following goals:

- **Goal 1**: Resilient and healthy community environments where residents thrive in place;
- **Goal 2:** Buildings and infrastructure that support human health and resilience;
- **Goal 3:** Equitable and sustainable land use and development without displacement;
- **Goal 4:** A prosperous LA County that provides opportunities for all residents and businesses and supports the transition to a green economy;
- **Goal 5:** Thriving ecosystems, habitats, and biodiversity;
- **Goal 6:** Accessible parks, beaches, recreational waters, public lands, and public spaces that create opportunities for respite, recreation, ecological discovery, and cultural activities;
- **Goal 7:** A fossil fuel-free LA County;
- **Goal 8:** A convenient, safe, clean, and affordable transportation system that enhances mobility while reducing car dependency;
- **Goal 9:** Sustainable production and consumption of resources;
- **Goal 10:** A sustainable and just food system that enhances access to affordable, local, and healthy food;

- **Goal 11:** Inclusive, transparent, and accountable governance that facilitates participation in sustainability efforts, especially by disempowered communities;

- **Goal 12:** A commitment to realize OurCounty sustainable goals through creative, equitable, and coordinated funding and partnerships.[72]

3.6.2.4 Local

Many cities within the SCAG region have established green plans or climate action plans (CAPs) that include goals and policies to reduce energy use and the associated emissions to meet AB 32 and SB 32 climate goals. Major cities within the SCAG region that have prepared plans that will reduce energy use include Los Angeles and Riverside, these plans are discussed below.

Los Angeles Green New Deal

In April 2019, Mayor Eric Garcetti announced Los Angeles' Green New Deal to set goals for the city's sustainable future. Los Angeles' Green New Deal commits to uphold the Paris Climate Agreement (see **Section 3.8, Greenhouse Gases**), deliver environment justice through an inclusive green economy, planning to ensure every City resident has the ability to join the green economy, and a determination to lead by example within City government. The goals and targets of the Green New Deal include:

- Building a zero-carbon electricity grid – reaching an accelerated goal of 80% renewable energy supply by 2036 as Los Angeles leads California toward 100% renewable by 2045.

- Creating a Jobs Cabinet to bring city, labor, educations, and business leaders together to support our effort to create 300,000 green jobs by 2035 and 400,000 by 2050.

- Mandating that all new municipally owned building and major renovations be all-electric, effective immediately, and that every building in Los Angeles – from skyscrapers to single-family homes – become emissions free by 2050.

- Achieving a zero-waste future by phasing out Styrofoam by 2021, ending the use of plastic straws and single-use takeout containers by 2028, and no longer sending any trash to landfills by 2050.

- Recycling 100% of our wastewater by 2035; sourcing 70% of our water locally – a significant increase from our existing pathway; and nearly tripling the maximum amount of stormwater captured.

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72 County of Los Angeles. *Los Angeles Countywide Sustainability Plan*. Available online at: https://ourcountyla.org/wp-content/uploads/2019/07/OurCounty-Final-Plan.pdf, accessed September 12, 2019.

- Planting and maintaining at least 90,000 trees – which will provide 61 million square feet of shade – citywide by 2021 and increasing tree canopy in low-income, severely heat impacted areas by at least 50% by 2028.

The Green New Deal aims to reach a 50% reduction in GHG emissions by 2025 and reach net neutrality by 2050. The Green New Deal builds upon the City's Sustainable City pLAn, in which the City met or exceeded 90% of the City's long-term goals on time or early, resulting in a reduction of GHG emissions by 11% in a single year and creating more than 35,000 green jobs.[73]

City of Riverside Green Action Plan

The City of Riverside's Green Action Plan aims to reduce the City's environmental impact by increasing the City's renewable energy production and reduce the City's GHG emissions, waste, and water consumption. Regarding energy, the Green Action Plan includes goals to install at least 20 megawatts (MW) of photovoltaic systems by 2020, reduce the City's peak electrical load demand by 10%, and meet 33% of electricity demand from renewable sources by 2050.[74]

3.6.3 ENVIRONMENTAL IMPACTS

3.6.3.1 Thresholds of Significance

For purposes of this PEIR, SCAG has determined that adoption of implementation of the Plan could result in significant adverse impacts regarding energy if the Plan would result in any of the following:

- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation;
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency

3.6.3.2 Methodology

This section includes a discussion of the potential energy impacts of the proposed policies, programs, and projects included in the Plan, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy, identifies mitigation measures for the impacts, and evaluates the

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73 City of Los Angeles. 2019. *Mayor Garcetti Launches L.A.'s Green New Deal*. Available online at: https://www.lamayor.org/mayor-garcetti-launches-la%E2%80%99s-green-new-deal, accessed September 12, 2019.

74 City of Riverside. 2012. *Green Action Plan*. Available online at: https://www.riversideca.gov/utilities/greenriverside/pdf/Green_Action_Plan%202012.pdf, accessed September 12, 2019.

residual impacts. Energy resources, including non-renewable energy consumption, residential and commercial building energy consumption, water-related energy consumption, and transportation related fuel consumption, were evaluated in accordance with Appendix G of the 2019 California Environmental Quality Act (CEQA) Guidelines. In addition, Appendix F, which generally provides direction on how an EIR can address energy and outlines how projects can demonstrate energy conservation was used to guide the analysis.

Estimated energy consumption in the Plan horizon year of 2045 is expected to represent the most conservative (i.e., highest energy consumption of any year in the Plan) because population and employment are projected to be higher in 2045 than in any earlier year, and future conservation efforts may not be fully quantified at this time. Building energy and water consumption were estimated for future horizon year 2045 using SCAGs Urban Footprint Scenario Planning Model (SPM).[75] The SPM is a web-based scenario development, modeling, and data organization tool developed to facilitate informed and collaborative regional planning. Built on open source software platforms, the SPM includes a suite of tools and analytical engines that help to illustrate planning and policy growth scenarios and to estimate and compare, in relatives, potential benefits and effects among scenarios in transportation, environment, fiscal, public health, and community. Moreover, the SPM provides a common data framework within which local planning efforts can be easily integrated and synced with regional plans.

SPM calculates greenhouse gas (GHG) emissions associated with building energy use as a function of energy use and GHG emission rates for electricity generation and natural gas combustion. To correspond with residential and commercial building energy emissions as determined by CARB GHG Inventory, SPM uses a baseline CO_2e emission rate derived by dividing California's total emissions attributed to electric power generation in 2016 by total electricity consumption in that year. Future electricity emissions rates are calculated based on projected resource mix that meets the California Renewables Portfolio Standard (RPS) goal of 50% renewable sources by 2030 and remains unchanged thereafter. Emissions from on-site natural gas combustion are assumed to remain constant at the CPUC-approved baseline rate, which already represents a high level of efficiency.

Water-related energy use and greenhouse gas (GHG) emissions refer to those resulting from two main water-related energy use categories: a) system use, including the transport and treatment of residential water consumed; and b) end uses, including all uses of water that occur within homes (e.g., water heating). SPM calculates energy use and emissions for water system uses only. The per-gallon energy use factors associated with the system uses were estimated by the CEC in a 2005 report, *California's Water-*

75 Southern California Association of Governments. Accessed 30 October 2015. *Scenario Planning Model*. Available at: http://sp.scag.ca.gov/Pages/About.aspx

Energy Relationship, and a 2006 refinement of the report's original factors. The GHG emission rates per kilowatt-hour of water-related electricity use are assumed to be the same as building energy use.

Energy resources within the SCAG region were evaluated at a programmatic level of detail, in relation to the General Plans of six counties and 191 cities within the SCAG region; data available from the U.S. Energy Information Administration (EIA) for California;[76] and review of related literature germane to the SCAG region.

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

3.6.3.3 Impacts and Mitigation Measures

Impact ENR-1 **Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.**

Less than Significant Impact.

Implementation of transportation projects and the land use strategies reflected in the Plan, is not expected to result in wasteful, inefficient, or unnecessary energy consumption. The Plan includes many transportation projects (e.g., bikeway and pedestrian projects, rail projects, transit projects, Transportation System Management [TSM] and Transportation Demand Management [TDM] projects, etc.) that would improve the availability of alternative transportation modes and help reduce VMT, congestion and resultant air pollutants in the SCAG region as compared to a future without Plan implementation (see **Table 3.17-11, Major Transit Capital Projects**; **Table 3.17-12, Daily Transit Boarding**; and **Table 3.17-14, Total VMT 2019 and 2045 by County**). As shown in **Table 2.0-3, Connect SoCal Expenditure (in Billions)**, SCAG has programmed more than $17 billion in active transportation

76 U.S. Energy Information Administration. 2018. *State Profile and Energy Estimates: California.* Available online at: http://www.eia.gov/state/?sid=ca, accessed December 18, 2018.

projects. Beyond reductions in VMT, many of the Plan's transportation projects promote the use and generation of renewable energy reducing the need for fossil fuel energy. For example, the Plan includes the purchase of 170 solar-powered bus information signs in Los Angeles as well upgrades to a Los Angeles Metro maintenance facility with up-to-date date solar panels and a battery storage system.[77] The Plan's transportation projects are integrated with the land use strategies that promote HQTAs, livable corridors, and neighborhood mobility areas. The Plan would result in a reduction of per capita VMT, combined with federal and state policies that require reductions in fossil fuel consumption (see S-06-06 and EO B-48-18), and increased renewable energy use and availability (see EO B-18-12), and increased building efficiency (EO 13834). Therefore, overall energy use would not be wasteful or inefficient.

Construction

Transportation Projects

Construction of transportation projects would result in short-term consumption of energy resulting from the use of construction equipment and processes. In addition, roadway and transit construction materials, such as asphalt, concrete, surface treatments, steel, rail ballast, as well as building materials, require energy to be produced, and would likely be used in projects that involve new construction or replacement of older materials.

Construction of individual transportation projects within the SCAG region as a result of the Plan would use energy resources, such as petroleum fuel to operate off-road construction equipment. The EPA set Tier 4 construction engine standards in order to reduce NOx and particulate matter emissions, however, Tier 4 standards also provide greater energy efficiency and productivity.[78] Construction also requires heavy duty truck trips for vendor trips or to remove grading and demolition debris from individual sites. In order to address greenhouse gas emissions from these heavy-duty trucks, the California Air Resources Board (CARB) set regulations in 2008 to increase the fuel efficiency of heavy-duty trucks through improving the trailer aerodynamics and using low rolling resistance tires (see **Section 3.6.2.2**). This policy is expected to have reduced diesel fuel consumption in heavy duty trucks by 500 million gallons in California from 2010 to 2020.[79] Additionally, in an effort to reduce diesel particulate matter (DPM), NOx, and other criteria air pollutant emissions from vehicles, CARB issued the Truck and Bus Regulation in 2008. The regulation requires nearly all trucks and buses to have 2010 or newer model year engines by

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77 SCAG. 2019. *Project List*.

78 Diesel Technology Forum. *About Clean Diesel Construction*. Available online at: https://www.dieselforum.org/about-clean-diesel/construction, accessed September 18, 2019.

79 California Air Resources Board. 2013. *Heavy-Duty (Tractor-Trailer) Greenhouse Gas Regulation*. Available online at: https://ww3.arb.ca.gov/cc/hdghg/hdghg.htm, accessed September 18, 2019.

January 1, 2023.[80]

Land Use Development

Similar to transportation projects, construction of development projects would result in short-term consumption of energy resulting from the use of construction equipment. The California Green Building Standards Code (CALGreen Code)[81] includes specific requirements related to recycling, construction materials and energy efficiency standards, which would apply to construction of land use projects, which would help to minimize waste and energy consumption.

Similar to transportation projects, construction of development projects would use energy resources, such as petroleum fuel to operate off-road construction equipment. As noted above, EPA Tier 4 construction engine standards provide greater energy efficiency and productivity.[82]

Growth under the Plan

The SCAG region is anticipated to grow by approximately 3.2 million people over the lifetime of the Plan. Due to increases in per capita petroleum fuel and energy consumption through rising utility prices and efficiency improvements, residential and building energy consumption is expected to decrease. A discussion of residential energy use, building energy use, petroleum usage, and energy and water-related energy consumption with the Plan is provided below:

Daily operation of the regional transportation system uses energy in the form of fuel consumed by propulsion of passenger vehicles (see discussion below) as well as other forms of transportation (buses, planes, ships, and trains). The Plan's transportation projects are not only aimed at reducing VMT (see **Table 13.17-14, Total VMT 2019 and 2045**), the Plan also invests in the expansion of critical highways and road improvements which would increase vehicle capacity, and overall efficiency of the transportation network. Increases in motor vehicle trips are primarily a combined function of population and employment growth. Population growth and growth in VMT would occur within the region regardless of whether the Plan is implemented, but under the Plan more efficient use of the transportation system is

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80 CARB. 2019. *Truck and Bus Regulation Compliance Requirement Overview*. Available online at: https://ww3.arb.ca.gov/msprog/onrdiesel/documents/fsregsum.pdf?_ga=2.250600582.1896330852.1574097006-1229197864.1566229390, accessed November 18, 2019.

81 Building Standards Commission. *CALGreen*. Available online at: https://www.dgs.ca.gov/BSC/Resources/Page-Content/Building-Standards-Commission-Resources-List-Folder/CALGreen, available online at: https://www.dgs.ca.gov/BSC/Resources/Page-Content/Building-Standards-Commission-Resources-List-Folder/CALGreen, accessed November 1, 2019.

82 Diesel Technology Forum. *About Clean Diesel Construction*. Available online at: https://www.dieselforum.org/about-clean-diesel/construction, accessed September 18, 2019.

anticipated resulting in a lower VMT per capita. The Plan would result in greater availability of public transit and other alternative modes of transportation, such as complete streets and active transportation, that would facilitate a more energy efficient region. The reduction in overall congestion resulting from these service level improvements would reduce fuel consumption and promote fuel efficiency (see analysis of fuel consumption below with respect to anticipated development). New transportation facilities that require energy for operation, such as signal lighting, roadway or parking lot lighting and electronic equipment will increase energy demand. New landscaping irrigation of transportation projects also incrementally increases energy demand through water pumping and treatment. In addition, statewide policies targeted at improving the fuel efficiencies of on-road vehicle petroleum fuel consumption by light, medium , and heavy-duty vehicles are anticipated to result in decreased petroleum use by 2045 (see **Table 3.6-4, SCAG Region Estimated Transportation Fuel Consumption**).

Land Use Development

Residential Energy Use

Growth under the Plan would increase residential energy consumption due to the increase in total households by 2045. It is expected that the SCAG region would add approximately 1.4 million households from 2019 to 2045. The residential energy consumption per household is expected to decline from 56 million British thermal unit (Btu) in 2019 to 44 million Btu in 2045 with implementation of the Plan (**Table 3.6-1, Residential Energy Use and Cost per Household**). Additionally, the Plan includes land use strategies intended to increase sustainable and energy efficient residential development (compact development is more energy efficient). As a result, it is projected that the Plan would result in a 21 percent reduction in per household energy consumption and an estimated 23 percent reduction in residential electricity consumption per household (**Table 3.6-1**). Due to the reductions in per household energy and electricity consumption, the overall energy consumption is expected by decrease by approximately 3 percent.

Table 3.6-1
Residential Energy Use and Cost per Household

	2019	No Project 2045	Plan 2045	% Difference from 2019 to Plan
Residential energy use per household (Btu in millions)	56	45	44	-21%
Residential electricity use per household (kWh)	6,877	5,400	5,270	-23%
Number of households	6,212,000	7,722,000	7,722,000	24%
Residential energy use (Btu in trillions)	350	347	338	-3.4%
Residential energy cost (in billions)	$9.30	$15.60	$15.20	63%

Note: Btu = British thermal unit; kWh = kilowatt-hour
Source: SCAG Modeling, 2019.

Residential energy costs are expected to increase from $9.3 billion in 2019 to $15.2 billion in 2045 across the SCAG region. This represents an approximately $479 increase in household energy costs from 2019 to 2045 (**Table 3.6-2, Residential Energy and Water Cost per Household**). Increased energy costs, despite lower energy use, can be explained by increasing electricity and natural gas per unit costs. **Table 3.6-2** shows there would be an estimated 25 percent increase in household cost compared to the 2019 base year. The total utility cost per household, including both energy and water cost is expected to increase by $498 from 2019 to 2045. Water costs are anticipated to decrease, but do not proportionally decrease as much as energy costs increase.

Table 3.6-2
Residential Energy and Water Cost per Household

	(2019)	2045 No Project	2045 Plan	% Difference from 2019 to Plan
Residential energy cost per household	$1,494	$2,020	$1,973	32%
Residential water cost per household	$403	$409	$392	-3%
Total utilities (energy + water) cost per household	**$1,897**	**$2,429**	**$2,365**	**25%**

Source:
SCAG scenario planning modeling, 2019.
Impact Sciences, 2019

Although the total population is expected to increase by 16 percent over the lifetime of the Plan, the overall energy use is expected to decrease with large increases in per household energy and electricity

efficiency. These increases in efficiency are due in part to California building regulations. For example, by 2020, California will require every new home to be equipped with solar power,[83], [84] therefore all new single family homes and multifamily homes up to three stories in height, constructed over the duration of the Plan will have solar panels. Additionally, the Plan includes strategies to promote transit oriented development, which tends to be more energy efficient as it moves more people per mile. Further, many transit agencies use natural gas, electricity, or other clean energy for their fleet. Finally, increases in energy cost will drive down demand. As such, residential energy use would not be wasteful.

Building Energy Consumption

By 2045, the SCAG region is expected to add approximately 3.2 million people. Due to population growth and the associated development, building energy consumption is projected to increase. The Plan encourages compact land use patterns with a focus on urban infill growth and walkable, mixed-use communities. Mixed-use, walkable, and urban infill development combined with transportation investments that increase active transportation opportunities and improved facilities would be expected to accommodate more growth in more energy-efficient housing types. Examples of energy efficient housing types include townhomes, apartments, and smaller single-family homes, as well as more compact commercial building types. Overall, development under the Plan would result in an increase in total building energy consumption, however, buildings will be more energy efficient in 2045 (**Table 3.6-3, Building Energy Consumption—Residential and Commercial**). Total residential and commercial building energy consumption (electricity and natural gas) is expected to decrease by 2 percent under the Plan (**Table 3.6-3**). The residential sector would use less energy in the future (3 percent decrease); the commercial sector would use the same amount of energy in the future. Since total building energy would decrease under the Plan, the Plan would not result in the wasteful or inefficient use of energy.

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83 The New York Times. *California Will Require Solar Power for New Homes*. Available online at: https://www.nytimes.com/2018/05/09/business/energy-environment/california-solar-power.html, accessed September 12, 2019.

84 California Energy Commission. 2019. *2019 Building Energy Efficiency Standards for Residential and Nonresidential Buildings*. See Section 110.10. Available online at: https://ww2.energy.ca.gov/2018publications/CEC-400-2018-020/CEC-400-2018-020-CMF.pdf, accessed November 1, 2011.

Table 3.6-3
Building Energy Consumption – Residential and Commercial

	Base Year (2019)	No Plan (2045)	Plan (2045)	% Difference from Base Year
Residential electricity consumed (GWh)	42,722	41,701	40,692	-5%
Residential natural gas consumed (therms in billions)	2	2	2	0%
Residential energy consumed (Btu in trillions)	350	347	338	-3%
Commercial electricity consumed (GWh)	49,881	53,161	50,309	1%
Commercial natural gas consumed (therms in billions)	0.5	0.5	0.5	0%
Commercial energy consumed (Btu in trillions)	221	231	221	0%
Total energy consumed (Btu in trillions)	**571**	**578**	**559**	-2%

Note: GWh = gigawatt-hour; Btu = British thermal unit.
Source: SCAG Scenario Planning Modeling, 2019.

As shown above, total building energy consumed in the SCAG region over the lifetime of the Plan is anticipated to decrease by 2%. According to SCAG, the population in 2019 is approximately 19.3 million people, result in a per capita building energy use 29.5 million Btu/person. The population is estimated to reach 22.5 million people by 2045, resulting in a 2045 per capita building energy use of 24.8 million Btu/person. Therefore, per capita building energy use will decrease by 4.7 million Btu/person. As a result, building energy efficiency will increase.

Petroleum Fuel

Petroleum fuel consumption is associated with energy consumed by cars and other light duty vehicles as a result of people traveling between the various land uses. Fuel consumption is expected to decrease by 19.4 percent from 8.3 billion gallons in 2019 to the projected 6.7 billion gallons in 2045 (**Table 3.6-4, SCAG Region Estimated Transportation Fuel Consumption**).

Table 3.6-4
SCAG Region Estimated Transportation Fuel Consumption

	Fuel Consumed		Percentage Reduction
	Billion Gallons per Year	**Thousand Gallons per Day**	**Compared to 2019**
2019	8.3	22,865	—
2045 No Project	6.9	18,869	-17.5%
2045 Plan	6.7	18,437	-19.4%

Source: SCAG Transportation Modeling, 2019.

As the SCAG region gains employment and population, total VMT will increase (see **Table 3.17-14, Total VMT 2019 and 2045 by County)**. Proposed transportation investments and the land use strategies that encourage carpooling, increase transit use and active transportation opportunities, and promote more walkable and mixed-use communities would help reduce VMT and would reduce per capita VMT but reductions would not be enough to offset total VMT increases. Total VMT would increase in 2045 compared to existing (see **Table 3.17-14**). Despite an increase in total VMT, total fuel consumption would be reduced through improved fuel economy and increased efficiency in the overall network (measured as total hours of delay) (see **Table 3.17-17, Total Daily Vehicle Hours of Delay**), and more alternative fuel and zero emissions vehicle types on the road. In accordance with EO B-48-18, five million ZEV's are expected to be on California roadways in 2030. Additionally, CARB's fuel efficiency regulations have reduced diesel fuel consumption in heavy-duty trucks by 500 million gallons in California from 2010 to 2020 through improvements in tractor and trailer aerodynamics, which would reduce fuel consumption during both the construction and operation of a project.[85] Therefore, the use of petroleum would not be wasteful or inefficient.

Energy and Water-Related Energy Use

Increasing water efficiencies are anticipated to result in a decrease in residential water use in the future. Overall residential and commercial water use in the region is anticipated to decrease by 5 percent. As a result of increasing energy efficiencies and decreases in total water use, water-related energy use would not be wasteful or inefficient and therefore the impact would be less than significant.

As shown in **Table 3.6-5, Water Use—Residential and Commercial**, the majority of water use reductions are expected from the residential sector, which is anticipated to reduce water use over the lifetime of the Plan by approximately 14% (combined indoor and outdoor). Reductions in the residential sector are

85 California Air Resources Board. 2013. *Heavy-Duty (Tractor-Trailer) Greenhouse Gas Regulation*. Available online at: https://ww3.arb.ca.gov/cc/hdghg/hdghg.htm, accessed September 18, 2019.

anticipated to result from policies implemented as a result of the 2012-2015 drought. Most of the anticipated residential water use reductions would come from the reduction in urban landscaping water, which makes up roughly half of all urban water use.[86] Larger reductions are seen in the outdoor water use compared with the indoor water use for both residential and commercial. This is aligned with potential higher density, multi-family and attached single-family development (which tends to consume less water for outdoor, landscaping uses, compared to lower density development with larger lot sizes) expected from implementation of the Plan's land use strategies that encourage more compact development in existing urbanized areas and opportunity areas.

Table 3.6-5
Water Use – Residential and Commercial

	2019	2045 No Project	2045 Plan	% Difference from 2019
Indoor residential water use (AF)	1,200,854	1,152,888	1,121,335	-7%
Outdoor residential water use (AF)	973,387	829,561	791,901	-19%
Residential water use (AF)	**2,174,241**	**1,982,449**	**1,913,236**	**-12%**
Indoor commercial water use (AF)	708,821	856,138	868,901	23%
Outdoor commercial water use (AF)	390,535	351,650	340,534	-13%
Commercial water use (AF)	**1,099,356**	**1,207,788**	**1,209,434**	**10%**
Total water use (AF)	**3,273,597**	**3,190,237**	**3,122,670**	**-5%**

Note: AF = acre-feet.
Source: SCAG scenario planning modeling, 2019.

As shown above, total water use in the SCAG region by 2045 is anticipated to decrease by 5%. Indoor residential, outdoor residential, and outdoor commercial are anticipated to decrease in water use; however, indoor commercial water use is anticipated to increase by 23% over the lifetime of the Plan. The commercial sector includes offices, hospitals, hotels, restaurants, educational facilities, and industrial land uses. The large increase in water use may be in part to the additional commercial uses that will be required for a population increase of 3.2 million people.

86 PPIC Water Policy Center. 2019. *Just the Facts: Water Use in California*. Available online at: https://cwc.ca.gov/-/media/CWC-Website/Files/Documents/2019/06_June/June2019_Item_12_Attach_2_PPICFactSheets.pdf?la=en&hash=E233EA870DFB826F235B258177849300179E1B64, accessed September 12, 2019.

As noted above, water use is closely tied to the electricity required to transport, distribute, and treat water.[87] Water- related electricity use is expected to decrease from 13,040 gigawatt-hours (GWh) to 12,544 GWh in 2045 with the Plan, which represents a 4 percent decrease in electricity (**Table 3.6-6, Water-Related Energy Use**).

Table 3.6-6
Water-Related Energy Use

	2019	2045 No Project	2045 Plan	% Difference from Baseline
Water-related electricity use (GWh)	13,040	12,672	12,544	-4%

Note: GWh = gigawatt-hour.
Water related energy use does not include heating of water
Source: SCAG scenario planning modeling, 2019.

As demonstrated in the table above, the total water-related electricity use is expected to decrease by 4% over the lifetime of the Plan. Based on data provided by SCAG, the per capita water-electricity use is 674 kWh/person for the existing condition. In a 2045 per capita water-related electricity use is expected to be 557 kWh/person. Therefore, the per capita water-related electricity use will decrease by 117 kWh/person. As a result, water-related electricity use efficiency will increase.

As demonstrated above, fuel consumption, total building energy use, and water related energy use are expected to decrease over the lifetime of the Plan. Water-related electricity use efficiency is also anticipated to decrease over the lifetime of the Plan. However, as stated above, the per capita building energy use efficiency is anticipated to increase by 4.7 million Btu/person.

In summary, construction energy use is anticipated to be more efficient (and less wasteful) in the future as Tier 4 construction equipment combined with CARB regulations for reducing fuel use in heavy-duty diesel trucks used for hauling construction materials are implemented. Additionally, the transportation projects combined with transportation and land use strategies will encourage compact (more efficient) land use and more efficient, less energy intensive transportation (transit, bike, walk) which will result in a lower VMT per capita. Therefore, the Plan would not result in wasteful or inefficient use of energy and this impact is less than significant.

87 The SCAG region has several desalination projects proposed or under development within the SCAG region, and desal plants are highly energy intensive. However, such projects diversify water supply portfolios and provide for greater reliability. Therefore, if water production relies on a desalination plants in the future, the water-related energy use could increase.

Impact ENR-2 **Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.**

Less than Significant Impact.

As discussed above, the Plan would result in a decrease in per capita energy use and would not result in energy used in an unnecessary or wasteful manner. The Plan would not result in the inefficient, wasteful, or unnecessary consumption of energy if it is consistent with existing relevant energy conservation policies. Accordingly, inconsistencies between the Plan and adopted plans and policies related to energy conservation have not been identified. The discussion below further examines consistency with adopted plans and policies related to energy conservation.

The 1974 Warren-Alquist Act established the California Energy Resource Conservation and Development Commission, now known as the California Energy Commission (CEC), and established a State policy to reduce wasteful, uneconomical and unnecessary uses of energy. Based on the data above, and explained in the conclusion below, the Plan would not result in wasteful, inefficient, or unnecessary use of energy. Therefore, the Plan is consistent with the Warren-Alquist Act policies.

Senate Bill (SB) 1078 as accelerated by SB 350, establishes a renewable portfolio standard for electricity supply, and requires that retail sellers of electricity, including investor-owned utilities and community choice aggregators, provide 33 percent of their supply from renewable sources by 2020. In addition, the 2017 Integrated Energy Policy Report (IEPR) includes a set of strategies to address California's future energy needs. Key topics covered in the report include electricity resource and supply plans; electricity and natural gas demand forecasts; natural gas outlooks; transportation energy demand forecasts; energy efficiency savings; integrated resource planning; a barriers study; climate adaptation and resilience; renewable gas; distributed energy resources; strategic transmission investment plans; and existing power plan reliability issues The proposed Plan would not conflict with these policies. Refer to **Section 3.8, Greenhouse Gas Emissions**, for a discussion of greenhouse gas emissions reductions related to the Plan.

In addition, many Plan projects promote energy efficiency as they support implementation of the 2010 Clean Air Plan transportation control measures including transportation demand management, transportation system management, commuter and public transit; rail, bike and pedestrian programs, among others.

Development under the Plan would be required to be consistent with applicable regulations and policies including the LA County Sustainability Plan, the LA Green New Deal, as well as the Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura County General Plans. These plans encourage the use of renewable energy, energy conservation and energy efficiency techniques in all new building

design, orientation and construction and support of alternative transportation and fuels. As described above, the Plan includes TDM intended to improve the efficiency and effectiveness of the transportation system, reducing fuel consumption, transit and other alternative modes of transportation, such as new pedestrian and bicycle facilities and promotes mixed use and infill development. In summary, implementation of the Plan would not result in wasteful or inefficient energy consumption within the region and is generally consistent with applicable policies regarding energy conservation and renewable energy. Therefore, impacts would be less than significant.

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3.7 GEOLOGY AND SOILS

This section of the Program Environmental Impact Report (PEIR) describes the geological characteristics of the SCAG region, identifies the regulatory framework with respect to laws and regulations that govern geology and soils, and analyzes the significance of the potential impacts that could result from development of the Connect SoCal Plan ("Connect SoCal"; "Plan"). In addition, this PEIR provides regional-scale mitigation measures as well as project-level mitigation measures to be considered by lead agencies for subsequent, site-specific environmental review to reduce identified impacts as appropriate and feasible. Information regarding paleontological resources was largely obtained from the Paleontological Resources Report prepared by SWCA and included as Appendix 3.7 of this PEIR.

3.7.1 ENVIRONMENTAL SETTING

3.7.1.1 Definitions

Alluvium: An unconsolidated accumulation of stream deposited sediments, including sands, silts, clays or gravels.

Extrusive Igneous Rocks: Rocks that crystallize from molten magma on earth's surface.

Fault: A fracture or fracture zone in rock along which movement has occurred.

Formation: A laterally continuous rock unit with a distinctive set of characteristics that make it possible to recognize and map from one outcrop or well to another. The basic rock unit of stratigraphy.

Holocene: An interval of time relating to, or denoting the present epoch, which is the second epoch in the Quaternary period, from approximately 11,000 years ago to the present time.

Liquefaction: The process by which water-saturated sandy soil materials lose strength and become susceptible to failure during strong ground shaking in an earthquake. The shaking causes the pore-water pressure in the soil to increase, thus transforming the soil from a stable solid to a more liquid form.

Oligocene: An interval of time relating to, or denoting the third epoch of the Tertiary period, between the Eocene and Miocene epochs, from approximately 34 to 23 million years ago.

Outcrop: A rock formation that is visible on earth's surface.

Paleozoic: An interval of time relating to, or denoting the era between the Precambrian eon and the Mesozoic era.

Pleistocene: An interval of time relating to, or denoting the first epoch of the Quaternary period, between the Pliocene and Holocene epochs, from approximately 2.6 million years ago to 11,000 years ago.

Pliocene: An interval of time relating to, or denoting the last epoch of the Tertiary period, between the Miocene and Pleistocene epochs, from approximately 5.5 to 2.6 million years ago.

Plutonic Igneous Rocks: Igneous rocks that have crystallized beneath the earth's surface.

Pore water pressure: Refers to the pressure of groundwater held within a soil or rock, in gaps between particles (pores).

Quaternary: The most recent period in geological time; includes the Pleistocene and Holocene Epochs.

Unique geologic feature: An important and irreplaceable geological formation. Such features may have scientific and/or cultural values.

Unique paleontological resource: A fossil that meets one or more of the following criteria:

- It provides information on the evolutionary relationships and developmental trends among organisms, living or extinct.
- It provides data useful in determining the age(s) of the rock unit or sedimentary stratum, including data important in determining the depositional history of the region and the timing of geologic events therein.
- It provides data regarding the development of biological communities or interaction between plant and animal communities.
- It demonstrates unusual or spectacular circumstances in the history of life.
- The fossils are in short supply and/or in danger of being depleted or destroyed by the elements, vandalism, or commercial exploitation, and are not found in other geographic locations.

3.7.1.2 Existing Conditions

The geology and soils of the SCAG region were defined by major forces that continue to shape the physical environment, including mountain building, faulting, erosion, deposition, and volcanic activity. These events occur both gradually and in potentially catastrophic episodes. The region that is now Southern California slowly "assembled" over a billion years from older materials recycled through the lithosphere (Earth's crust and mantle) or accumulated from precipitation and biological activity in the

oceans, or carried in as ash and dust in the atmosphere.[1] Tectonic forces and volcanism built up the landscape, and sediments eroded and deposited along the margin of the North American continent, later to be uplifted and recycled over again. Much of the continental crust that is now southern California was derived or recycled from crust that formed beneath the Pacific Ocean region and later subducted or accreted onto the margin of the North American continent.[2]

Geologic hazards are natural geologic events that can endanger human lives and threaten property. Potential geologic hazards include rupture of a known earthquake fault, seismic ground shaking, seismic ground failure including liquefaction, and landslides. Other hazards in relation to geology and soils include soil erosion or loss of topsoil, and development of structures and buildings in locations with geologic units or soils that are unstable or expansive soils. Similarly, not all areas within the SCAG region are served by sewer systems or have soils that are capable of adequately supporting septic tanks or alternative waste water disposal systems.

The SCAG region extends primarily over four[3] California geomorphic provinces: the Mojave Desert, the Transverse Ranges, the Peninsular Ranges, and the Colorado Desert.[4] These provinces are naturally defined geologic regions that display a distinct landscape or landform (**Figure 3.7-1, Geomorphic Provinces**).

Mojave Desert

The Mojave Desert geomorphic province occupies approximately 25,000 square miles. It is a broad interior region of isolated mountain ranges separated by expanses of desert. There are two important fault trends that control topography a prominent northwest-southeast trend and a secondary east-west trend. The Mojave province is wedged in a sharp angle between the Garlock Fault to the north (southern boundary Sierra Nevada) and the San Andreas Fault to the west (where it bends east from its northwest trend). The Nevada state line defines its eastern boundary, and the San Bernardino/Riverside county line defines its southern boundary. Portions of Los Angeles and San Bernardino Counties lie within this province.

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1 U.S. Geological Survey. *Information by Region – California*. Available online at: https://earthquake.usgs.gov/earthquakes/byregion/california.php, accessed July 22, 2019.

2 Geologycafe.com. *Geologic History of California*. Available online at: https://geologycafe.com/geologic_history/index.html, accessed August 30, 2019.

3 A small sliver of the northwest corner of San Bernardino County is located in the Basin and Range province, and a small area in northern Ventura County is located in the Southern Coastal Ranges province.

4 California Geological Survey. 2002. *California Geomorphic Provinces*. Available online at: https://www.conservation.ca.gov/cgs/Documents/Note_36.pdf, accessed June 12, 2019.

Erosional features such as broad alluvial basins that receive non-marine sediments from the adjacent uplands dominate the Mojave Desert region. Numerous playas, or ephemeral lakebeds within internal drainage basins, also characterize the region. Throughout this province, small hills—some the remnants of ancient mountainous topography—rise above the valleys that are surrounded by younger alluvial sediments. The highest elevation approaches 4,000 feet above mean sea level (MSL), and most valleys lie between 2,000 to 4,000 feet above MSL.

Transverse Ranges

The Transverse Ranges are an east-west trending series of steep mountain ranges and broad alluvial valleys that extends approximately 320 miles from Point Arguello in the west to the Little San Bernardino Mountains in the east. The east-west structure of the Transverse Ranges is oblique to the normal northwest trend of coastal California, hence the name "Transverse." This geomorphic province includes Ventura County and portions of Los Angeles, San Bernardino, and Riverside Counties. It also extends offshore to include San Miguel, Santa Rosa, and Santa Cruz islands.

There is intense north-south compression squeezing the Transverse Ranges and resulting in the prominent basins and ranges found in this province, including the Ventura Basin and the San Gabriel and San Bernardino Mountains. This is one of the most rapidly rising regions on earth. Several active faults, such as the San Andreas Fault Zone, are located in the Transverse Ranges. Other faults in the province include the Santa Clara River Valley Fault, the San Gabriel Fault Zone, the Santa Cruz Island Faults, the Santa Rosa Island Faults, and the Soledad Faults. This province is one of the most geologically diverse in California, containing a wide variety of bedrock types and structures. California's highest peaks south of the central Sierra Nevada and the only Paleozoic rocks in the coastal mountains in the United States are found here. Because of the great lithological diversity, the province is further subdivided into eight subprovinces, each displaying its own geologic signature. Broad alleviated valleys, narrow stream canyons, and prominent faults separate these subprovinces.

Peninsular Ranges

The Peninsular Ranges province consists of a series of ranges separated by northwest trending valleys, subparallel to faults branching from the San Andreas Fault. This province is bounded on the northwest by the Transverse Ranges, on the east by the Colorado Desert, and extends south, encompassing the Los Angeles Basin and terminating 775 miles south of the United States–Mexico border.

The Peninsular Ranges includes the southern portion of Los Angeles County, the southwest corner of San Bernardino County, all of Orange County, and the San Jacinto Mountains and the Coachella Valley in the central portion of Riverside County. The ranges are composed of a series of northwest-southeast trending

mountains that are separated by several active faults, including the San Jacinto and Elsinore Fault zones. The Peninsular Ranges is one of the largest geologic units in western North America. Its highest elevations are found in the San Jacinto-Santa Rosa Mountains, with San Jacinto Peak reaching 10,805 feet above MSL. The orientation and shape of the Peninsular Ranges is similar to the Sierra Nevada, in that the west slope is gradual and the eastern face is steep and abrupt. Drainage from the province is typically by the San Diego, San Dieguito, San Luis Rey, and Santa Margarita Rivers.

Colorado Desert (Salton Trough)

The Colorado Desert geomorphic province (also referred to as the Salton Trough) is a depressed block between active branches of alluvium-covered San Andreas Fault with the southern extension of the Mojave Desert province in the east. Its roughly triangular shape is bounded to the east by the Chocolate Mountains, to the west by the Peninsular Ranges, and extends south into Mexico. The area is a low-lying, barren desert basin dominated by the Salton Sea. This province includes a large portion of Imperial County and a small portion of central Riverside County. The Colorado Desert is divided into two main valleys: the deep Imperial Valley to the south and the narrower and shallower Coachella Valley to the north. A good portion of both valleys lie below sea level with the lowest elevation found in the Salton Basin at 235 feet below MSL. The area is characterized by the ancient beach lines and silt deposits of extinct Lake Cahuilla. Geologic features include playas separated by sand dunes and the occurrence of seismic and a seismic subsidence due to the San Andreas Fault system.

Paleontological Setting

Given the diversity of geologic units found in the SCAG region, the paleontology is equally diverse, and, in some areas, fossils are quite abundant. A detailed analysis of the paleontological sensitivity of each geologic formation in the SCAG region is beyond the scope of this analysis and should be the subject of project-specific paleontological assessments (see recommendations below). The SVP (2010) defines fossils as being over 5,000 years in age, while the BLM (2009, 2016) generally considers fossils to be Pleistocene in age or older (11,700 years in age). Therefore, sediments younger than middle or early Holocene are too young to preserve fossil resources and have low (SVP) or PFYC 2 (BLM) paleontological sensitivity. Other types of geologic units with low sensitivity are moderately metamorphosed rocks, as the heat and pressure associated with metamorphism is likely to destroy fossils. High grade metamorphic rocks, as well as igneous rocks, have no paleontological sensitivity.

Some generalizations about the primary types of fossil bearing rocks can be made, based on the 1:750,000 scale geologic mapping by Jennings et al. (2010), as discussed below.

Cenozoic Marine Deposits

Cenozoic marine deposits date from the Paleocene to the Pliocene and were deposited on the ancient seafloor. These geologic formations are well known for being highly fossiliferous in southern California and may preserve a wide variety of marine fauna: invertebrates such as mollusks, crustaceans, echinoderms, and others; marine vertebrates such as shark and other fish, whales, seals, sea lions, and others; and even terrestrial vertebrates such as horse, camel, bison, and others that washed out to sea and where buried in the near-shore marine deposits.

These deposits are particularly common at the surface in the Transverse Ranges in Ventura County, where Eocene and Miocene units are prevalent, coastal Orange County, central Imperial County as scattered outcrops around the Salton Sea, and central Los Angeles County. In the subsurface, these deposits are likely to be encountered underlying the younger surficial alluvium across large parts of the Los Angeles and San Bernardino basins.

Some of these units with the highest paleontological sensitivity (BLM PFYC class 4 or 5, SVP high potential) are discussed below:

Shallow Marine Deposits. Shallow marine deposits such as the San Pedro Sand and the Palos Verdes Sand have a strong record of preserving Pleistocene-aged marine and terrestrial fossils. The San Pedro Sand has yielded a diverse fauna of nearshore marine invertebrates such as crabs, snails, bivalves, gastropods, and echinoids and vertebrates such as sharks, bony fish, amphibians, reptiles, birds, whales, antelopes, mammoth, dire wolves, rodents, and bison. These units are common along coastal southern California, including Ventura, Los Angeles, and Orange Counties in the SCAG region. Many abundant fossil localities have been collected from excavations in San Pedro around the Port of Los Angeles, where the setting is very similar to that of the program area, with artificial fill covering old marine deposits. These deposits have yielded thousands of specimens of marine invertebrates that are significant for reconstructing changes in shallow marine ecosystems as the climate has changed since the Pleistocene.[5]

Fernando Formation. The Fernando Formation dates to the Pliocene and consists of marine siltstone, sandstone, pebbly sandstone, and conglomerate. The Fernando is common in the Transverse Ranges, particularly in Los Angeles County, where it is found extensively in the subsurface throughout the Los Angeles Basin. The lower part of the Fernando Formation consists of a pebble-cobble conglomerate in a sandstone matrix that fines upwards into a coarse sandstone and then a silty sandstone. The upper Fernando Formation consists of coarse-grained sandstone with conglomerate lenses. The Fernando

5 SWCA Environmental Consultants. 2019. *Draft Paleontological Resources Technical Report for the 2020-2045 Regional Transportation Plan and Sustainable Communities Strategy for the Southern California Association of Governments*.

Formation has an extensive record of preserving scientifically significant fossils, including invertebrates such as mollusks, echinoids, and bryozoans, fish, squid, and a number of unidentified megafossils.[6]

Bouse Formation. The Bouse Formation spans the early Pliocene to the late Miocene and has been interpreted to represent either a marine estuarian or lacustrine depositional environment. The Bouse Formation is found in the Mojave Desert Geomorphic Province and consists of calcareous clay, silt, and sand. Abundant common invertebrate fossils such as gastropods, ostracodes, barnacles, and foraminifera, as well as fish and plants are known from the Bouse Formation.[7]

Puente Formation. The Puente Formation, often synonymous with the Modelo Formation, consists of marine sandstone, siltstone, and shale that dates from the early Pliocene to the Miocene. The Puente Formation has a history of preserving both invertebrate and vertebrate marine fossils, such as cephalopods, crustaceans, fishes, and other marine and terrestrial vertebrates. The Puente Formation is common in the Peninsular Ranges and Transverse Ranges provinces.[8]

Monterey Formation. The Monterey Formation records the filling of a deep basin formed by tectonism along the California margin and constitutes one of the major elements of California geology and can range up to several thousands of feet thick. The Monterey ranges in age from the Pliocene to middle Miocene and can be found throughout the basins of the Peninsular Ranges and Transverse Ranges provinces in the subsurface. The Monterey has yielded a diverse fauna consisting of some mollusks and common fish skeletons, and remains of larger marine macrofauna such as whales and the giant extinct Desmostylus, as well as birds, crocodiles and rare land organisms such as horse and land plants.[9]

Vaqueros Formation. The Vaqueros Formation consists of predominately limey sandstone interbedded with siltstone and shale deposited in an offshore basin. The Vaqueros Formation is common in the Peninsular Ranges and Transverse Ranges provinces and dates from the early Miocene to the late Eocene. Common fossils in the Vaqueros include marine invertebrates such as barnacles, ostreids, pectinids and marine ichnofossils, as well as terrestrial vertebrates and marine megafauna.[10]

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6 SWCA Environmental Consultants. 2019. Draft Paleontological Resources Technical Report for the 2020-2045 Regional Transportation Plan and Sustainable Communities Strategy for the Southern California Association of Governments.

7 Ibid.

8 Ibid.

9 Ibid.

10 Ibid.

Cenozoic Terrestrial Deposits

Cenozoic terrestrial deposits date from the Paleocene to the Pleistocene and were deposited in terrestrial environments as alluvial sediments, fluvial sediments, and lacustrine deposits. These geologic formations are well known for being highly fossiliferous in southern California and may preserve a wide variety of terrestrial fauna: invertebrates such as mollusks; plants; and abundant terrestrial vertebrates such as horse, camel, bison, and others.

These deposits are particularly common at the surface in the Mojave and Colorado Desert provinces but are found scattered across the entire SCAG region. Some of these units with the highest paleontological sensitivity (BLM PFYC class 4 or 5, SVP high potential) are discussed below.

Pleistocene Alluvium. Pleistocene alluvium consists of sand, silt, and gravel deposited in terrestrial environments as the result of erosion of surrounding highlands and dates to the Pleistocene (11,000–2.58 ma). Pleistocene sediments have a rich fossil history in southern California.[11]

The most common Pleistocene terrestrial mammal fossils include the bones of mammoth, horse, bison, camel, and small mammals, but other taxa, including lion, cheetah, wolf, antelope, peccary, mastodon, capybara, and giant ground sloth, have been reported, as well as birds, amphibians, and reptiles such as frogs, salamanders, snakes, and turtles. In addition to illuminating the striking differences between Southern California in the Pleistocene and today, this abundant fossil record has been vital in studies of extinction, ecology, and climate change.[12]

An excellent example of the striking abundance and diversity of these Pleistocene sediments comes from Riverside County, just south of San Bernardino County, where nearly 100,000 identifiable fossil specimens representing 105 vertebrate, invertebrate, and plant species were collected from more than 2,000 individual localities during the construction of the dam at Diamond Valley Lake and are now housed at the Western Science Center in Hemet, California. This site represents the second largest late Pleistocene fossil assemblage known from the American Southwest after the La Brea Tar Pits in Los Angeles. Other Ice Age fossils have been found throughout the inland valleys and the Mojave Desert.[13]

Manix Formation. The Manix Formation consists of around 40 m of lacustrine, fluvial, and alluvial sediments deposited in and around the Middle to late Pleistocene Lake Manix. This formation occurs to the east of Barstow in the Mojave Desert. The lacustrine and fluvial deposits in this formation have

11 Ibid.

12 Ibid.

13 Ibid.

yielded a diverse fauna, preserving invertebrates such as mollusks and ostracods as well as aquatic and terrestrial vertebrates such as fish, birds, and numerous Ice Age mammals.[14]

San Timoteo Formation. The San Timoteo Formation dates from the Pleistocene to the Pliocene and consists of stream-deposited alluvial sediments that are made up of detritus eroded from the San Bernardino Mountains in the Mojave Desert and southeastern Transverse Ranges provinces. A number of significant fossil deposits have been discovered in the San Timoteo. The construction of the El Casco Substation in San Timoteo Canyon between September 2009 and January 2011 produced numerous fossils, including riparian and aquatic plants, insects, slugs and snails, fish, tortoise, lizards, snakes, small mammals, birds, a giant camel, a llama, two ground sloths, and two different types of saber tooth cats. The Shutt Ranch fauna is a collection of hundreds of significant fossils belonging to 37 species of small mammals, as well as larger macrofauna such as sloth, camel, deer, horse, and others, found in the San Timoteo beds. The scientific literature records a rich fossil history from this unit that includes fossils of more than 30 plant taxa and over forty animal taxa, including camels, deer, sloth, elephants, bears, rabbits, and rodents. This fauna has been the subject of study for almost 100 years.[15]

Avawatz Formation. The Avawatz Formation consists of four members: conglomerate, siltstone and sandstone, breccias, and sandstone, siltstone, and tuff deposited in alluvial fans, floodplains, and lakes, spanning a period of around 40 Ma, during the late Miocene. The Avawatz Formation is found in the Avawatz Mountains in the Mojave Desert province. The Avawatz preserves a typical Miocene mammalian fauna of early ancestors of horses and camels, as well as abundant rodents and some reptiles. In addition, the Avawatz is known for preserving exceptional fossil trackways from dozens of different types of animals, including birds, camels, and cats. Trackways are significant fossil resources, and provide valuable information on not only foot morphology, but also how an animal moved and potentially whether it was part of a herd. The Raymond M. Alf Museum in Claremont, California, has more than 100 fossil trackways collected from the Avawatz in San Bernardino County.[16]

Topanga Group. The Topanga Group is predominantly composed of sandstone but also some siltstone, breccia, and shale. Formations within the Topanga Group are common across the basins of the Peninsular Ranges and Transverse Ranges provinces. The Topanga is interpreted to represent wave-dominated coastal deposits grading into river-dominated deltaic deposits and fluvial deposits in the upper parts of the formation. The Topanga Formation dates to the middle Miocene, around 20 to 16 Ma. Fossils from the Topanga Formation include numerous invertebrate and vertebrate remains from both

14 Ibid.

15 Ibid.

16 Ibid.

marine and terrestrial settings, including sharks, bony fishes, birds, whales, dolphins, and land mammals.[17]

Barstow Formation. The Barstow Formation is composed of fluvial and lacustrine sediments interbedded with air-fall tuff beds deposited in lakes from around 14.8 to 19.3 ma. This formation crops out across the Mojave Desert province. The fossil mammal fauna of the Barstow is so abundant it has been used to define a biostratigraphic portion of the middle Miocene called the Barstovian North American Land Mammal Age. The University of California, Berkeley, conducted extensive excavations of the mammal fossils shortly after they were first discovered in the Mud Hills. The most common fossils from the Barstow Formation include early ancestors of horses, antelope, and camels, as well as small mammals such as mice and rabbits, with birds, fish, invertebrates, reptiles, and early ancestors of canines and elephants less common but well represented. In addition to the vertebrate fauna, an extensive record of exceptionally preserved small organisms, such as insects and arthropods, are known from the Barstow. These fossils have been extensively studied and reported on in the scientific literature, leading to a better understanding of the early evolution of many modern animals ranging from horses and camels to insects, as well as paleoecology.[18]

Earthquake Faults

The SCAG region is seismically active. In the past 100 years, several earthquakes of magnitude 5.0 or larger have been reported on the active San Andreas, San Jacinto, Elsinore, and Newport-Inglewood fault systems. These four fault systems are concentrated in the western portion of the SCAG region, running in a northwest to southeast direction. The San Andreas Fault lies furthest to the east, extending just above the northern border of Ventura County and the San Gabriel Mountains, eventually terminating at the Salton Sea. As a result, significant earthquake hazards exist in the region.[19] Injury to people and damage to structures during earthquakes can be caused by actual surface rupture along an active fault, by ground shaking from a nearby or distant fault, liquefaction, or dam failure. In Southern California, the last earthquake exceeding Richter magnitude 8.0 occurred in 1857. Much more frequent are smaller temblors, like the relatively moderate (but still exceedingly damaging) 1971 San Fernando and 1994 Northridge

17 Ibid.

18 Ibid.

19 It should be noted that new faults continue to reveal themselves, such as in the case of the Ridgecrest quake of 2019, and the potential seismic threats posed by these faults also continue to be reevaluated on the basis of new geologic information and analysis.

earthquakes, both classified as magnitude 6.7 earthquakes.[20] In July 2019, a magnitude 7.1 earthquake struck on a previously unnamed fault system near Ridgecrest in San Bernardino County. Two foreshocks of 5.4 and 6.1 preceded the larger 7.1 earthquake.

A fault is a fracture in the crust of the earth along which there has been displacement of the sides relative to one another parallel to the fracture. Most faults are the result of repeated displacements over a long period of time. Numerous active and potentially active faults have been mapped in the region (**Table 3.7-1, Characteristics of Major Faults in the SCAG Region,** and **Figure 3.7-2, Alquist-Priolo Zones and Areas of Probabilistic Ground Acceleration**). The SCAG region contains lateral strike slip faults similar to the San Andreas and various identified and hidden blind thrust faults. A fault trace is the surface expression of a particular fault. Buried or blind thrust faults are thought to underlie much of the SCAG region. These "buried" faults do not exhibit readily identifiable traces on the earth's surface and are typically at considerable depth within the underlying geologic formation. Although these faults typically do not offset surface deposits, they can generate substantial ground shaking. The California Geological Survey (CGS) defines active faults as those that have exhibited evidence of displacement during Holocene (10,000 years ago to present) period. Potentially active faults are defined as faults that have exhibited evidence of displacement during the Pleistocene period (10,000 years to 1.8 million years ago). Class A faults have slip rates greater than 5 millimeters per year (mm/yr) and generally have substantial historic seismic data available, while Class B faults have slip rates smaller than 5 mm/yr and, as a rule, historic seismic data on which to develop reliable recurrence intervals of large events is lacking.[21]

Table 3.7-1
Characteristics of Major Faults in the SCAG Region

Fault	Counties	Recency	Slip-Rate (mm/yr)	Max. Moment
		Class A Faults		
San Andreas	Los Angeles San Bernardino Riverside Imperial	Historic Late Quaternary Latest Quaternary	24.0–34.0	7.2–7.5

20 The human and economic damage caused by earthquakes tends to increase with time, as more and more people and property come to occupy more and more of the land, thus cumulatively increasing the exposure of human habitation to seismic hazard. The 1994 Northridge earthquake, though hardly the most severe experienced by Southern California, was deemed the most expensive, in terms of its economic cost and its damage to human property. The California Office of Emergency Services claimed a $15 billion total damage estimate.

21 United States Geological Survey. 2000. *Quaternary Fault and Fold Database Background*. Available online at: https://earthquake.usgs.gov/hazards/qfaults/background.php, accessed July 15, 2019.

Fault	Counties	Recency	Slip-Rate (mm/yr)	Max. Moment
San Jacinto – Imperial Fault Zone	San Bernardino Riverside Imperial	Historic Holocene Late Quaternary Latest Quaternary	4.0–20.0	6.6–7.2
Elsinore Fault Zone	Los Angeles Orange Riverside Imperial San Bernardino	Historic Holocene Late Quaternary Latest Quaternary	2.5–5.0	6.8–7.1
Class B Faults				
Elsinore and San Jacinto Fault Zones (Non A Faults)				
Brawley Seismic Zone	Imperial	Historic	25.0	6.4
Chino	San Bernardino Riverside	Latest Quaternary	1.0	6.7
Elmore Ranch	Imperial		1.0	6.6
Garlock Fault Zones				
Garlock – west	Los Angeles San Bernardino	Latest Quaternary	6.0	7.3
Garlock – east	San Bernardino	Late Quaternary Latest Quaternary	7.0	7.5
Owl Lake	San Bernardino	Latest Quaternary	2.0	6.5
Transverse – Ranges and Los Angeles Basin				
Clamshell-Sawpit	Los Angeles		0.5	6.5
Cucamonga	San Bernardino		5.0	6.9
Hollywood	Los Angeles	Late Quaternary Latest Quaternary	1.0	6.4
Holser	Los Angeles Ventura	Late Quaternary	0.4	6.5
Malibu Coast	Los Angeles Ventura	Late Quaternary Latest Quaternary	0.3	6.7
Mission Ridge – Arroyo Parida – Santa Ana	Ventura	Late Quaternary Latest Quaternary	0.4	7.2
Newport-Inglewood	Los Angeles Orange	Historic Late Quaternary Latest Quaternary	1.0	7.1
Oak Ridge	Ventura	Holocene Late Quaternary Latest Quaternary	4.0	7.0
Palos Verdes	Los Angeles	Late Quaternary Latest Quaternary	3.0	7.3
Raymond	Los Angeles	Late Quaternary Latest Quaternary	1.5	6.5
Red Mountain	Ventura	Late Quaternary Latest Quaternary	2.0	7.0
San Cayetano	Ventura	Late Quaternary Latest Quaternary	6.0	7.0

Fault	Counties	Recency	Slip-Rate (mm/yr)	Max. Moment
San Gabriel	Ventura	Holocene	1.0	7.2
	Los Angeles	Late Quaternary		
	San Bernardino	Latest Quaternary		
San Jose	Los Angeles	Late Quaternary	0.5	6.4
Santa Monica	Los Angeles	Late Quaternary	1.0	6.6
		Latest Quaternary		
Santa Ynez (East)	Ventura	Late Quaternary	2.0	7.1
Santa Susana	Ventura Los Angeles	Historic	5.0	6.7
		Late Quaternary		
Sierra Madre	Ventura	Holocene	2.0	7.2
	Los Angeles	Historic		
	San Bernardino	Late Quaternary		
		Latest Quaternary		
Simi-Santa Rosa	Ventura	Late Quaternary	1.0	7.0
	Los Angeles	Latest Quaternary		
Ventura-Pitas Point	Ventura	Latest Quaternary	1.0	7.0
Verdugo	Los Angeles	Late Quaternary	0.5	6.9
		Latest Quaternary		
Los Angeles Blind Thrusts				
Upper Elysian Park	Los Angeles	Quaternary	1.3	6.4
Northridge	Ventura	Historic	1.5	7.0
	Los Angeles			
Puente Hills blind thrust	Los Angeles	Historic	0.7	7.1
	Orange	Quaternary		
San Joaquin Hills	Orange	Latest Quaternary	0.5	6.6
Transverse – Ranges and Mojave				
Blackwater	San Bernardino	Latest Quaternary	0.6	7.1
		Undifferentiated Quaternary		
Burnt Mountain	San Bernardino	Historic	0.6	6.5
	Riverside	Latest Quaternary		
Calico-Hidalgo	San Bernardino	Historic	0.6	7.3
		Latest Quaternary		
		Undifferentiated Quaternary		
Cleghorn	San Bernardino	Late Quaternary	3.0	6.5
		Undifferentiated Quaternary		
Eureka Peak	San Bernardino	Historic	0.6	6.4
	Riverside	Latest Quaternary		
Gravel Hills – Harper Lake	San Bernardino		0.6	7.1
Helendale – S. Lockhart	San Bernardino	Late Quaternary	0.6	7.3
		Latest Quaternary		
Johnson Valley (Northern)	San Bernardino	Historic	0.6	6.7
		Latest Quaternary		

Fault	Counties	Recency	Slip-Rate (mm/yr)	Max. Moment
Lenwood – Lockhart – Old Woman Springs	San Bernardino	Historic Late Quaternary Latest Quaternary	0.6	7.5
North Frontal Fault zone (Western)	San Bernardino	Late Quaternary Latest Quaternary	1.0	7.2
North Frontal Fault zone (Eastern)	San Bernardino	Latest Quaternary	0.5	6.7
Pinto Mountain	San Bernardino	Late Quaternary Latest Quaternary	2.5	7.2
Pisgah – Bullion Mountain – Mesquite Lake	San Bernardino	Historic Late Quaternary Latest Quaternary	0.6	7.3
S. Emerson – Copper Mountain	San Bernardino	Latest Quaternary	0.6	7.0

Note:
Recency of fault movement: Refers to the time period when the fault is believed to have last moved. The age is expressed in terms of the Geologic Time Scale. Generally, the older the activity on a fault, the less likely it is that the fault will produce an earthquake in the near future. For assessing earthquake hazard, usually only faults active in the Late Quaternary or more recently are considered. These include the following three non-overlapping time periods: Historic: Refers to the period for which written records are available (approximately the past 150 years).
Latest Quaternary: Refers to a period of time between the present and 15,000 years before present. Faults of this age are commonly considered active.
Late Quaternary: Refers to the time period between the present and approximately 130,000 years before the present.
Where no recency data are given, no determination has been made.
The Maximum Moment Magnitude is an estimate of the size of a characteristic earthquake capable of occurring on a particular fault. Moment magnitude is related to the physical size of a fault rupture and movement across a fault. Richter magnitude scale reflects the maximum amplitude of a particular type of seismic wave. Moment magnitude provides a physically meaningful measure of the size of a faulting event [CGS, 2002b]. Richter magnitude estimations can be generally higher than moment magnitude estimations.
Source:
Southern California Probabilistic Seismic Hazard Assessment Maps (PSHA). Available online at: https://www.conservation.ca.gov/cgs/Pages/PSHA/shaking-assessment.aspx, accessed 13 May 2019.
U.S. Geological Survey, Quaternary Fault and Fold Database. Available online at: https://earthquake.usgs.gov/cfusion/qfault/query_main_AB.cfm?CFID=1322837&CFTOKEN=66fceb6a140aa938-F82CC7E1-A43F-D9BB-AC8B50A1C3900752, accessed 13 May 2019.
Petersen, M.D., W.A. Bryant, and C.H. Cramer. 1996. Probabilistic Seismic Hazard Assessment for the State of California, California Department of Conservation, Division of Mines, 1996. Geology Open-File Report issued jointly with U.S. Geological Survey, CDMG 96-08.

Seismic Hazards

Movements on the previously identified faults would likely cause future earthquakes in the SCAG region. Earthquakes can originate in areas where potential seismic energy has built up along a fault over time, but has not yet been released in the form of an earthquake. Studies supported by the National Earthquake Hazards Reduction Program enable scientists to evaluate the hazard level in different areas. In Southern California, scientists estimate that the probability of a magnitude 7.0 or greater earthquake by the year 2045 is 75 percent.[22]

22 United States Geological Survey, *Uniform California Earthquake Rupture Forecast, Version 3*, March 2015.

The four major hazards generally associated with earthquakes are ground shaking, surface fault rupture (ground displacement), liquefaction ground failures, and settlement. A detailed discussion of these types of hazards is found below.

Ground Shaking

Ground shaking may affect areas hundreds of miles distant from the earthquake's epicenter. Historic earthquakes have caused strong ground shaking and damage in many areas of the SCAG region. The composition of underlying soils in areas located relatively distant from faults can intensify ground shaking. Areas that are underlain by bedrock tend to experience less ground shaking than those underlain by unconsolidated sediments such as artificial fill.

Earthquakes on the various and potentially active fault systems are expected to produce a wide range of ground shaking intensities in the SCAG region **(Figure 3.7-2, Alquist-Priolo Zones and Potential Areas of Probabilistic Ground Acceleration)**. The estimated maximum moment magnitudes represent characteristic earthquakes on particular faults.[23] While the magnitude is a measure of the energy released in an earthquake, intensity is a measure of the ground shaking effects at a particular location. Shaking intensity can vary depending on the overall magnitude, distance to the fault, focus of earthquake energy, and characteristics of geologic media. Generally, intensities are highest at the fault and decrease with distance from the fault.

Surface Fault Rupture

The surface expression of earthquake fault rupture typically occurs in the immediate vicinity of the originating fault. The magnitude and nature of the rupture may vary across different faults, or even along different segments of the same fault. Rupture of the surface during earthquake events is generally limited to the narrow strip of land immediately adjacent to the fault on which the event is occurring. Surface ruptures associated with the 1992 Landers earthquake in San Bernardino County extended for a length of 50 miles, with displacements varying from 1 inch to 20 feet.

The law requires the State Geologist to establish regulatory zones (known as Earthquake Fault Zones) around the surface traces of active faults, and to issue appropriate maps. Numerous active and potentially active earthquake faults are mapped throughout the SCAG region **(Figure 3.7-2).** Detailed maps are distributed to all affected cities, counties, and state agencies for their use in planning new or

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23 Moment magnitude is related to the physical size of a fault rupture and movement across a fault. Richter magnitude scale reflects the maximum amplitude of a particular type of seismic wave. Moment magnitude provides a physically meaningful measure of the size of a faulting event. See Table 4.6-1 for the moment magnitudes associated with particular faults.

renewed construction. Local agencies must regulate most development projects within the zones, including all land divisions and most structures intended for human habitation. Fault surface rupture almost always follows preexisting faults, which are zones of weakness. Rupture may occur suddenly during an earthquake, or slowly in the form of fault creep. Sudden displacements are more damaging to structures because they are accompanied by ground shaking. Fault creep is the slow rupture of the earth's crust. Not all earthquakes result in surface rupture (e.g., the 1994 Northridge earthquake). Potentially active faults have demonstrated movement within Pleistocene period (approximately 1.6 million years ago). According to the CDMG, active and potentially active faults must be considered as potential sources of fault rupture.

Liquefaction and Ground Failure

Liquefaction has been responsible for ground failures during almost all of California's large earthquakes. The depth to groundwater can control the potential for liquefaction; the shallower the groundwater, the higher the potential for liquefaction. Earthquake-induced liquefaction most often occurs in low-lying areas with soils or sediments composed of unconsolidated, saturated, clay-free sands and silts, but can also occur in dry, granular soils, or saturated soils with some clay content. Within the SCAG region, liquefaction potential is a function of the potential level of ground shaking at a given location and depends on the geologic material at that location **(Figure 3.7-3, Areas of Potential Liquefaction).** Structural failure often occurs as sediments liquefy and cannot support structures that are built on them. Alluvial valleys and coastal regions are particularly susceptible to liquefaction. These areas can include but are not limited to flood plains and former wetlands such as Marina Del Rey, Playa Del Rey and areas near the Los Angeles River, the Santa Monica Bay, and Los Alamitos Bay in Los Angeles County, Areas in the vicinity the Santa Clara River, and Calluguas Creek outlets to the ocean in Ventura County. Additionally, there are areas in northern Los Angeles County that are susceptible to liquefaction as a result of existing geological conditions **(Figure 3.7-3).** Unconsolidated alluvial deposits in desert region deposits are rarely saturated because of the depth to the water table, and are thus, less susceptible to liquefaction than unconsolidated alluvium adjacent to stream channels.

Earthquake-Induced Subsidence

Settlement of the ground surface can be accelerated and accentuated by earthquakes. During an earthquake, settlement can occur as a result of the relatively rapid compaction and settling of subsurface materials (particularly loose, non-compacted, and variable sandy sediments) due to the rearrangement of soil particles during prolonged ground shaking. Settlement can occur both uniformly and differentially (i.e., where adjoining areas settle at different rates). Within the SCAG region, artificial fills, unconsolidated alluvial sediments, slope washes, and areas with improperly engineered construction-fills

typically underlie areas susceptible to this type of settlement. The July 2019 M7.1 Ridgecrest Earthquake and its preceding M6.4 and M5.4 foreshocks were felt across much of Southern California and into parts of Arizona, Nevada, and the San Francisco Bay Area. The M7.1 mainshock was the strongest earthquake to occur in the state in nearly 20 years. Although mobile homes, chimneys, and gas lines suffered damage, no major subsidence or landslide incidents were reported as a result of this earthquake.

Seismically Induced Landslides

Strong ground shaking during earthquake events can generate landslides and slumps in uplands or coastal regions near the causative fault. Seismically induced land sliding has typically been found to occur within 75 miles of the epicenter of a magnitude 6.5 earthquake. Seismically induced landslides would be most likely to occur in areas that have previously experienced landslides or slumps, in areas of steep slopes, or in saturated hillside areas. Areas of the SCAG region are susceptible to seismically induced land sliding because of the abundance of active faults in the region and the existing landslide hazards (**Figure 3.7-4 Areas of Potential Landslides**). Specifically, areas with high susceptibility to earthquake-induced landslides are concentrated along mountain ranges in the SCAG region: Santa Ana Mountains, San Gabriel Mountains, Santa Susanna Mountains, Santa Monica Mountains, Sulphur Mountain, San Jacinto Mountains, and the San Bernardino Mountains.

Earthquake-Induced Inundation and Tsunamis

Because the West Coast of the United States is seismically active, California is subject to flood hazard from tectonic activity capable of generating submarine earthquakes, volcanic eruptions, and landslides. Considering its proximity to the Pacific Ocean, the inundation by tsunamis (seismic sea waves) or seiches (oscillating waves in enclosed water bodies) can occur along the California coast in the event of significant earthquake. The SCAG region consists of approximately 150 miles of coastline. The coastline of SCAG region has been mapped as being in a location potentially subject to tsunamis and the existing tsunami warning system (**Figure 3.7-5, Areas Susceptible to Tsunamis**).[24] Additionally, several large water impoundments in the SCAG region also have the potential to induce seiche inundation. For purposes of a relative comparison, an earthquake with its epicenter in Alaska and with a magnitude of 8.5 (Richter scale) generated a seismically induced sea wave with a maximum wave height of 11 feet in the Monterey Harbor, on the central coast of California north of the SCAG region. The most recent historical tsunami to affect the coast of the SCAG region was in 2012, when a magnitude 7.5 earthquake

24 California State Department of Conservation. *California Official Tsunami Inundation Maps*. Available online at: https://www.conservation.ca.gov/cgs/tsunami/maps#Interactive, accessed June 24, 2019.

struck the Queen Charlotte Islands of the west coast of Canada. A resulting tsunami was 0.08 meter or 0.26 foot and occurred in Santa Monica.[25]

Soils and Geologic Materials

Soils within the SCAG region are classified by distinguishing characteristics and are arranged within soil associations.[26] Soils throughout the region differ in origin, composition, and slope development. Individual soil characteristics are important in determining the suitability of the soil for agricultural use or urbanized development. The formation of surficial soil depends on the topography, climate, biology, local vegetation, and the material on which the soil profile is developed. Although many soils in the SCAG region are suitable for agricultural uses, each soil type may have properties that could limit its uses and represent an agricultural or development hazard.[27] These limitations are listed and discussed below. **Figure 3.7-6, General Soil Types**, shows the general location of soil types contained within the SCAG region.

Erosion

Soil erosion is a natural ongoing process that transports, erodes, and displaces soil particles through a transport mechanism such as flowing water or wind. In addition, erosion results from manmade activity when soil coverings are stripped leaving the underlying soil exposed to the elements. Erosion is the physical detachment and movement of soil materials through natural processes or human activities. The determination of soil erosion potential is a complex process generally applied to site specific areas using the soil erodibility K factor index. The K factor combines the detachability of soil, runoff potential of the soil, and transportability of the sediment eroded from the soil into one measure for soil erodibility. The K factor is just one element of the RUSLE (Revised Universal Soil Loss Equation), which is used by government agencies to make erosion predictions for regulatory and conservation planning uses.

Determining areas of potential erosion is made more complex due to the substantial geomorphic diversity in the SCAG region. Generally, there is a high potential for erosion in mountainous areas and areas along the margins of mountainous areas, where there is a high intensity of rainfall and where the soils are considered erosive. Clay soils typically have low erodibility because the soil particles are

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25 California State Department of Conservation. *List of Historic Tsunamis in California.* Available online at: https://www.conservation.ca.gov/cgs/tsunami, accessed June 24, 2019.

26 Soil Association: A mapping unit consisting of a group of defined and taxonomic soil units occurring together in an individual and characteristic pattern over a geographic region.

27 U.S. Department of Agriculture, Soil Conservation Service. 1970. Soil Survey of Ventura Area, California. Washington, DC.

resistant to detachment. Soils having a high silt content are the most erosive as the particles are easily detached, tend to crust, and produce high rates of runoff.[28]

Soil

Three soil factors are strongly associated with soil erosion potential: texture, compactness, and structure. Of these, texture plays the most dominant role. Intermediate textured soil types, such as silt, tend to be most erodible, whereas clay and particles coarser than sand are more resistant to erosion. Slopes influence the rate and amount of runoff, and in turn influence erosion. Loose texture and steep slopes primarily result in high wind erosion potential in soils. Data on Soil Erodibility (K factor) from the State Water Resources Control Board indicates there are areas within the SCAG region with both moderate (K factor 0.25–0.45) and high susceptibility (K factor > 0.45) of erosion. In Ventura County, most of the Santa Monica Mountains and Topatopa Mountains are characterized by soils that are moderately susceptible to erosion. In Los Angeles County, most soils within the urbanized areas south of the San Gabriel Mountains are moderately susceptible to erosion. These soils continue southeast into Orange County where almost all of the land area is covered by soils moderately susceptible to erosion. In San Bernardino County, the majority of soils are not moderately or highly susceptible, however several pockets of moderately erodible soils exist throughout the county, particularly surrounding the Ivanpah and Piute Mountains and Lanfair and Ivanpah Valleys; one small area of highly erodible soil exists in the northeast corner of the county within the Mesquite Valley. Riverside County also features both moderately and highly susceptible erodible soils that are mainly concentrated in the western portion of the county immediately adjacent to the east and west of the Lakeview Mountains. Finally, Imperial County is covered by moderately erodible soils on its west side, surrounding the Salton Sea and extending south.[29]

Erosion caused by wind is most severe in arid regions where sandy or loamy sediments are not covered by vegetation and exposed to severe wind conditions, such as the eastern portions of San Bernardino, Riverside, and Imperial Counties. Human intervention can accelerate the natural erosion process. For instance, typical consequences of development increase erosion potential due to the removal of vegetative cover and reduction of overall permeable area. These activities can lead to increased water runoff rates and concentrated flows that have greater potential to erode exposed soils. The effects of excessive erosion range from nuisance problems that require additional maintenance, such as increased siltation in storm drains, to instances of more severe damage where water courses are down-cut and gullies develop. These

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28 Michigan State University, RUSLE Online Soil Erosion Assessment Tool. Available online at: http://www.iwr.msu.edu/rusle/kfactor.htm, accessed June 24, 2019.

29 California State Water Resources Control Board. RUSLE K Values. Available online at: https://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/constpermits/guidance/k_factor_map.pdf, accessed June 24, 2019.

processes can eventually undermine adjacent structures or topography. Human activities that disturb soils in arid regions also increase wind erosion potential. Many of the desert areas in the SCAG region are susceptible to blowing sand, a severe form of wind erosion that damages property and accumulates soil on roadways. The majority of the soils in the SCAG region exhibit moderate to high erosion potential, which can be compounded by development. **Figure 3.7-7, Soils with Moderate to High Erosion Potential**, shows the general location of soils within the SCAG region that exhibit moderate to high erosion potential.

Coastal

Coastal erosion is a natural process that is typically the most visible during storm events. Beach sand is replenished by sediment loads in rivers and gentler waves after storm events or during summer months. Erosion rates of 1 inch per year are considered moderate. However, depending on the severity and duration of storm events and the degree of human intervention with natural coastline or riverine processes, coastal erosion can proceed at considerable rates, resulting in rapid visible coastline recession. In areas of extreme coastal erosion, such as the cities of Rancho Palos Verdes and Malibu, slopes have been undercut by waves during storm events, causing slope failure and resulting in property damage and risks to human health and safety. The coastal regions of Los Angeles, Orange, and Ventura Counties are susceptible to wave erosion hazards.

The Pacific Ocean borders the Peninsular Ranges province and the Transverse Ranges Province on the west. Nearly all the sea cliffs along the coast display some sign of coastal erosion. Coastal retreat is attributable to various processes, including undercutting from wave action, weathering and erosion of rocks and cliffs, emergence of groundwater at the cliff face, rain-wash, and land sliding. Additionally, these naturally occurring forces can be assisted by human activity such as coastal road construction, channelization of surface water flows, or development on marine terraces.

Expansive Soils

Expansive soils possess a "shrink-swell" behavior. Shrink-swell is the cyclic change in volume (expansion and contraction) that occurs in fine-grained clay sediments from the process of wetting and drying. Structural damage may result over a long period of time, usually the result of inadequate soil and foundation engineering or the placement of structures directly on expansive soils. Typically, soils that exhibit expansive characteristics comprise the upper 5 feet of the surface. The effects of expansive soils could damage foundations of aboveground structures, paved roads and streets, and concrete slabs. Expansion and contraction of soils, depending on the season and the amount of surface water infiltration,

could exert enough pressure on structures to result in cracking, settlement, and uplift. Locations of expansive soils are site-specific and can generally be remedied through standard engineering practices.

Unstable Soil Conditions

Settlement

Loose, soft soil material comprised of sand, silt and clay, if not properly engineered, has the potential to settle after a building is placed on the surface. Settlement of the loose soils generally occurs slowly but over time can amount to more than most structures can tolerate. Building settlement could lead to structural damage such as cracked foundations and misaligned or cracked walls and windows. Settlement problems are site-specific and can generally be remedied through standard engineering applications.

Land Subsidence

Land subsidence is caused by a variety of agricultural, municipal or mining practices that contribute to the loss of support materials within a geologic formation. Agricultural practices can cause oxidation and subsequent compaction and settlement of organic clay soils or hydro-compaction allowing land elevations to lower or sink. Agricultural and municipal practices can result in the overdraft of a groundwater aquifer thereby causing aquifer settlement. Groundwater overdraft occurs when groundwater pumping from a subsurface water-bearing zone (aquifer) exceeds the rate of aquifer replenishment. The extraction of mineral or oil resources can also result in subsidence from removal of supporting layers in the geologic formation. Substantial subsidence occurs in the SCAG region due to groundwater extraction and subsequent lowering of the groundwater surface, typically beneath a confining clay stratum. Land subsidence can also result from persistent and prolonged drought. Prolonged drought can also exacerbate the above causes of subsidence as in the case of groundwater extraction for agricultural purposes. As there is less surface water available, more groundwater is extracted, thus increasing the potential for subsidence.[30]

The impact of subsidence could include lowering of the land surfaces, increased potential for flooding, potential disturbance or damage to transportation infrastructure, buried pipelines and associated structures, and damage to structures designed with minimal tolerance for settlement. Historic occurrences of land subsidence due to groundwater extraction are reported in the SCAG region within

[30] U.S. Geological Survey. n.d. Areas of Land Subsidence in California. Available online at: http://ca.water.usgs.gov/land_subsidence/california-subsidence-areas.html, accessed July 23, 2019.

Antelope Valley, Coachella Valley, and the Mojave River Basin Area. With groundwater level declines as high as 300 feet in some areas, subsidence has caused permanent damage to many of these landscapes.[31]

Landslides

Landslides are the rapid downslope movement of a mass of material that moves as a unit and carries with it all the loose material above bedrock. Landslides occur more frequently on steep slopes or after periods of heavy rain due to the additional weight of water and its lubricating qualities. The material in the slope and external processes such as climate, topography, slope geometry, and human activity can render a slope unstable and eventually initiate slope movements and failures. Changes in slope material such as improperly engineered fill slopes can alter water movement and lead to chemical and physical changes within the slope. Unfavorable fracture or joint orientation and density may develop as a rock material responds to reduced weight or strain relief, resulting in a decreased ability of the rock material to resist movement. Removing the lower portion (the toe) decreases or eliminates the support that opposes lateral motion in a slope. This can occur by man-made activity such as excavations for road-cuts located along a hillside. Oversteepening a slope by removing material can also reduce its lateral support. Placement of buildings on slopes can increase the amount of stress that is applied to a potential failure surface. Shaking during an earthquake may lead materials in a slope to lose some cohesion, cause liquefaction, or change pore water pressures. Landslide-susceptible areas within the SCAG region are those with low-strength soil material on hilly topography, for example, the Portuguese Bend and Point Fermin areas of the Palos Verdes Peninsula, and the Blackhawk slide area on the north slope of the San Bernardino Mountains. Factors that decrease resistance to movement in a slope include pore-water pressure, material changes, and structure.

Soils Capable of Supporting Septic Tanks or Alternative Waste Water Disposal Systems

The California State Water Resources Control Board has specific guidelines and requirements with regard to soil suitability for septic tanks and alternative waste water disposal systems in their publication 3.2C-Construction Practices – Onsite Wastewater Treatment Systems (OWTS).[32] Soils with poorly or excessively drained soils are generally not suitable for septic tanks or alternative waste water disposal

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31 California Water Foundation. April 2014. Land Subsidence from Groundwater Use in California. Available online at: https://water.ca.gov/LegacyFiles/waterplan/docs/cwpu2013/Final/vol4/groundwater/13Land_Subsidence_Groundwater_Use.pdf, accessed June 24, 2019.

32 California State Water Resources Control Board. 3.2C – Construction Practices – Onsite Wastewater Treatment Systems (OWTS). Available online at: https://www.waterboards.ca.gov/water_issues/programs/nps/encyclopedia/3_2c_const_owts.html, accessed June 24, 2019.

systems.[33] According to the U.S. Environmental Protection Agency, it is recommended that onsite wastewater disposal systems incorporate native soil knowledge into system design to prevent groundwater contamination and ensure long-term performance. Most often, a percolation test is performed to assess the infiltration rate and soil texture, both of which determine the site suitability for a waste water disposal system. As it is difficult to assess site suitability without on-site testing, suitability in the SCAG region would be determined on a per project basis according to all local, regional, and state requirements.[34]

3.7.2 REGULATORY FRAMEWORK

3.7.2.1 Federal

Earthquake Hazards Reduction Act

The Earthquake Hazards Reduction Act of 1977 (Public Law 95-124) established the National Earthquake Hazards Reduction Program which is coordinated through the Federal Emergency Management Agency (FEMA), the U.S. Geological Survey (USGS), the National Science Foundation, and the National Institute of Standards and Technology. The purpose of the Program is to establish measures for earthquake hazards reduction and promote the adoption of earthquake hazards reduction measures by federal, state, and local governments; national standards and model code organizations; architects and engineers; building owners; and others with a role in planning and constructing buildings, structures, and lifelines through (1) grants, contracts, cooperative agreements, and technical assistance; (2) development of standards, guidelines, and voluntary consensus codes for earthquake hazards reduction for buildings, structures, and lifelines; and (3) development and maintenance of a repository of information, including technical data, on seismic risk and hazards reduction. The Program is intended to improve the understanding of earthquakes and their effects on communities, buildings, structures, and lifelines through interdisciplinary research that involves engineering, natural sciences, and social, economic, and decisions sciences.

Disaster Mitigation Act (2000)

The federal Disaster Mitigation Act (DMA; Public Law 106-390) provides the legal basis for FEMA mitigation planning requirements for state, local, and Indian Tribal governments as a condition of mitigation grant assistance. DMA 2000 amended the Robert T. Stafford Disaster Relief and Emergency

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33 Ibid.

34 U.S. Environmental Protection Agency. Website. Available at: http://water.epa.gov/aboutow/owm/upload/2004_07_07_septics_septic_2002_osdm_all.pdf, accessed July 22, 2019.

Assistance Act by repealing the previous mitigation planning provisions and replacing them with a new set of requirements that emphasize the need for state, local, and Indian Tribal entities to closely coordinate mitigation planning and implementation efforts. The requirement for a state mitigation plan is continued as a condition of disaster assistance, adding incentives for increased coordination and integration of mitigation activities at the state level through the establishment of requirements for two different levels of state plans. DMA 2000 also established a new requirement for local mitigation plans and authorized up to 7 percent of Hazard Mitigation Grand Program funds available to a state for development of state, local, and Indian Tribal mitigation plans.

Clean Water Act Section 402

Section 402 of the Clean Water Act (33 U.S. Code Section 1251 et seq.) establishes a framework for regulating municipal and industrial stormwater discharges under the National Pollutant Discharge Elimination System (NPDES) program. The NPDES program controls water pollution by regulating point sources that discharge pollutants, including rock, sand, dirt, and agricultural, industrial, and municipal waste, into waters of the United States. The Environmental Protection Agency has delegated to the State Water Resources Control Board the authority for the NPDES program in California, which is implemented by the State's nine Regional Water Quality Control Boards. Under the NPDES Phase II Rule, construction activity disturbing 1 or more acres must obtain coverage under the State's General Permit for Discharges of Storm Water Associated with Construction Activity (General Construction Permit). As described further in **Section 3.10, Hydrology and Water Quality,** the Construction General Permit requires that applicants develop and implement a Stormwater Pollution Prevention Plan (SWPPP), which specifies best management practices (BMPs) that reduce pollution in stormwater discharges to the Best Available Technology Economically Achievable/Best Conventional Pollutant Control Technology standards and perform inspections and maintenance of all BMPs.

U.S. Geological Survey Landslide Hazard Program

The USGS Landslide Hazard Program provides information on landslide hazards including information on current landslides, landslide reporting, real time monitoring of landslide areas, mapping of landslides through the National Landslide Hazards Map, local landslide information, landslide education, and research.

3.7.2.2 State

Alquist-Priolo Earthquake Fault Zoning Act (Alquist-Priolo Act)

The Alquist-Priolo Act (California Code of Regulations, Section 3603(f)) provides policies and criteria to assist cities, counties, and state agencies in the development of structures for human occupancy across the trace of active faults. The Alquist-Priolo Act was intended to provide the citizens of the state with increased safety and to minimize the loss of life during and immediately following earthquakes by facilitating seismic retrofitting to strengthen buildings, including historical buildings, against ground shaking.

Alquist-Priolo Special Study Zones

The Alquist-Priolo Act requires that special geologic studies be conducted to locate and assess any active fault traces in and around known active fault areas prior to development of structures for human occupancy. This state law was a direct result of the 1971 San Fernando Earthquake, which was associated with extensive surface fault ruptures that damaged numerous homes, commercial buildings, and other structures. The Alquist-Priolo Act's main purpose is to prevent the construction of buildings used for human occupancy on the surface trace of active faults. This Act addresses only the hazard of surface fault rupture and is not directed toward other earthquake hazards.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act of 1990 (Public Resources Code, Chapter 7.8, Sections 2690–2699.6) addresses non-surface fault rupture earthquake hazards, including liquefaction and seismically induced landslides. The purpose of the Act is to protect the public from the effects of strong ground shaking, liquefaction, landslides, or other ground failure, and other hazards caused by earthquakes. The program and actions mandated by the Seismic Hazards Mapping Act closely resemble those of the Alquist-Priolo Act.

In addition to the Seismic Hazards Mapping Act, the CGS provides guidelines (Guidelines for Evaluating and Mitigating Seismic Hazards in California) for evaluating seismic hazards other than surface fault rupture, and for mitigation measures as required by PRC Section 2695(a). The most current guidelines are provided in Special Publication 117A of 2008.

California Building Code

The California Building Code (CBC) is a compilation of building standards codified in the California Code of Regulations, Title 24, Part 2. The provisions of the CBC apply to the construction, alteration,

movement, replacement, location, and demolition of every building or structure in California. The CBC is published on a triennial basis, and supplements and errata can be issued throughout the cycle. The 2016 edition of the CBC became effective on January 1, 2017, and is based on the 2015 International Building Code (IBC) of the International Code Council, with California amendments. The 2016 CBC incorporates the latest seismic design standards for structural loads and materials, as well as provisions from the National Earthquake Hazards Reduction Program to mitigate losses from an earthquake.

CBC standards are based on the following:

- Building standards that have been adopted by state agencies without change from a national model code such as the IBC;
- Building standards based on a national model code that have been changed to address conditions specific to California; and
- Building standards authorized by the California legislature but not covered by the national model code.

The CBC includes provisions for demolition and construction, as well as regulations regarding building foundations and soil types to protect people and property from hazards associated with falling debris or construction processes. Seismic standards within the CBC are among the strictest in the world due to California's susceptibility to earthquakes and other seismic events.

California Department of Transportation (Caltrans) Regulations

Caltrans' jurisdiction includes rights-of-way (ROWs) of state and interstate routes within California. Any work within the ROW of a federal or state transportation corridor is subject to Caltrans' regulations governing allowable actions and modifications to the ROW. Caltrans issues permits to encroach on land within their jurisdiction to ensure encroachment is compatible with the primary uses of the State Highway System, to ensure safety, and to protect the state's investment in the highway facility. The encroachment permit requirement applies to persons, corporations, cities, counties, utilities, and other government agencies. A permit is required for specific activities including opening or excavating a state highway for any purpose, constructing, or maintaining road approaches or connections, grading within rights-of-way on any state highway, or planting or tampering with vegetation growing along any state highway. The encroachment permit application requirements relating to geology, seismicity and soils include information on road cuts, excavation size, engineering and grading cross-sections, hydraulic calculations, and mineral resources approved under Surface Mining Area Reclamation Act (SMARA).

Caltrans Seismic Design Criteria

Caltrans Seismic Design Criteria was initiated through the recognition that past earthquakes in California have shown the vulnerability of some older structures, designed with non-ductile design standards to earthquake-induced force sand deformations. As a result, Caltrans initiated an extensive seismic retrofit program to strengthen the state's inventory of bridges to ensure satisfactory performance during anticipated future earthquakes. Caltrans has funded an extensive research program as well as developed design procedures that have furthered the state of practice of earthquake bridge engineering. The Seismic Design Criteria (SDC) are an encyclopedia of new and currently practiced seismic design and analysis methodologies for the design of new bridges in California. The SDC adopts a performance-based approach specifying minimum levels of structural system performance, component performance, analysis, and design practices for ordinary standard bridges. Bridges with non-standard features or operational requirements above and beyond the ordinary standard bridge may require a greater degree of attention than specified by the SDC.

Southern California Catastrophic Earthquake Preparedness Plan

The Southern California Catastrophic Earthquake Preparedness Plan, based on the California Geological Survey and USGS's ShakeOut Scenario of 2008, was released in 2010 and examines the initial impacts, inventories resources, cares for those wounded and homeless, and develops a long-term recovery process. The process of Long-Term Regional Recovery (LTRR) provides a mechanism for coordinating federal support to state, tribal, regional, and local governments, nongovernmental organizations (NGOs), and the private sector to enable recovery from long-term consequences of extraordinary disasters. The LTRR process accomplishes this by identifying and facilitating the availability and use of recovery funding sources and providing technical assistance (such as impact analysis) for recovery and recovery planning support. "Long term" refers to the need to reestablish a healthy, functioning region that would sustain itself over time. Long-term recovery is not debris removal and restoration of utilities, which are considered immediate or short-term recovery actions. The LTRR's three main focus areas are housing, infrastructure (including transportation), and economic development.

3.7.2.3 Local

County and City General Plans

A safety element is required in county and city general plans for the protection of the community from any unreasonable risks associated with the effects of seismically induced surface rupture, ground shaking, ground failure, tsunami, seiche, and dam failure; slope instability leading to mudslides and landslides; subsidence; liquefaction; and other seismic hazards identified in Division 2 of the Public

Resources Code, and other geologic hazards known to the legislative body. The safety element shall include mapping of known seismic and other geologic hazards (Government Code Section 65302 (g)). **Table 3.7-1** and **Figure 3.7-2** above show the potentially active faults in the SCAG region. As part of the safety element, county and city governments typically identify goals, objectives, and implementing actions to minimize the loss of life, property damage, and disruption of goods and services from man-made and natural disasters including floods, fires, non-seismic geologic hazards, and earthquakes. County and City governments may provide policies and develop ordinances to ensure acceptable protection of people and structures from risks associated with these hazards. Ordinances may include those addressing unreinforced masonry construction, erosion, or grading.

3.7.3 ENVIRONMENTAL IMPACTS

3.7.3.1 Thresholds of Significance

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

- Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

    (i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

    (ii) Strong seismic ground shaking.

    (iii) Seismic-related ground failure, including liquefaction.

    (iv) Landslides.

- Result in substantial soil erosion or the loss of topsoil.

- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.

- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property.

- Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

3.7.3.2 Methodology

This section evaluates hazards to people or property from geology and soils, identifies mitigation measures for the impacts, and evaluates the residual impacts. The potential for hazards to people and property from geology and soils was evaluated in accordance with Appendix G of the 2019 State California Environmental Quality Act (CEQA) Guidelines. Geology and soils within the SCAG region were evaluated at the programmatic level of detail, in relation to the general plans of the six counties and the 191 cities within the SCAG region, review of general information characterizing geology and soils from the Dibblee Maps and maps of Alquist-Priolo zones and mapping of seismic zones and movement that has occurred along mapped earthquake faults and review of published and unpublished literature germane to the SCAG region.. The methodology for determining the significance of potential risk to people and property in relation hazards posed by geology and soils compares the existing conditions to the future 2045 conditions under the Plan, as required by *CEQA Guidelines* Section 15126.2(a).

To assess potential impacts to residences and businesses adjacent to transportation corridors, geographic information systems (GIS) was used to assess seismic and geologic impacts by overlaying data in GIS format on the location of areas known to pose seismic or geologic hazards in the SCAG region. Specifically, the Major Transportation Projects[35] and urban development patterns from the land use strategies included in the Plan were plotted on maps that identify potential hazards, such as known faults, high ground acceleration areas, areas exhibiting landslide potential, and areas with highly erodible soils in the SCAG region. A 500-foot-wide buffer was created along transportation project segments to identify potential seismic and geologic hazards and to determine whether such hazards could impact transportation projects included in the Plan. **Table 3.7-2, Potential Geologic Hazards Impacts from the Plan**, and **Figure 3.7-8, Connect SoCal Projects in Relation to Geologic Hazards**, show the results of this analysis.

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

Table 3.7-2
Potential Geologic Hazards Impacts from the Plan

County	Potential Liquefaction (acres)	Potential Earthquake Induced Landslides (acres)
Imperial	n/a	N/a
Los Angeles	14,343.88	736.34
Orange	4,197.14	152.85
Riverside	46.02	6.16
San Bernardino	0.15	
Ventura	2591.39	106.51
Total SCAG Area	**21,179**	**1,002**

Source: SCAG GIS analysis and data, 2019
Note: data for Imperial County is not available

In 2015, the California Supreme Court in *California Building Industry Association v. Bay Area Air Quality Management District (CBIA v. BAAQMD* (2015) 62 Cal.4th 369), held that CEQA generally does not require a lead agency to consider the impacts of existing environmental conditions on the future residents or users of a project. However, if a project risks exacerbating preexisting environmental hazards or conditions, the lead agency is required to analyze the impact of that exacerbated condition on the environment, which may include future residents and users within the project area. Generally, transportation and land use projects under the Plan would not exacerbate existing environmental hazards related to geological and soil conditions, nonetheless, consistent with past practice, information is presented on geologic hazards at the regional level that may be of use to local jurisdictions or other readers of the Plan or PEIR.

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

3.7.3.3 Impacts and Mitigation Measures

Impact GEO-1 **Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: (i) rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42; (ii) strong seismic ground shaking; (iii) seismic-related ground failure, including liquefaction; (iv) landslides.**

Less than Significant Impact.

Connect SoCal identifies new transit and rail routes, expansion highway routes and other facilities, all of which are subject to seismic events to some degree (See **Table 3.7-1**). Seismic events can damage transportation infrastructure and urban development through surface rupture, ground shaking, liquefaction, and landslides. As illustrated in **Table 3.7-1**, numerous active faults are known to exist in the SCAG region that could potentially generate seismic events capable of significantly affecting existing structures and transportation projects analyzed in the Plan. Also, as described in the existing setting, it is expected there are unknown faults that could also significantly damage transportation infrastructure or the built environment. The plan contains transportation projects that would be located in areas prone to landslide, liquefaction and/or erosion. Indirect impacts could also promote additional delays and breaks in service while repairs are made. The potential for transportation projects and anticipated development projects to be significantly affected by liquefaction would be higher in areas exhibiting shallow groundwater levels and unconsolidated soils such as fill material, some alluvial soils, and coastal sands. As shown in **Table 3.7-2**, **Potential Geologic Hazards Impacts from the Plan,** approximately 21,000 acres of land are within 500 feet of Plan transportation projects. Potential hazards associated with liquefaction would be addressed through site-specific geotechnical studies required by local jurisdictions in accordance with standard industry practices and state-provided guidance, such as CGS Special Publication 117A, which specifically address liquefaction.

The land use strategies would have the potential to direct more growth into existing urban centers, walkable mixed-use communities, transit-oriented development, and other areas well-served by transit such as high-quality transit areas (HQTAs). Increased density could increase the number of people and structures exposed to potential fault rupture at a given location. For example, if a fault were to rupture adjacent to an urban center more people would be affected than if fault rupture were to occur in a remote area of the region with few people (as was the case with the Ridgecrest earthquake). Strength of a

particular earthquake and proximity to the fault would also be factors in how many people are affected by an earthquake.

Implementation of the Plan would result in projects exposed to both direct and indirect effects of seismic activities compared to existing conditions. However, the Plan would neither cause nor exacerbate existing geologic hazards, including the likelihood of fault rupture. This condition exists throughout the SCAG region as it is a seismically active area.

Transportation projects would be in proximity to known faults, increases in population would also result in people being located near known faults. Potential direct impacts from surface rupture and severe ground shaking could cause catastrophic damage to transportation infrastructure, including overpasses and underground structures. Indirect impacts from seismic events could damage ancillary transportation facilities such as port facilities, traffic control equipment, and train stations. With regard to land use development, seismic activity can cause damage to existing structures designed due to substandard construction. Further, as noted above, earthquakes can occur within previously undetected fault zones. For example, the July 2019 Ridgecrest earthquakes occurred within previously undetected fault zones and caused an excess of $100 million in damages.[36] A catastrophic earthquake on the San Andreas Fault would have the potential to cause 1,800 fatalities, displace 9 million people, and cause more than $200 billion in damages.[37]

The Alquist-Priolo Act prohibits the location of structures for human occupancy across active faults. Local jurisdictions require a surface fault rupture hazard investigation for any development project that would be located within an Alquist-Priolo Earthquake Fault Zone. This is to ensure that proposed development would not be located astride an active fault. In addition, the CBC contains numerous regulations designed to address seismic hazards.

New or seismically retrofitted structures designed with current state of the art engineering knowledge and compliance with local or state building codes (California Building Code, Uniform Building Code[38]) also reduce potential damage to structures and minimize the seismic impacts to the public. For example, the City of Los Angeles has issued mandatory retrofitting notices to owners of soft-story buildings under

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36 CBS News, *Recent California Earthquakes a Stark Warning for Los Angeles, July 8, 2019.* Available online at: https://www.cbsnews.com/news/california-earthquakes-a-stark-warning-for-los-angeles-ridgecrest-trona/, accessed September 5, 2019.

37 United States Geological Survey. 2008. *The Shake Out Scenario*. Available online at: http://pubs.usgs.gov/of/2008/1150/of2008-1150.pdf

38 California Building Standards Commission. 2016. *2016 California Building Standards Code*. Available online at: https://www.dgs.ca.gov/BSC/Codes, accessed May 21, 2019.

Ordinance 183893 and 184081. As of October 2019, approximately 82 percent of property owners receiving notices have submitted plans to retrofit or provide proof of a past retrofit.[39]

As discussed above, implementation of the Plan would not exacerbate existing geologic hazards including fault rupture because the SCAG region is a seismically active area, and this condition exists throughout the region. Furthermore, there are numerous regulations in place to reduce such risks to any planned development or transportation project, and therefore, the potential impacts of the Plan with regard to fault rupture are less than significant. No mitigation measures are necessary.

Impact GEO-2 Result in substantial soil erosion or the loss of topsoil.

Significant and Unavoidable Impact – Mitigation Required.

Implementation of transportation projects included in the Plan as well as growth under the Plan, particularly projects involving large-scale ground disturbance during construction such as grade separation projects, mixed flow lane projects, and rail projects may result in significant impacts from soil erosion or the loss of topsoil. In addition, urban development patterns encouraged by the land use strategies that direct more growth into existing urban areas, walkable mixed-use communities, and areas well-served by transit such as HQTAs could also result in soil erosion or loss of topsoil constituting a significant impact.

Soil erosion and its subsequent loss are the result of the actions of water and wind. The likelihood of erosion is higher with an increase in slope, the narrowing of runoff channels, and the removal of groundcover such as vegetation. Human activities associated with development such as grading, particularly on slopes, increase the risk for erosion in affected areas. Erosion also increases the risks of dust storms which can degrade air quality.

Several transportation projects included in the Plan would involve major construction of new facilities that may involve rail lines, highway segments, or other urban development patterns that would be within previously undisturbed areas which may result in soil erosion and the loss of topsoil. Some transportation projects and anticipated development projects may also require significant earthwork including cuts into hillsides, which could become unstable over time, increasing long-term erosion potential. Strategies that encourage denser development could also contribute to loss of topsoil through construction of underground parking garages.

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39 City of Los Angeles. *Soft Story Retrofit Program.* Available online at: http://www.ladbs.org/services/core-services/plan-check-permit/plan-check-permit-special-assistance/mandatory-retrofit-programs/soft-story-retrofit-program, accessed October 23, 2019.

Improvements and modifications to existing rights-of-way, such as HOV lanes, HOT lanes, new busways and capacity enhancement facilities, mixed flow lanes, and ROW maintenance, would have less potential to impact topsoil because these project locations have previously been disturbed. However, road cuts could expose soils to erosion over the life of the project, creating potential landslide and falling rock hazards. Engineered roadways could be undercut over time by storm water drainage and wind erosion. Some areas would be more susceptible to erosion than others due to the naturally occurring soils with high erosion potential.

Figure 3.7-8, Connect SoCal Projects in Relation to Geologic Hazards, shows the location of projects identified in the Plan in relation areas with soils subject to moderate and high potential for soil erosion.

Notwithstanding natural soil types, engineered soils can also erode due to poor construction methods and design features or lack of maintenance. Transportation projects included in the Plan are in areas susceptible to geologic hazards including high soil erodibility. Construction of additional lanes on freeways, other transportation facilities or development could also potentially result in the loss of topsoil, through grading, trenching, excavation, and/or soil removal.

The Plan includes coordinated and integrated regional strategies for transportation investments and land use growth that aim to focus more development in urbanized areas such as HQTAs, livable corridors, neighborhood mobility areas, and walkable, mixed- used communities. This focus on compact development would not be expected to result in an increase in slope instability as much of the anticipated development would be in already developed areas served by transit and other existing infrastructure. However, some of the anticipated development could require earthwork or otherwise result in soil erosion or slope failure, thus creating a significant impact.

Throughout California, the Regional Water Quality Control Boards (RWQCB) set erosion control standards because one of the major effects of grading is sedimentation of receiving waters. These control standards are administered via the NPDES permit process for storm drainage discharge. One of the requirements of this permit is the implementation of nonpoint source control of stormwater runoff through the application of Best Management Practices (BMPs). A Storm Water Pollution Prevention Plan (SWPPP) is required by the RWQCB to describe the BMPs that would control both the quality and amount of stormwater runoff on a project site. Erosion and sedimentation issues are addressed more fully in **Section 3.10, Hydrology and Water Quality**. Transportation projects and development that would occur under the Plan would be required to comply with this process.

Because projects would be required to comply with existing state and local jurisdiction permitting, regulatory, and grading processes as well as the application of BMPs, impacts may be reduced. However,

given the large number of projects in the Plan and wide variety of project conditions including soil types and slopes, this impact is considered significant.

Mitigation Measures

SCAG Mitigation Measure

SMM-GEO-1: SCAG shall facilitate the minimization of substantial soil erosion or loss of topsoil through cooperation, information sharing, and regional program development as part of SCAG's ongoing regional planning efforts. Such efforts shall include web-based planning tools for local government including CA LOTS, and other GIS tools and data services, including, but not limited to, Map Gallery, GIS library, and GIS applications, and direct technical assistance efforts such as training series and sharing of associated online training materials. Resource agencies, such as the U.S. Geology Survey, shall be consulted during this update process.

Project Mitigation Measures

PMM-GEO-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to historical resources. Such measures may include the following or other comparable measures identified by the Lead Agency:

a) Consistent with the CBC and local regulatory agencies with oversight of development associated with the Plan, ensure that site-specific geotechnical investigations conducted by a qualified geotechnical expert are conducted to ascertain soil types prior to preparation of project designs. These investigations can and should identify areas of potential failure and recommend remedial geotechnical measures to eliminate any problems.

b) Consistent with the requirements of the State Water Resources Control Board (SWRCB) for projects over one acre in size, obtain coverage under the General Construction Activity Storm Water Permit (General Construction Permit) issued by the SWRCB and prepare a stormwater pollution prevention plan (SWPPP) and submit the plan for review and approval by the Regional Water Quality Control Board (RWQCB). At a minimum, the SWPPP should include a description of construction materials, practices, and equipment storage and maintenance; a list of

pollutants likely to contact stormwater; site-specific erosion and sedimentation control practices; a list of provisions to eliminate or reduce discharge of materials to stormwater; best management practices (BMPs); and an inspection and monitoring program.

c) Consistent with the requirements of the SWRCB and local regulatory agencies with oversight of development associated with the Plan, ensure that project designs provide adequate slope drainage and appropriate landscaping to minimize the occurrence of slope instability and erosion. Design features should include measures to reduce erosion caused by storm water. Road cuts should be designed to maximize the potential for revegetation.

d) Consistent with the CBC and local regulatory agencies with oversight of development associated with the Plan, ensure that, prior to preparing project designs, new and abandoned wells are identified within construction areas to ensure the stability of nearby soils.

Level of Significance after Mitigation

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

Impact GEO-3 **Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.**

Less than Significant Impact.

Lateral spreading is a phenomenon where large blocks of intact soil move downslope in a rapid fluid-like flow movement. This is usually associated with liquefaction events. The mass moves towards an

unconfined area, such as downslope on slopes as small as one degree. Lateral spreading often occurs along riverbanks, where soft soils are often present, as well as in other areas prone to liquefaction.

Subsidence has historically occurred within the SCAG region due to groundwater overdraft and petroleum extraction. **Table 3.7-2, Potential Geologic Hazards Impacts from the Plan,** shows the acres of land within each County (except Imperial) where transportation projects in the Plan intersect with areas prone to liquefaction and earthquake-induced landslides. **Figure 3.7-8, Connect SoCal Projects in Relation to Geologic Hazards,** shows the location of the Plan transportation projects in relation to these areas. Unconsolidated soils containing petroleum or groundwater often compress when the liquids are removed causing the surface elevation to decrease. Improperly abandoned oil wells or underground hard rock mining can also cause localized subsidence. Areas of historic subsidence within the SCAG region exist in the Santa Clara River Valley and in the historic oil and gas fields of Los Angeles County including the Baldwin Hills, Long Beach, Pomona Chino, Puente Hills, and Antelope Valley areas. Subsidence has also occurred in the Coachella Valley and Murrieta/Temecula areas in Riverside County, Troy Lake, Lucerne Lake, Lucerne Valley, Harper Dry Lake, and Fort Irwin in San Bernardino County, the Santa Ana basin in Orange County, and the Oxnard Plan and Santa Clarita Calleguas Basin in Ventura County. The Port of Long Beach has also experienced subsidence due to the placement of fill along the original coastline.[40] Subsidence can also occur in areas with unconsolidated soils that have not historically shown elevation changes.

Slope failure results in landslides and mudslides from unstable soils or geologic units. As discussed above, construction of transportation projects and development included in the Plan, may require substantial earthwork and road cuts, increasing the potential for slope failure.

Section 1613 of the CBC states that projects located in liquefaction zones shall incorporate seismic design features into both grading and construction plans. Any on-site grading and site preparation activities must comply with the CBC, described above, which addresses grading and excavations. The requirements laid out therein are considered minimum standards for the design and construction of buildings, particularly for those located on soils that are unstable or that have the potential to be unstable. Additionally, local jurisdictions require that the recommendations contained within the geotechnical report to be implemented by the individual project applicant.

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40 State of California Department of Water Resources. 2014. *Summary of Recent, Historical, and Estimated Potential for Future Land Subsidence in California*. Available online at: https://water.ca.gov/LegacyFiles/groundwater/docs/Summary_of_Recent_Historical_Potential_Subsidence_in_CA_Final_with_Appendix.pdf, accessed May 21, 2019.

Hazards associated with unstable soils or geologic units are dependent on site-specific conditions, as well as the specific nature of the individual project proposed. However, implementation of transportation projects and development projects anticipated to occur under the Plan would not be expected to exacerbate existing conditions with respect to geologic units and existing soils. With adherence to grading permit and building code requirements, including seismic design criteria as required by the CBC, transportation projects and anticipated development projects would be designed to minimize potential risks related to unstable soils and geologic units. Therefore, the potential for landslide, lateral spreading, subsidence, liquefaction, or other collapse impacts related to the implementation of transportation projects and anticipated development projects under the Plan, is considered less than significant and no mitigation is required.

Impact GEO-4 **Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.**

Less than Significant Impact.

Development of transportation projects, particularly projects involving large-scale ground disturbance during construction such as grade separation projects, mixed flow lane projects, and rail projects, and compact development strategies, may expose people and structures to risks where located on expansive soils. Soils with high percentages of clay can expand when wet, causing structural damage to surface improvements. These clay soils can occur in localized areas throughout the SCAG region, making it necessary to survey project areas extensively prior to construction. Expansive soils are generally removed during foundation work to avoid structural damage. The Plan assumes 60 percent of the new residential growth and 73 percent of new employment growth would occur within Growth Priority Areas, where expansive soils may have already been removed. However, expansive soils may remain in many parts of the SCAG region.

Transportation projects and anticipated development under the Plan would not be expected to exacerbate existing conditions with respect to expansive soils. Expansive soil conditions would be addressed through the integration of geotechnical information in the design process for development projects to determine whether a site is suitable for a project. Industry practice and state-provided guidance would minimize risk associated with geologic hazards. Compliance with CBC requirements as well as adherence to local building codes and ordinances would reduce hazards relating to expansive soils, and as such, impacts remain less than significant.

Impact GEO-5 **Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.**

Less than Significant Impact.

The Plan includes transportation investments and the regional land use strategies that are intended to produce more dense development in well-served transit areas. These land use strategies encourage compact development in HQTAs, and more walkable, mixed-use communities to accommodate the anticipated growth of 3.2 million people by 2045. The Plan does not encourage or anticipate residential development in areas where sewers are not available for the disposal of wastewater or where densities would not support the provision of sanitary sewers. the Plan's transportation projects would not require septic tanks or alternative wastewater disposal systems. Moreover, the Growth Priority Areas are well served by sanitary sewer systems. To the extent septic tanks and alternative wastewater disposal systems may be required in more rural areas, septic tanks and alternative wastewater disposal systems are heavily regulated at the state, regional, and local level. Local jurisdictions also have general plans that contain policies and implementation measures, including BMPs relevant to the use of septic tanks or alternative water disposal system. County environmental health departments regulate septic tanks through measures such as requiring a Sewage Disposal Permit for construction, reconstruction, repair, or abandonment of septic tanks. Therefore, impacts from having soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater would be less than significant, and no mitigation measures are required.

Impact GEO-6 **Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.**

Significant and Unavoidable Impacts - Mitigation Required.

As discussed in the environmental setting section of this chapter, geologic units considered sensitive for paleontological resources are widespread in the Plan area. These units, such as the shallow marine deposits, such as the San Pedro Sans and the Palos Verdes Sand may yield marine and terrestrial fossils. These units are common along coastal southern California, including Ventura, Los Angeles, and Orange Counties in the SCAG region. Many abundant fossil localities have been collected from excavations in San Pedro around the Port of Los Angeles, where the setting is very similar to that of the program area, with artificial fill covering old marine deposits. These deposits have yielded thousands of specimens of marine invertebrates that are significant for reconstructing changes in shallow marine ecosystems.

Potential impacts to paleontological resources would be more likely to occur from ground-disturbing activities associated with transportation projects and development projects anticipated to occur under the Plan rather than during ongoing operations. Direct permanent impacts to paleontological resources as a result of the Plan may result from ground disturbance associated with construction. Ground-disturbing activities such as excavation for building foundations and bridges, trenching for utility lines, tunneling, and grading, could damage or destroy sensitive paleontological resources on or near the surface or at depth. Construction in previously undisturbed areas and deep excavation activities would have the greatest probability to impact intact buried paleontological resources. The potential for direct impacts to paleontological resources may be comparatively less for improvements to existing facilities and modifications to existing rights-of-way since these areas have been previously disturbed. However, any construction in geologic units sensitive for paleontological resources could result in potentially significant damage to or destruction of unique paleontological resources.

Direct permanent impacts may arise if paleontological resources cannot be completely avoided by project design. Substantial damage to or destruction of significant paleontological resources would represent a significant impact. Excavation of the sediments and any significant fossils could destroy or degrade the condition of the fossils; additionally, the nature of project excavation would cause any fossils to be removed from their stratigraphic context, thereby reducing the scientific usefulness of the fossil. The extensive distribution and presence of rock units below the ground surface that may contain significant fossilized remains makes it difficult to predict the location of paleontological resources during the project planning phase, and thus increases the likelihood of inadvertent discovery of significant paleontological resources during construction and ground-disturbing activities.

Therefore, the potential direct impacts on paleontological resources related to implementation of transportation projects and development projects anticipated to occur under the Plan, could result in substantial alteration or removal of a significant paleontological resource from construction activities, and is considered significant.

Mitigation Measures

SCAG Mitigation Measure

SMM-GEO-3: Impacts to paleontological resources shall be minimized through cooperation, information sharing, and SCAG's ongoing regional planning efforts such as web-based planning tools for local governments including CA LOTS, and other GIS tools and data services, including, but not limiting to, Map Gallery, GIS library, and GIS applications; and direct technical assistance efforts such as training series and sharing of associated

online training materials. SCAG shall consult with resource agencies such as the National Park Service, United States Forest Service, and Bureau of Land Management to identify opportunities for early and effective consultation to identify unique paleontological resources and unique geological features to avoid such resources wherever practicable and feasible and reduce or mitigation for conflicts in compatible land use to the maximum extent practicable.

Project Level Mitigation Measures

PMM-GEO-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to paleontological resources. Such measures may include the following or other comparable measures identified by the Lead Agency:

a) Ensure compliance with the Paleontological Resources Preservation Act, the Federal Land Policy and Management Act, the Antiquities Act, Section 5097.5 of the Public Resources Code (PRC), adopted county and city general plans, and other federal, state and local regulations, as applicable and feasible, by adhering to and incorporating the performance standards and practices from the 2010 Society for Vertebrate Paleontology (SVP) standard procedures for the assessment and mitigation of adverse impacts to paleontological resources.

b) Obtain review by a qualified paleontologist (e.g. who meets the SVP standards for a Principal Investigator or Project Paleontologist or the Bureau of Land Management (BLM) standards for a Principal Investigator), to determine if the project has the potential to require ground disturbance of parent material with potential to contain unique paleontological or resources, or to require the substantial alteration of a unique geologic feature. The assessment should include museum records searches, a review of geologic mapping and the scientific literature, geotechnical studies (if available), and potentially a pedestrian survey, if units with paleontological potential are present at the surface.

c) Avoid exposure or displacement of parent material with potential to yield unique paleontological resources.

d) Where avoidance of parent material with the potential to yield unique paleontological resources is not feasible:

1) All on-site construction personnel receive Worker Education and Awareness Program (WEAP) training prior to the commencement of excavation work to understand the regulatory framework that provides for protection of paleontological resources and become familiar with diagnostic characteristics of the materials with the potential to be encountered.

2) A qualified paleontologist prepares a Paleontological Resource Management Plan (PRMP) to guide the salvage, documentation and repository of unique paleontological resources encountered during construction. The PRMP should adhere to and incorporate the performance standards and practices from the 2010 SVP Standard procedures for the assessment and mitigation of adverse impacts to paleontological resources. If unique paleontological resources are encountered during construction, use a qualified paleontologist to oversee the implementation of the PRMP.

3) Monitor ground disturbing activities in parent material, with a moderate to high potential to yield unique paleontological resources using a qualified paleontological monitor meeting the standards of the SVP or the BLM to determine if unique paleontological resources are encountered during such activities, consistent with the specified or comparable protocols.

4) Identify where ground disturbance is proposed in a geologic unit having the potential for containing fossils and specify the need for a paleontological monitor to be present during ground disturbance in these areas.

e) Avoid routes and project designs that would permanently alter unique geological features.

f) Salvage and document adversely affected resources sufficient to support ongoing scientific research and education.

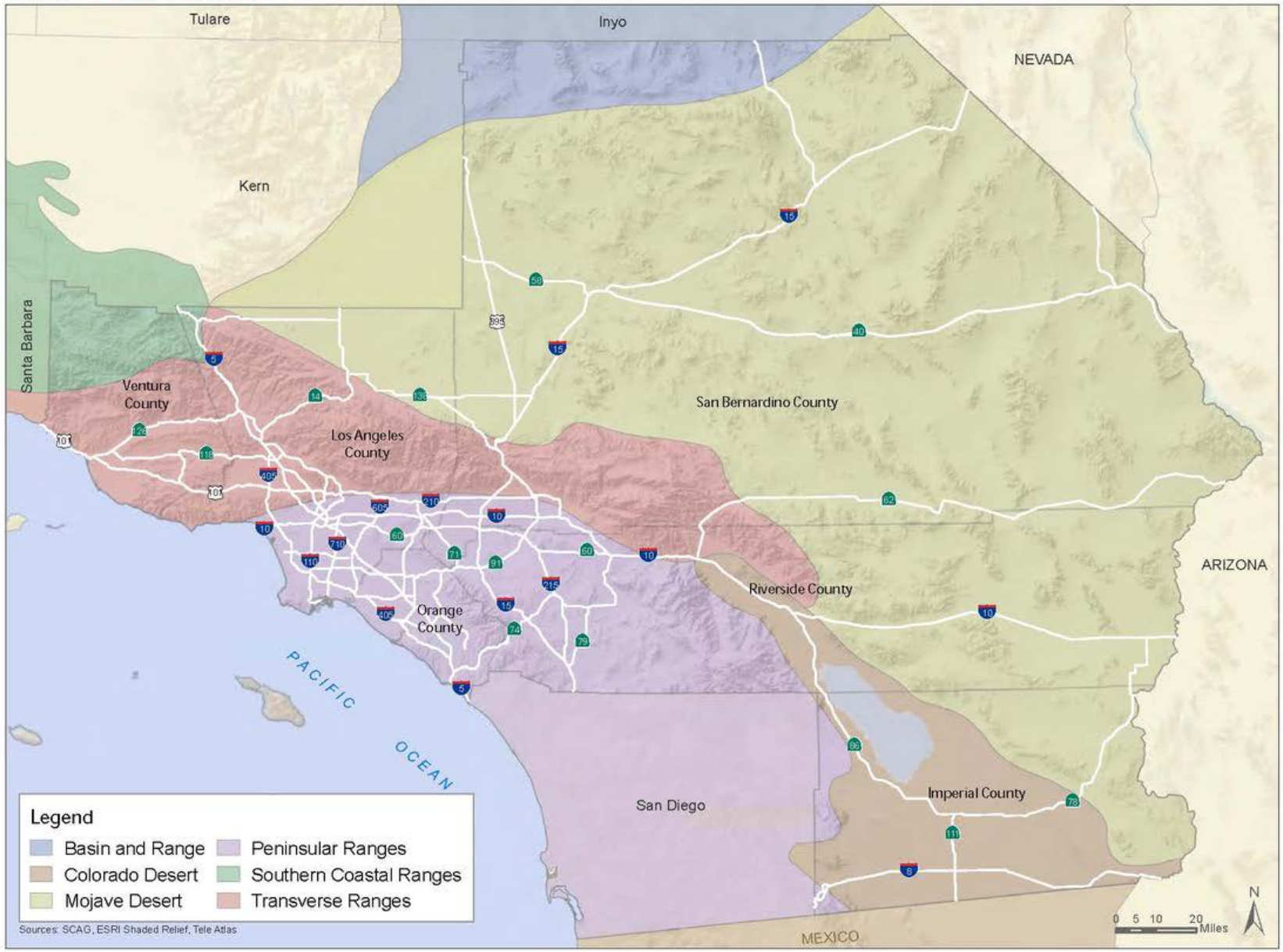
g) Significant recovered fossils should be prepared to the point of curation, identified by qualified experts, listed in a database to facilitate analysis, and deposited in a designated paleontological curation facility.

h) Following the conclusion of the paleontological monitoring, the qualified paleontologist should prepare a report stating that the paleontological monitoring requirement has been fulfilled and summarize the results of any paleontological

finds. The report should be submitted to the lead CEQA and the repository curating the collected artifacts, and should document the methods and results of all work completed under the PRMP, including treatment of paleontological materials, results of specimen processing, analysis, and research, and final curation arrangements.

Level of Significance after Mitigation

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



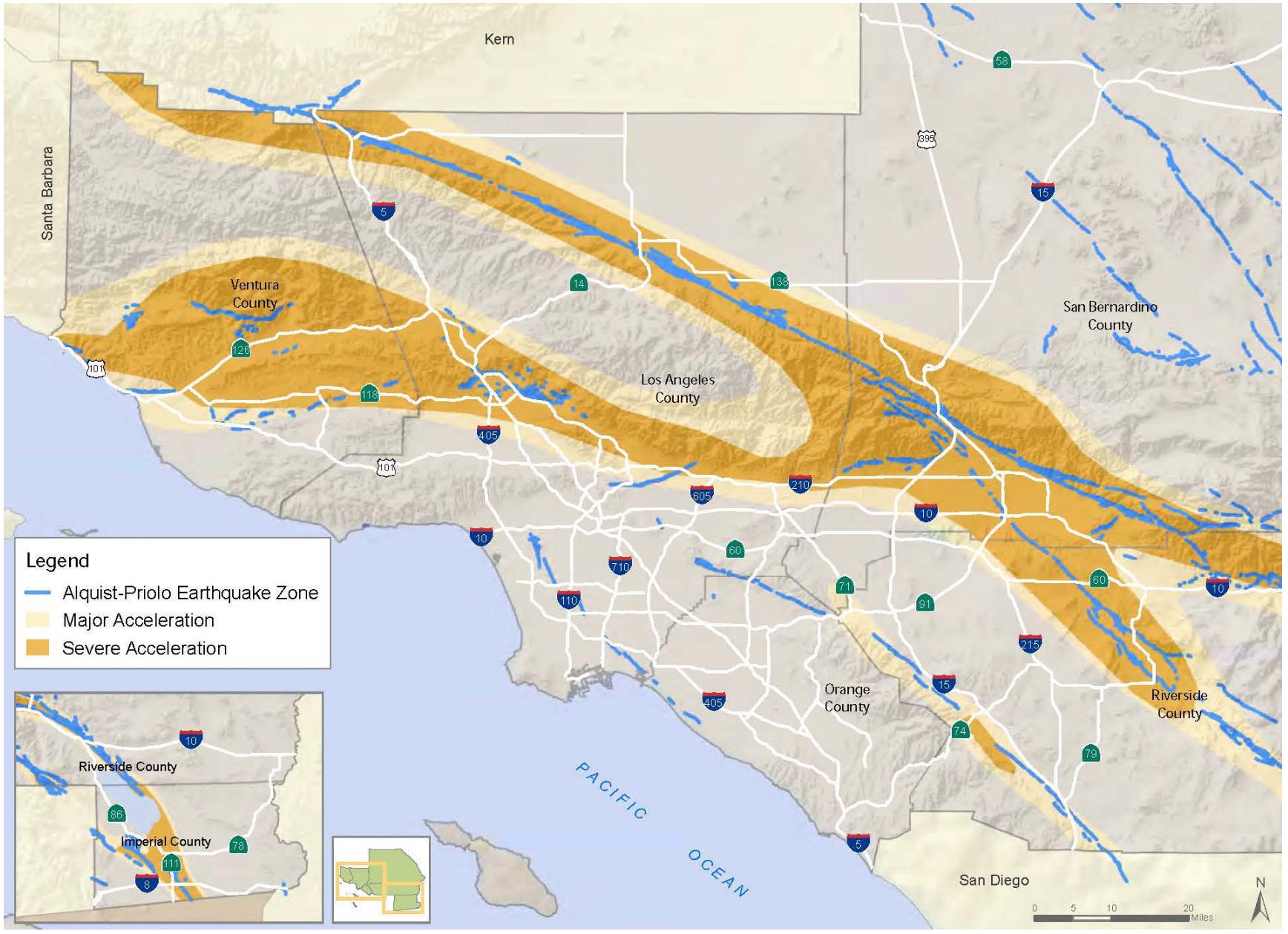
SOURCE: SCAG, ESRI Shaded Relief, Tele Atlas, 2019

FIGURE **3.7-1**

IMPACT SCIENCES

Geomorphic Provinces

1329.001•10/19



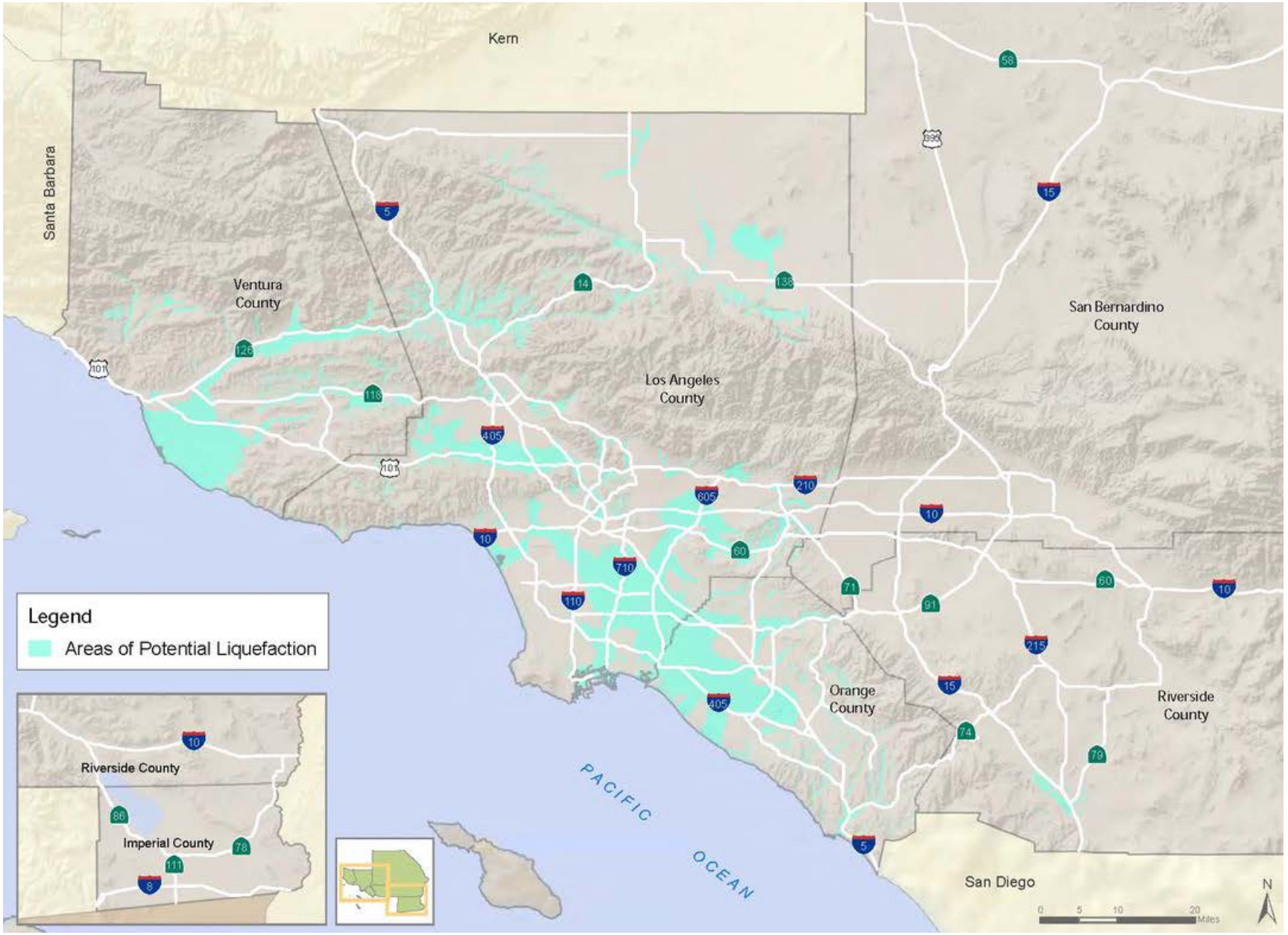
SOURCE: SCAG, ESRI Shaded Relief, Tele Atlas, 2012

FIGURE **3.7-2**

IMPACT SCIENCES

Alquist-Priolo Zones and Potential Areas of Probabilistic Ground Acceleration

1329.001•10/19



SOURCE: SCAG, ESRI Shaded Relief, Tele Atlas, 2015

FIGURE **3.7-3**

IMPACT SCIENCES

Areas of Potential Liquefaction

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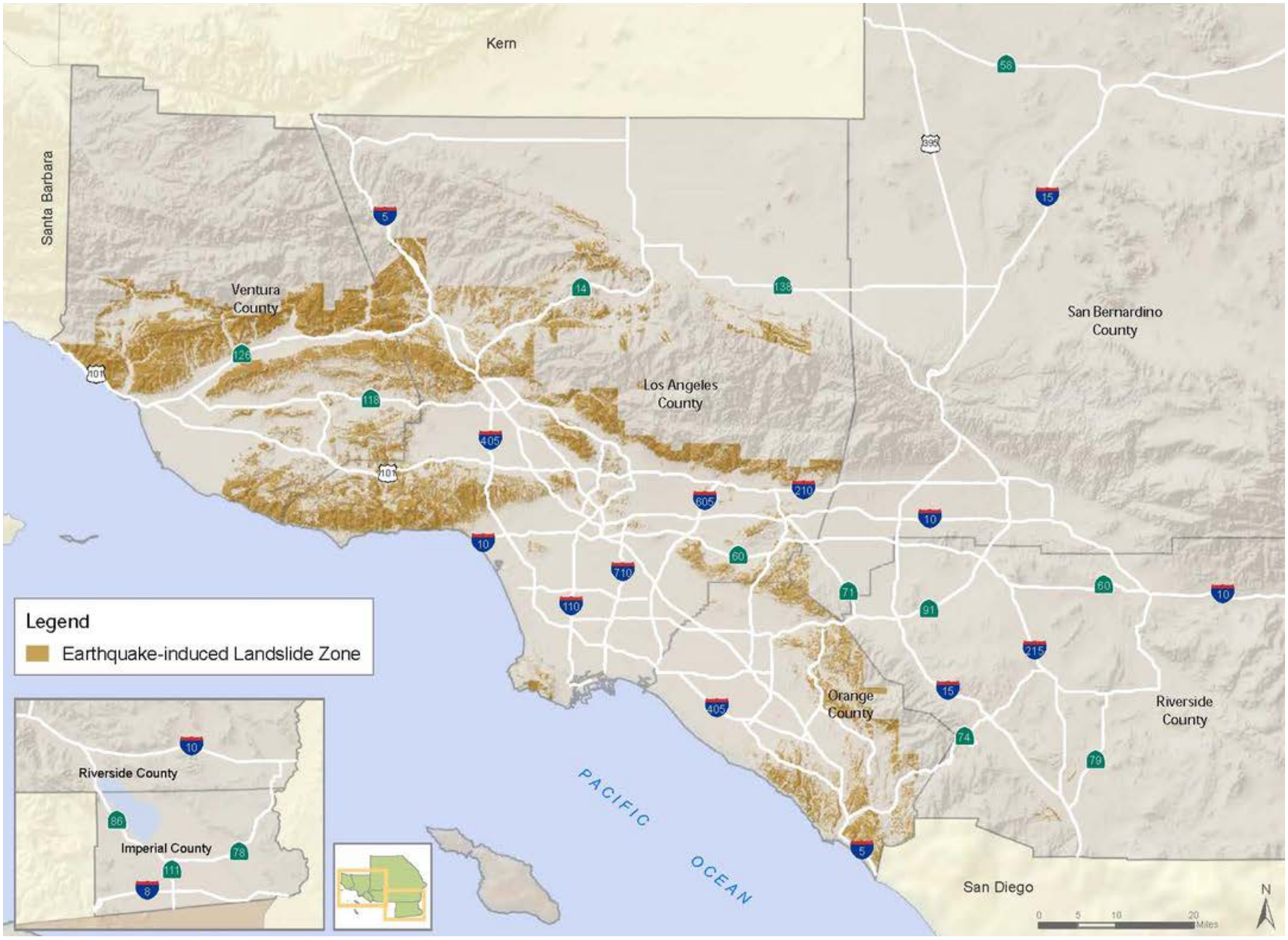

SOURCE: SCAG, ESRI Shaded Relief, Tele Atlas, 2015

FIGURE **3.7-4**

IMPACT SCIENCES

Areas of Potential Landslides

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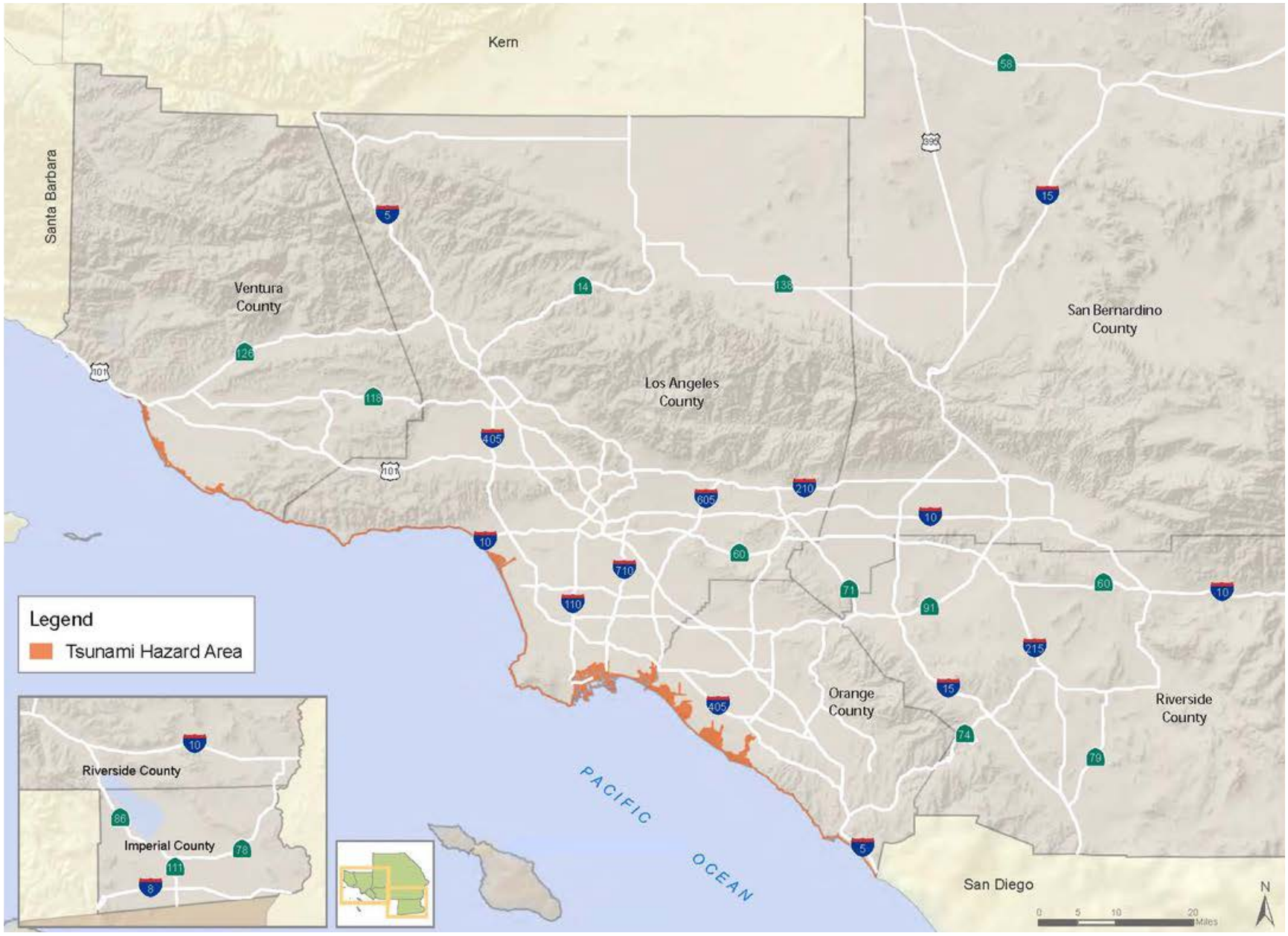

SOURCE: SCAG, ESRI Shaded Relief, Tele Atlas, CalEMA, 2015

FIGURE **3.7-5**

IMPACT SCIENCES

Areas Susceptible to Tsunamis

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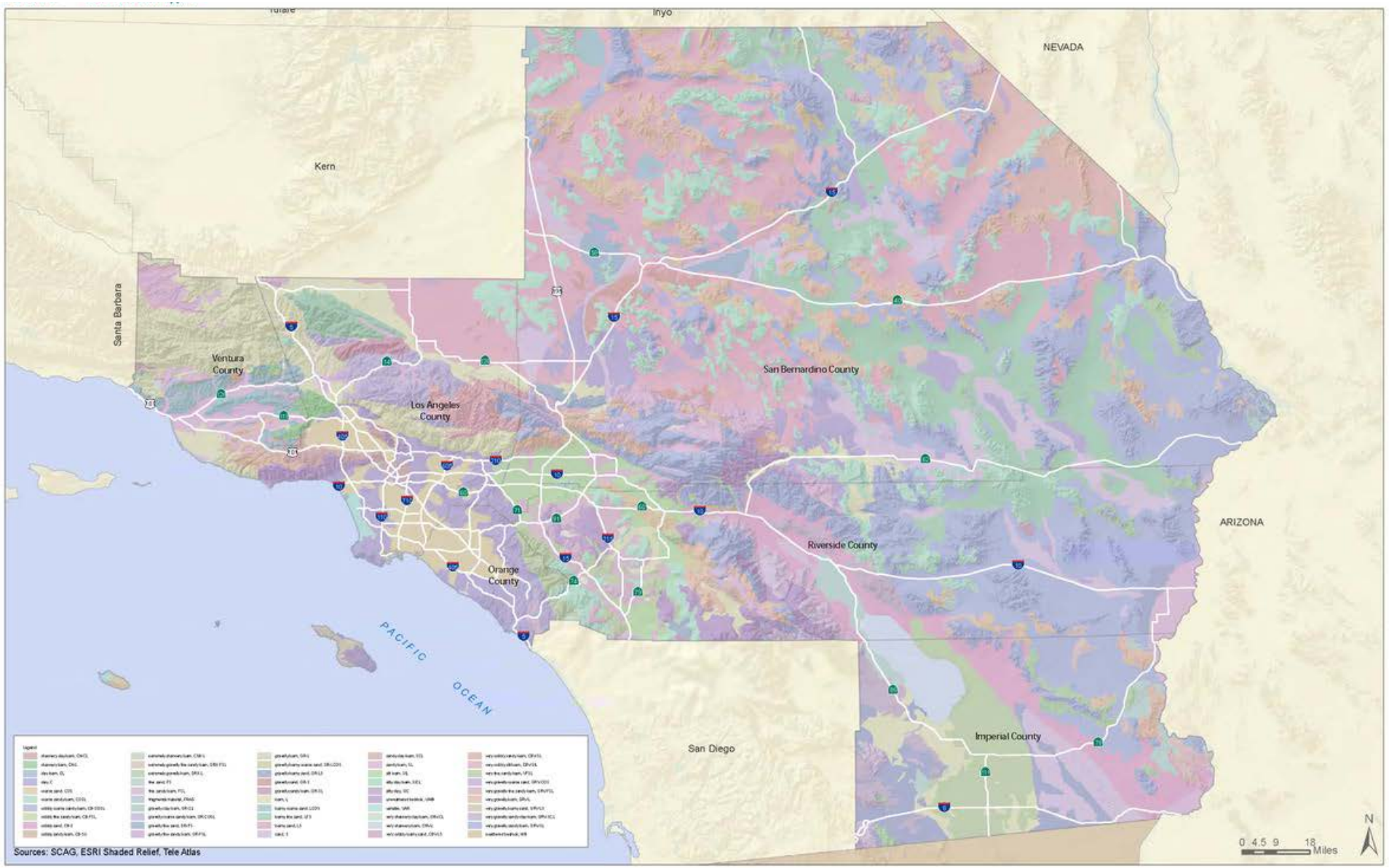

SOURCE: SCAG, ESRI Shaded Relief, Tele Atlas, 2015

FIGURE **3.7-6**

IMPACT SCIENCES

General Soil Types

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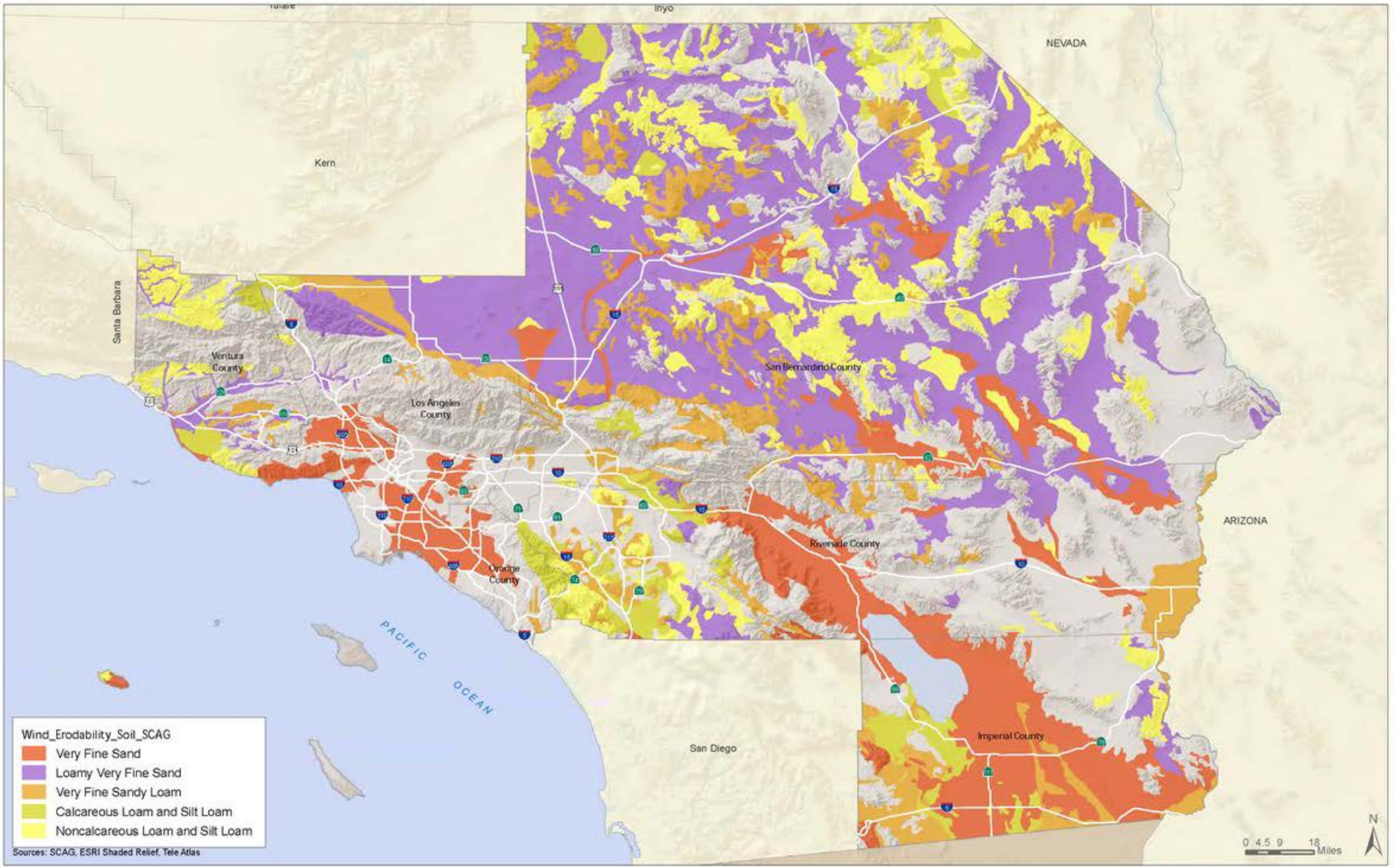


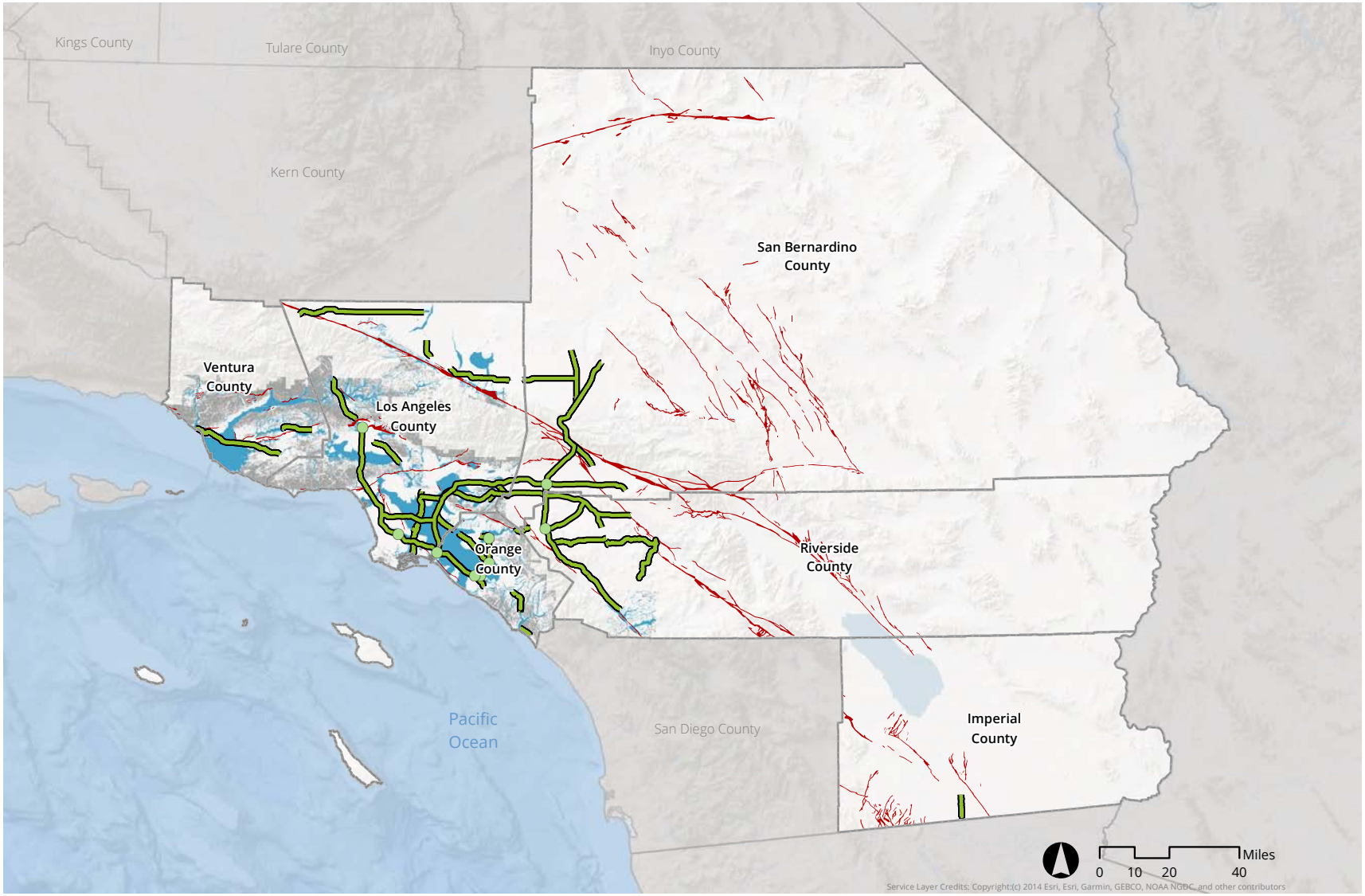
SOURCE: SCAG, ESRI Shaded Relief, Tele Atlas, 2015

FIGURE **3.7-7**

IMPACT SCIENCES

Soils with Moderate to High Erosion Potential

1329.001•10/19



SOURCE: USGS. 2000, 2016 and 2018; SCAG, 2019

FIGURE **3.7-8**

IMPACT SCIENCES

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3.8 GREENHOUSE GASES

This section of the Program Environmental Impact Report (PEIR) describes greenhouse gas emissions in the SCAG region, identifies the regulatory framework with respect to laws and regulations that govern greenhouse gas emissions, and evaluates the significance of the potential impacts related to greenhouse gas emissions that could result from development of the Connect SoCal Plan ("Connect SoCal"; "Plan"). In addition, this PEIR provides regional-scale mitigation measures, as well as project-level mitigation measures to be considered by lead agencies for subsequent, site-specific environmental review to reduce identified impacts as appropriate and feasible.

3.8.1 ENVIRONMENTAL SETTING

Gases that trap heat in the atmosphere are often called greenhouse gases (GHGs), comparable to a greenhouse, which captures and traps radiant energy. GHGs are emitted by natural processes and human activities. The accumulation of GHGs in the atmosphere regulates the Earth's temperature. Global warming is the observed increase in average temperature of the Earth's surface and atmosphere. The primary cause of global warming is an increase of GHGs in the atmosphere. The six major GHGs are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (NO_2), sulfur hexafluoride (SF_6), hydrofluorocarbons (HFCs), and perfluorocarbon (PFCs). The GHGs absorb longwave radiant energy emitted by the Earth, which warms the atmosphere. The GHGs also emit longwave radiation both upward to space and back down toward the surface of the Earth. The downward part of this longwave radiation emitted by the atmosphere is known as the "greenhouse effect." Emissions from human activities such as fossil fuel combustion for electricity production and vehicles have elevated the concentration of these gases in the atmosphere.[1]

3.8.1.1 Definitions

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

Greenhouse Gases (GHGs): GHGs are those compounds in the earth's atmosphere that play a critical role in determining the earth's surface temperature. Specifically, these gases allow high-frequency solar radiation to enter the earth's atmosphere but retain the low-frequency energy, which is radiated back from the earth to space, resulting in a warming of the atmosphere. This phenomenon is known as the greenhouse effect. Increased concentrations of GHGs in the earth's atmosphere are thought to be linked

1 South Coast Air Quality Management District. 2017. *Final Environmental Impact Report 2016 Air Quality Management Plan*. Available online at: http://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2016/2016aqmpfpeir.pdf?sfvrsn=10, accessed March 25, 2019.

to global climate change, such as rising surface temperatures, melting icebergs and snowpack, rising sea levels, and the increasing frequency and magnitude of severe weather.

Climate Change: Climate change is the variation of earth's climate over time, whether due to natural variability or as a result of human activities. Scientists have concluded that human activities are contributing to global climate change by adding large amounts of heat-trapping gases, (i.e., GHGs), to the atmosphere.

Global Warming Potential (GWP): Metric used to describe how much heat a molecule of a GHG absorbs relative to a molecule of carbon dioxide (CO_2) over a given period of time (20, 100, and 500 years). CO_2 has a GWP of 1.

$MTCO_{2e}$: Metric ton of CO_2e.

$MMTCO_{2e}$: Million metric tons of CO_2e.

Carbon Dioxide (CO_2): Enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and respiration, and as a result of other chemical reactions (e.g., manufacture of cement). Carbon dioxide is removed from the atmosphere (sequestered) when it is absorbed by plants as part of the biological carbon cycle.

Carbon Dioxide-Equivalent (CO_{2e}): The standard unit to measure the amount of GHGs in terms of the amount of CO_2 that would cause the same amount of warming. CO_{2e} is based on the GWP ratios between the various GHGs relative to CO_2.

Methane (CH_4): Emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices and from the decay of organic waste in municipal landfills and water treatment facilities.

Nitrous oxide (NO_2): Emitted during agricultural and industrial activities as well as during combustion of fossil fuels and solid waste.

Chlorofluorocarbons (CFCs): One of a class of fluorinated gases with a high GWP, CFCs are GHGs covered under the 1987 Montreal Protocol and used for refrigeration, air conditioning, packaging, insulation, solvents, or aerosol propellants. Since they are not destroyed in the lower atmosphere (troposphere, stratosphere), CFCs drift into the upper atmosphere where, given suitable conditions, they break down ozone.

Fluorinated Gases: Synthetic, strong GHGs that are emitted from a variety of industrial processes. Fluorinated gases are sometimes used as substitutes for ozone-depleting substances. These gases are typically emitted in smaller quantities, but they are potent GHGs, sometimes referred to as high GWP gases.

Hydrofluorocarbons (HFCs): One of a class of fluorinated gases with a high GWP, HFCs contain only hydrogen, fluorine, and carbon atoms. They were introduced as alternatives to ozone-depleting substances to serve many industrial, commercial, and personal needs. HFCs are emitted as by-products of industrial processes and are also used in manufacturing. They do not significantly deplete the stratospheric ozone layer, but they are strong GHGs.

Hydrochlorofluorocarbons (HCFCs): One of a class of fluorinated gases with a high GWP, HCFCs contain hydrogen, fluorine, chlorine, and carbon atoms. Although ozone-depleting substances, they are less potent at destroying stratospheric ozone than CFCs. They have been introduced as temporary replacements for CFCs and are GHGs.

Sulfur Hexafluoride (SF_6): One of a class of fluorinated gases with a high GWP, SF_6 is a colorless gas soluble in alcohol and ether, slightly soluble in water. SF_6 is a strong GHG used primarily in electrical transmission and distribution systems as an insulator.

Perfluorocarbons (PFCs): One of a class of fluorinated gases with a high GWP, PFCs, are a group of human-made chemicals composed of carbon and fluorine only. These chemicals (predominantly perfluoromethane [CF_4] and perfluoroethane [C_2F_6]) were introduced as alternatives, along with HFCs, to the ozone-depleting substances. In addition, PFCs are emitted as by-products of industrial processes and are also used in manufacturing. PFCs do not harm the stratospheric ozone layer, but they have a high global warming potential.

Global Warming Potential of Various GHGs: GHGs include CO_2, CH_4, O_3, water vapor, NO_2, HFCs, PFCs, and SF_6. Carbon dioxide is the most abundant GHG. Other GHGs are less abundant but have higher global warming potential than CO_2. (**Table 3.8-1, Greenhouse Gases and Their Relative Warming Potential Compared to CO_2**).

Table 3.8-1
Greenhouse Gases and Their Relative Global Warming Potential Compared to CO_2

GHG	Atmospheric Lifetime (years)	Global Warming Potential Relative to CO_2[a]
Carbon Dioxide (CO_2)	50 to 100	1
Methane (CH_4)[b]	12 (±3)	25
Nitrous Oxide	120	298
Hydrofluorocarbons:		
HFC-23	264	14,800
HFC-32	5.6	675
HFC-125	32.6	3,500
HFC-134a	14.6	1,100
HFC-143a	48.3	1,430
HFC-152a	1.5	124
HFC-227ea	36.5	3,220
HFC-236fa	209	9,810
HFC-43-10mee	17.1	1,640
Perfluoromethane: CF_4	50,000	7,390
Perfluoroethane: C_2F_6	10,000	12,200
Perfluorobutane: C_4F_{10}	2,600	8,860
Perfluoro-2-methylpentane: C_6F_{14}	3,200	9,300
Sulfur Hexaflouride (SF_6)	3,200	22,800

Note:
Based on 100-Year Time Horizon of the Global Warming Potential (GWP) of the air pollutant relative to CO_2.
The methane GWP includes the direct effects and those indirect effects due to the production of tropospheric ozone and stratospheric water vapor. The indirect effect due to the production of CO_2 is not included.
Source:
Intergovernmental Panel on Climate Change (IPCC), Fourth Assessment Report (AR4). 4 April 2014. Emission factors for greenhouse gas inventories. Available at: http://www.epa.gov/climateleadership/documents/emission-factors.pdf

Thus, emissions of other GHGs are frequently expressed in the equivalent mass of CO_2, denoted as CO_2e. GHGs are the result of natural and anthropogenic activities. Forest fires, decomposition, industrial processes, landfills, and consumption of fossil fuels for power generation, transportation, heating, and cooking are the primary sources of GHG emissions.

Understanding of the fundamental processes responsible for global climate change has improved over the past decade, and the predictive capabilities are advancing. However, there remain significant scientific uncertainties, for example, in estimating current and future emissions and the appropriate assumptions, predictions of local effects of climate change, occurrence of extreme weather events, effects of aerosols, changes in clouds, shifts in the intensity and distribution of precipitation, rate of sea ice melting, and changes in oceanic circulation. Due to the complexity of the earth's climate system, the

uncertainty in its description and in the prediction of changes may never be completely eliminated. Because of these uncertainties, there continues to be significant debate over the extent to which increased concentrations of GHGs have caused or will cause climate change and over the appropriate actions to limit and/or respond to climate change.

3.8.1.2 Existing Conditions

Global climate change refers to any significant change in climate measurements, such as temperature, precipitation, or wind, lasting for an extended period (i.e., decades or longer).[2] GHGs are any gas that absorbs infrared radiation in the atmosphere[3] and are the result of both natural and human-influenced activities. Forest fires; decomposition; industrial processes; landfills; and consumption of fossil fuels for power generation, transportation, heating, and cooling are the primary sources of GHG emissions. Without human intervention, the earth maintains an approximate balance between the emission of GHGs into the atmosphere and the storage of GHGs in oceans and terrestrial ecosystems. Increased combustion of fossil fuels (e.g., gasoline, diesel, coal, etc.), have contributed to the rapid increase in atmospheric levels of GHGs over the last 150 years. In 1850, the world emitted approximately 4.75 billion tons of CO_2 and in 2017, the world emitted approximately 1.54 trillion tons of CO_2.[4]

The primary effect of rising global concentrations of atmospheric GHG levels has been a rise in the average global land and ocean temperature of approximately one degree Celsius above pre-industrial levels. Warming greater than the global annual average is being experienced in many land regions, including two to three times higher in the Arctic. Estimated global warming is currently increasing at 0.2 degrees Celsius per decade due to past and ongoing emissions. The International Panel on Climate Change (IPCC) has determined that pathways limiting global warming to 1.5 degrees Celsius require emissions to decline by about 45 percent from 2010 levels by 2030, reaching net zero by 2050. Warming forecasts and related emission pathways presented by the IPCC do not account for self-reinforcing climate feedback loops. These feedback loops include, but are not limited to: loss of sea ice, which reflects heat back into the atmosphere rather than the ocean, causing further melting; the melting of permafrost, which would release new methane emissions into the atmosphere; and the cooling effects of sulfate

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2 US Environmental Protection Agency, "Glossary of Climate Change Terms." Available online at: https://19january2017snapshot.epa.gov/climatechange/glossary-climate-change-terms_.html, accessed September 3, 2019.

3 Ibid.

4 Our World in Data. *Cumulative CO_2 emissions by world region*. Available online at: https://ourworldindata.org/grapher/cumulative-co2-emissions-region?stackMode=absolute, accessed October 3, 2019.

pollution in the atmosphere, the loss of which would lead to additional warming.[5] Adverse impacts from global climate change worldwide and in California may include, but not be limited to:

- Declining sea ice and mountain snowpack levels, thereby increasing sea levels and sea surface evaporation rates with a corresponding increase in tropospheric water vapor due to the atmosphere's ability to hold more water vapor at higher temperatures.[6]

- Since the early 1970s, glacier mass loss and ocean thermal expansion from warming together explain about 75% of the observed global mean sea level rise. Over the period 1993 to 2010, global mean sea level rise is consistent with the sum of the observed contributions from ocean thermal expansion due to warming from changes in glaciers, Greenland ice sheet, Antarctic ice sheet, and land water storage.[7] Sea level in California has risen approximately 7 inches from 1900 to 2005, according to the National Climate Assessment.[8]

- Changing weather patterns, including changes to precipitation, ocean acidification and warming, and wind patterns.[9]

- Declining Sierra snowpack levels, which account for approximately half of the surface water storage in California, by 70 percent to as much as 90 percent over the next 100 years.[10]

- Increasing the number of days conducive to ozone formation by 25 to 85 percent (depending on the future temperature scenario) in high ozone areas located in the Southern California area and the San Joaquin Valley by the end of the 21st century.[11]

- Migrating of species to suitable habitats.

- Reducing of crop yields in the agricultural sector.

- Increasing the potential for erosion of California's coastlines and seawater intrusion into the Sacramento Delta and associated levee systems due to the rise in sea level.[12]

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5 Intergovernmental Panel on Climate Change. *2018. Summary for Policymakers, Global Warming of 1.5 C.* Available online at: https://www.ipcc.ch/site/assets/uploads/sites/2/2019/05/SR15_SPM_version_report_LR.pdf, accessed October 1, 2019.

6 Environmental Protection Agency, Draft Endangerment Finding, 74 Fed. Reg. 18886, 18904 (April 24, 2009) ("cumulative emissions are responsible for the cumulative change in the stock of concentrations in the atmosphere"); see also 74 Fed. Reg. 66496, 66538 (same in Final Endangerment Finding).

7 Intergovernmental Panel on Climate Change. *2014. Climate Change 2014 Synthesis Report Summary for Policymakers.* Available online at: https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5_SPM_FINAL.pdf, accessed March 25, 2019.

8 California Air Resources Board. 2015. *FAQ about EO B-30-15: 2030 Carbon Target and Adaptation*. Available online at: http://www.arb.ca.gov/newsrel/2030_carbon_target_adaptation_faq.pdf, accessed March 25, 2019.

9 Intergovernmental Panel on Climate Change. *2014. Climate Change 2014 Synthesis Report Summary for Policymakers.* Available online at: https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5_SPM_FINAL.pdf, accessed March 25, 2019.

10 California Environmental Protection Agency, Climate Action Team. 2006. *Climate Action Team Report to Governor Schwarzenegger and the Legislature.*

11 Ibid.

- Decreasing cold temperature extremes, increasing warm temperature extremes, increasing extreme high sea levels, and increasing number of heavy precipitation events in a number of regions.[13]
- Increasing frequency and severity of climate-related extremes including heat waves, droughts, floods, cyclones, and wildfires.[14]

The impacts of climate change have been documented by the Office of Environmental Health Hazard Assessment (OEHHA), which includes the following changes that are already occurring:[15,16]

- A recorded increase in annual average temperatures as well as increases in daily minimum and maximum temperatures.
- An increase in the occurrence of extreme events, including wildfire and heat waves.
- A reduction in spring runoff volumes, as a result of declining snowpack.
- A decrease in winter chill hours, necessary for the production of high-value fruit and nut crops.
- Changes in the timing and location of species sightings, including migration upslope of flora and fauna, and earlier appearance of Central Valley butterflies.

A recent aerial survey by the U.S. Forest Service determined that 18 million trees died in California in 2018, which brings the total of dead trees across California from 2010 to 147 million trees over 9.7 million acres. Since 2016, federal, state, and local bodies have removed approximately 1.5 million dead trees that posed the highest hazards to life and property, however, the amount of dead trees across the state presents an increasing wildfire risk.[17] The U.S. Forest Service National Insect and Disease Forest Assessment, found that due to projected climate changes from 2013-2027, the number of acres at risk of losing forest and woodlands will increase and the number of tree deaths will likely increase from already

12 Ibid.

13 Intergovernmental Panel on Climate Change. *2014. Climate Change 2014 Synthesis Report Summary for Policymakers.* Available online at: https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5_SPM_FINAL.pdf, accessed March 25, 2019.

14 Ibid.

15 OEHHA. 2018 *Indicators of Climate Change in California.* August. Available online at: https://oehha.ca.gov/climate-change/document/indicators-climate-change-california, accessed March 25, 2019.

16 California Air Resources Board. 2017. *California's 2017 Climate Change Scoping Plan.* November.

17 U.S. Department of Agriculture. 2019. *News Release, Survey Finds 18 Million Trees Died in California in 2018.* February. Available online at: https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/FSEPRD609321.pdf, accessed October 2, 2019.

highly destructive pests, such as the mountain pine beetle.[18] This would further exacerbate the fire hazard posed from dead trees.

In the last decade, California has experienced five of the state's 10 largest wildfires and seven of its 10 most destructive fires in its history. Over the past five decades, summertime forest fires have increased in size by roughly 800 percent. Though no single wildfire can be attributed solely to climate change, evidence shows that the increase in average temperatures statewide is creating conditions more prone to wildfires.[19] Southern California has warmed about three degrees Fahrenheit in the last century, and every additional increment of warming speeds up evaporation, dries out soil and vegetation, and increases the amount of fuel available for a wildfire.[20] In 2018, wildfires in California released approximately 68 million tons of carbon dioxide, or about 15 percent of the State's annual emissions.[21] Studies suggest that greenhouse gas emissions from wildfires create a positive feedback loop, wherein the emissions warm the planet further, leading to more wildfires and more emissions.

The warming climate also causes sea level rise by warming the oceans which causes water to expand, and by melting land ice which transfers water to the ocean. Sea level rise is expected to magnify the adverse impact of any storm surge and high waves on the California coast. As temperatures warm and GHG concentrations increase, more carbon dioxide dissolves in the ocean, making it more acidic. More acidic ocean water affects a wide variety of marine species, including species that people rely on for food.[22]

While more intense dry periods are anticipated under warmer conditions, increased extreme wet conditions are also expected to increase due to more frequent warm, wet atmospheric river events and a higher proportion of precipitation falling as rain instead of snow. In recent years, atmospheric rivers have also been recognized as the cause of the large majority of major floods in rivers all along the U.S. West

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18 U.S. Forest Service. 2014. *2013-2027 National Insect and Disease Forest Risk Assessment.* January. Available online at: https://www.fs.fed.us/foresthealth/technology/pdfs/2012_RiskMap_Exec_summary.pdf, accessed October 3, 2019.

19 Williams, A. P., Abatzoglou, J. T., Gershunov, A., Guzman-Morales, J., Bishop, D. A., Balch, J. K., & Lettenmaier, D. P. (2019). Observed impacts of anthropogenic climate change on wildfire in California. Earth's Future, 7, 892–910. Available online at: https://doi.org/10.1029/2019EF001210, accessed September 16, 2019.

20 US Environmental Protection Agency, *What Climate Change Means for California.* Available online at: https://www.epa.gov/sites/production/files/2016-09/documents/climate-change-ca.pdf, accessed September 16, 2019.

21 US Department of Interior, *Press Release, November 30, 2018.* Available online at: https://www.doi.gov/pressreleases/new-analysis-shows-2018-california-wildfires-emitted-much-carbon-dioxide-entire-years, accessed September 17, 2019.

22 California Air Resources Board. 2017. *California's 2017 Climate Change Scoping Plan.* November.

Coast and as the source of up to 50 percent of all precipitation in California.[23] These extreme precipitation events, together with the rising snowline, often cause devastating floods in major river basins (e.g., California's Russian River). Looking ahead, the frequency and severity of atmospheric rivers on the U.S. West Coast will increase due to higher atmospheric water vapor that occurs with rising temperature, leading to more frequent flooding.[24,25]

As GHG emissions continue to accumulate and climate disruption grows, such destructive events will become more frequent. Several recent studies project increased precipitation within hurricanes over ocean regions.[26,27] The primary physical mechanism for this increase is higher water vapor in the warmer atmosphere, which enhances moisture convergence in a storm for a given circulation strength. Hurricanes are responsible for many of the most extreme precipitation events; such events are likely to become more extreme. Anthropogenic warming by the end of the 21st century will likely cause tropical cyclones globally to become more intense on average. This change implies an even larger increase in the destructive potential per storm, assuming no changes in storm size.[28,29] Thus, the historical record, which once set our expectations for the traditional range of weather and other natural events, is an increasingly unreliable predictor of the conditions we will face in the future. Consequently, the best available science must drive effective climate policy.[30]

California is committed to further supporting new research on ways to mitigate climate change and how to understand its ongoing and projected impacts. California's Fourth Climate Change Assessment and Indicators of Change Report will further update our understanding of the many impacts from climate

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23 Scripps Institution of Oceanography. 2017. *California's Climate Future Suggests More Volatility and a Key Role for Atmospheric Rivers.* September. Available online at: https://scripps.ucsd.edu/news/californias-climate-future-suggests-more-volatility-and-key-role-atmospheric-rivers, accessed October 1, 2019.

24 Hagos, S., Leung, L.R., Yoon, JH., Lu, J., and Gao, Y., 2016. *A Projection of Changes in Landfalling Atmospheric River Frequency and Extreme Precipitation over Western North America from the Large Ensemble CESM Simulations.* January.

25 Payne, Ashley and Magnusdottir, Gudrun. 2015. *An Evaluation of Atmospheric Rivers over the North Pacific in CMIP5 and their response to warming under RCP 8.5.* November.

26 Easterling, D.R., Kunkel, K.E., Wehner, M.F., and Sun, L. 2016. *Detection and Attribution of Climate Extremes in the Observed Record*. March.

27 National Academies of Sciences, Engineering, and Medicine. 2016. *Attribution of Extreme Weather Events in the Context of Climate Change.*

28 Sobel, A.H., Camargo, S.J., Hall, T.M., Lee, C-Y., Tippett, M.K., and Wing, A.A., 2016. *Human Influence on Tropical Cyclone Intensity*.

29 Kossin, James P., NOAA/National Centers for Environmental Information. 2016. *Past and Projected Changes in Western North Pacific Tropical Cyclone Exposure*. July.

30 California Air Resources Board. 2017. *California's 2017 Climate Change Scoping Plan.* November.

change in a way that directly informs State agencies' efforts to safeguard the State's people, economy, and environment.[31,32]

The State is also taking steps to make the State more resilient to ongoing and projected climate impacts as laid out by the Safeguarding California Plan.[33] The Safeguarding California Plan was updated in 2018 to present new policy recommendations and provide a roadmap of all the actions and next steps that state government is taking to adapt to the ongoing and inevitable effects of climate change. California's continuing efforts are vital steps toward minimizing the impact of GHG emissions and a three-pronged approach of reducing emissions, preparing for impacts, and conducting cutting-edge research can serve as a model for action.[34]

Scientific understanding of the fundamental processes responsible for global climate change has improved over the past decade, and predictive capabilities are advancing. However, there remain significant scientific uncertainties, for example, in predictions of local effects of climate change; occurrence of extreme weather events; and effects of aerosols, changes in clouds, shifts in the intensity and distribution of precipitation, and changes in oceanic circulation. In addition, it may not be possible to link specific development projects to future specific climate change impacts, though estimating project-specific emissions and contributions is possible.

Sources of GHG Emissions

Global

Worldwide anthropogenic GHG emissions for industrialized nations (referred to as Annex I) and developing nations (referred to as Non-Annex I) are tracked through the year 2014. The sum of the top five GHG producing nations (plus the European Union) totaled approximately 29,600 million metric tons of CO_2 equivalents ($MMTCO_2e$).[35,36] It should be noted that global emissions inventory data are not all

31 California Natural Resources Agency. *California's Fourth Climate Change Assessment*. Available online at: http://resources.ca.gov/climate/safeguarding/research/, accessed March 25, 2019.

32 OEHHA. 2018 *Indicators of Climate Change in California.* August. Available online at: https://oehha.ca.gov/climate-change/document/indicators-climate-change-california, accessed March 25, 2019.

33 California Natural Resources Agency. 2018. *Safeguarding California and Climate Change Adaption Policy*. Available online at: http://resources.ca.gov/climate/safeguarding/, accessed March 25, 2019.

34 California Air Resources Board. 2017. *California's 2017 Climate Change Scoping Plan.* November.

35 World Resources Institute. *Climate Analysis Indicators Tool (CAIT).* Available online at: https://www.climatewatchdata.org/ghg-emissions?breakBy=location&source=31&version=1, accessed March 25, 2019.

from the same year and may vary depending on the source of the emissions inventory data.[37] The top five countries and the European Union accounted for approximately 55 percent of the total global GHG emissions according to the most recently available data (see **Table 3.8-2, Top Five GHG Producer Countries and the European Union [Annual]**). The GHG emissions in more recent years may differ from the inventories presented in **Table 3.8-2**; however, the data is representative of currently available global inventory data.

Table 3.8-2
Top Five GHG Producer Countries and the European Union (Annual)

Emitting Countries	2014 GHG Emissions ($MMTCO_2e$)
China	12,000
United States	6,300
European Union (EU), 27 Member States	3,600
India	3,200
Indonesia	2,500
Russia	2,000

Source: World Resources Institute. 2018. "Climate Analysis Indicators Tool (CAIT)," https://www.climatewatchdata.org/ghg-emissions?breakBy=location&source=31&version=1.

National

As noted in **Table 3.8-2**, the US was the number two producer of global GHG emissions in 2014. The primary GHG emitted by human activities in the US was CO_2, representing approximately 82 percent of total GHG emissions. Carbon dioxide from fossil fuel combustion, the largest source of GHG emissions, accounted for approximately 76 percent of US GHG emissions. In 2016, carbon dioxide emissions from

36 The CO_2 equivalent emissions commonly are expressed as "million metric tons of carbon dioxide equivalent ($MMTCO_2E$)." The carbon dioxide equivalent for a gas is derived by multiplying the tons of the gas by the associated GWP, such that $MMTCO_2E$ = (million metric tons of a GHG) x (GWP of the GHG). For example, the GWP for methane is 21. This means that the emission of one million metric tons of methane is equivalent to the emission of 21 million metric tons of CO_2.

37 The global emissions are the sum of Annex I and non-Annex I countries, without counting Land-Use, Land-Use Change and Forestry (LULUCF). For countries without 2005 data, the United Nations Framework Convention on Climate Change (UNFCCC) data for the most recent year were used. United Nations Framework Convention on Climate Change. *Annex I Parties – GHG total without LULUCF.* and *Flexible GHG Data Queries* with selections for total GHG emissions excluding LULUCF/LUCF, all years, and Annex I and non-Annex I countries. Available online at: https://unfccc.int/process-and-meetings/transparency-and-reporting/greenhouse-gas-data/ghg-data-unfccc/ghg-data-from-unfccc . n.d., accessed March 25, 2019.

the transportation sector accounted for approximately 64% of all GHG emissions from fossil fuel combustion.[38,]

State of California

The California Air Resources Board (CARB) compiles GHG inventories for the State of California. Based on the 2017 GHG inventory data (i.e., the latest year for which data are available), California emitted 424.1 $MMTCO_2e$ including emissions resulting from imported electrical power in 2017.[39] Based on the GHG inventories compiled by the World Resources Institute, California's total statewide GHG emissions rank second in the U.S. (Texas is the highest emitter of GHG). [40]

The primary contributors to GHG emissions in California are transportation, electric power production from both in-state and out-of-state sources, industry, agriculture and forestry, and other sources, which include commercial and residential activities.[41] **Table 3.8-3, GHG Emissions in California (2000 and 2017)**, provides a summary of GHG emissions reported in California in 2000 and 2017 by categories defined by the United Nations Intergovernmental Panel on Climate Change (IPCC).

Table 3.8-3
GHG Emissions in California (2000 and 2017)

Source Category	2000 ($MMTCO_2e$)	Percent of Total	2017 ($MMTCO_2e$)	Percent of Total
ENERGY	413.7	87.7%	348.9	82.3%
Energy Industries	159.12	33.7%	109.66	25.9%
Manufacturing Industries & Construction	22.75	4.8%	19.88	4.7%
Transport	179.78	38.1%	168.93	39.8%
Other Sectors (Residential/Commercial/Institutional)	44.67	9.5%	41.24	9.7%
Solid Fuels	0.04	0.0%	0.02	0.0%
Fugitive Emissions from Oil & Natural Gas	6.12	1.3%	8.2	1.9%
Fugitive Emissions from Geothermal Energy Production	1.13	0.2%	0.93	0.2%

38 US Environmental Protection Agency. 2016. *Inventory of U.S. Greenhouse Gas Emissions and Sinks.* April. Available online at: https://www.epa.gov/sites/production/files/2018-01/documents/2018_complete_report.pdf, accessed March 25, 2019.

39 California Air Resources Board. 2019. *California Greenhouse Gas 2000-2017 Inventory by IPCC Category – Summary.* June. Available online at: https://ww3.arb.ca.gov/cc/inventory/data/tables/ghg_inventory_ipcc_sum_2000-17.pdf, accessed August 13, 2019.

40 World Resources Institute. 2017. *6 Charts to Understand U.S. State Greenhouse Gas Emissions*. Available online at: https://www.wri.org/blog/2017/08/6-charts-understand-us-state-greenhouse-gas-emissions, accessed October 3, 2019.

41 California Air Resources Board. 2019. *California Greenhouse Gas 2000-2017 Inventory by IPCC Category – Summary.* June. Available online at: https://ww3.arb.ca.gov/cc/inventory/data/tables/ghg_inventory_ipcc_sum_2000-17.pdf, accessed August 13, 2019.

Source Category	2000 ($MMTCO_2e$)	Percent of Total	2017 ($MMTCO_2e$)	Percent of Total
Pollution Control Devices	0.11	0.0%	0.05	0.0%
INDUSTRIAL PROCESSES & PRODUCT USE	19.7	4.2%	33.6	7.9%
Mineral Industry	5.60	1.2%	4.93	1.2%
Chemical Industry	0.06	0.0%	0.00	0.0%
Metal Industry	0.07	0.0%	0.00	0.0%
Non-Energy Products from Fuels & Solvent Use	3.30	0.7%	1.88	0.4%
Electronics Industry	0.20	0.0%	0.17	0.0%
Substitutes for Ozone Depleting Substances	5.62	1.2%	19.64	4.6%
Other Product Manufacture and Use	1.52	0.3%	1.18	0.3%
Other	3.31	0.7%	5.81	1.4%
AGRICULTURE, FORESTRY, & OTHER LAND USE	29.0	6.1%	30.7	7.2%
Livestock	19.62	4.2%	22.68	5.3%
Aggregate Sources & Non-CO_2 Sources on Land	9.40	2.0%	8.07	1.9%
WASTE	9.3	2.0%	10.8	2.5%
Solid Waste Disposal and Biological Treatment	7.22	1.5%	8.54	2.0%
Biological Treatment of Solid Waste	0.13	0.0%	0.35	0.1%
Wastewater Treatment & Discharge	1.93	0.4%	1.94	0.5%
EMISSIONS SUMMARY				
Gross California Emissions	**471.7**		**424.1**	

Source:
[1] *California Air Resources Board, "California Greenhouse Gas 2000-2017 Inventory by IPCC Category - Summary," https://ww3.arb.ca.gov/cc/inventory/data/tables/ghg_inventory_ipcc_sum_2000-17.pdf.*

As demonstrated in **Table 3.8-3**, California's 2017 GHG emissions are lower than 2000 levels. In 2007, California statewide GHG emissions peaked at 490.9 MMT CO_2e/year, since that time emissions have been following a declining trend. In 2017, emissions from routine emitting activities statewide were 66.8 million metric tons of CO_2e ($MMTCO_2e$) lower than peak GHG levels in 2007.[42]

Cap and Trade Program

The state-wide cap and trade expenditure plan allocated $832 million dollars towards programs that will help reduce GHG emissions, with set-asides for projects benefiting disadvantaged communities. The expenditure plan funds three main investment categories: (1) sustainable communities & clean transportation; (2) energy efficiency & clean energy; and (3) natural resources & waste diversion.[43]

42 California Air Resources Board. 2019. *California Greenhouse Gas 2000-2017 Inventory by IPCC Category – Summary.* June. Available online at: https://ww3.arb.ca.gov/cc/inventory/data/tables/ghg_inventory_ipcc_sum_2000-17.pdf, accessed August 13, 2019.

43 Southern California Association of Governments. 2015. *The Greenhouse Gas Reduction Fund.* Available online at: http://www.scag.ca.gov/programs/Pages/GGRFExpenditurePlan.aspx?opentab=2, accessed March 25, 2019.

The Affordable Housing & Sustainable Communities (AHSC) Program is a statewide competitive program that provides grants and loans for affordable housing, infill development, transit-oriented development and related infrastructure. The Strategic Growth Council (SGC) and Department of Housing and Community Development (HCD) administer the program, including project evaluation and the approval of funding awards.[44] 19 projects in the SCAG region were awarded funding for Round Three of the AHSC Program. The 19 projects totaled approximately $258 million, exhausting the available budget for Round Three projects. The Fiscal Year (FY) 2019–2020 Cap and Trade Expenditure Plan proposes $1.4 billion to support programs that sequester GHG emissions, enhance the state' resiliency to climate change, benefit disadvantaged communities most impacted by climate change, and expand the state's workforce skill base in industries and occupations that anchor the carbon-neutral economy.[45] The Greenhouse Gas Reduction Fund (GGRF) is expected to be $2.1 billion in FY 2019–2020.[46] The program is in its fourth round with a current Notice of Funding Available of approximately $395 million.[47]

SCAG Region

The most recent GHG emissions data by sector for the SCAG region is from 2012. Similar to the 2013 U.S. and California GHG emission profiles, transportation, industrial, and electricity are the three largest contributors to GHG emissions. Total SCAG emissions in 2020 were estimated to be 216 $MMTCO_{2e}$. Transportation emissions are most prevalent relative to all other sectors in California and specifically in the SCAG region. Transportation emissions accounted for approximately 38 percent of total emissions in the SCAG region, compared to 26 percent of total emissions in the United States in 2008.[48]

Fossil fuel carbon dioxide emissions ($FFCO_2$) for 2011 were calculated across the Los Angeles megacity, which includes Los Angeles, Orange, Riverside, Santa Barbara, and Ventura Counties. The total $FFCO_2$ emissions were calculated to be approximately 48.06±5.3 megatons of carbon dioxide per year

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44 California Strategic Growth Council. 2019. *Affordable Housing and Sustainable Communities Program: Round 4 FY 2017-2018 Program Guidelines*. Available online at: http://sgc.ca.gov/programs/ahsc/docs/20190221-AHSC_17-18_Guidelines-Updated.pdf, accessed August 21, 2019.

45 State of California. 2019. *California State Budget 2019-2020*. Available online at: http://www.ebudget.ca.gov/2019-20/pdf/Enacted/BudgetSummary/FullBudgetSummary.pdf, accessed October 2, 2019.

46 Near Zero. 2019. *California' Cap and Trade Proceeds will Likely Exceed Governor's Estimates*. Available online at: http://www.nearzero.org/wp/2019/01/30/californias-cap-and-trade-proceeds-will-likely-exceed-governors-estimate/, accessed October 2, 2019.

47 State of California.. *Notice of Funding Availability Affordable Housing and Sustainable Communities Program*. Available online at: http://www.hcd.ca.gov/grants-funding/active-funding/ahsc/docs/AHSC-NOFA-Round-4-FINAL.pdf, accessed October 2, 2019.

48 Final Southern California Association of Governments. 2012. *Regional Greenhouse Gas Inventory and Reference Case Projections, 1990-2035*. Available online at: http://sustain.scag.ca.gov/Sustainability%20Portal%20Document%20Library/05-30-12_SCAG_Revised_IF%20Report_Final.pdf, accessed October 2, 2019.

($MtCO_2$/yr), or 53.4±5.9 MMT CO_2e/year, with transportation emissions accounting for approximately 50.4% of these emissions [49]. Los Angeles County contributed approximately 55% of the total $FFCO_2$ emissions, followed by San Bernardino, Orange, Riverside, and Ventura Counties. These results are consistent with SCAG estimates of GHG emissions for 2016 (see **Table 3.8-4, Greenhouse Gas Emissions from Transportation by County,** in **Section 3.8.3.3, Impacts and Mitigation Measures**). It should be noted that the 2011 $FFCO_2$ estimates does not include Imperial County, however, according to **Table 3.8-7**, in 2016 Imperial County only contributed approximately 1.7% of the regional total transportation GHG emissions. Therefore, these results are representative of the SCAG region.[50]

Goods Movement

As discussed in **Section 3.17, Transportation Traffic and Safety**, goods movement includes trucking, rail freight, air cargo, marine cargo, and both domestic and international freight, the latter entering the country via the seaports, airports, and the international border with Mexico. Additionally, many cargo movements are intermodal, for example, sea to truck, sea to rail, air to truck, or truck to rail. The goods movement system includes not only highways, railroads, sea lanes, and airways, but also intermodal terminals, truck terminals, railyards, warehousing, freight consolidation/de-consolidation terminals, freight forwarding, package express, customs inspection stations, truck stops, and truck queuing areas.

SCAG plans for goods movement are consistent with executive orders from the governor that directs MPOs to integrate climate change policies to support the State's effort to reduce per capita GHG emissions and combat the effects of climate change. California Executive Order S-3-05 (June 1, 2005 - Schwarzenegger) called for a coordinated approach to address the detrimental air quality effects of greenhouse gases (GHGs).[51] More recently, California Executive Order B-16-12 supports the rapid commercialization of zero emission vehicles sets a 2050 GHG emissions reduction goal for the transportation sector to achieve 80 percent less emissions than 1990 levels. Executive Order B-32-15 works toward achieving GHG reduction targets with the California Sustainable Freight Action Plan, an integrated plan that establishes clear targets to improve freight efficiency, transition to zero-emission technologies and increase competitiveness of California's freight system. In addition, Executive Order B-30-15 established an interim statewide GHG emission reduction target to reduce GHG emissions to 40

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49 Gurney, Kevin R., et al. *The Hesta fossil fuel CO_2 emissions data product for the Los Angeles megacity (Hestia-LA)*. Earth System Science Data. August 2019. Available online at: https://www.earth-syst-sci-data.net/11/1309/2019/essd-11-1309-2019.pdf, accessed September 4, 2019.

50 Ibid.

51 State of California. *California Climate Change Executive Orders*. Available online at: https://www.climatechange.ca.gov/state/executive_orders.html, accessed September 16, 2019.

percent below 1990 levels by 2030 to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050.

Public Health

The changing climate's effect on temperature, air quality, wildfires, droughts, and the spread of diseases will threaten the health and wellbeing of everyone in the SCAG region. Climate change threatens the water supply, food security, air quality and shelter and leads to more extreme heat days, drought, and sea level rise.

Extreme heat days are days in which the temperature exceeds the 98th percentile of maximum temperature for a given location. Extreme weather conditions, particularly extreme heat days results in adverse outcomes for human health. Heat-induced illnesses include heat stroke, heat exhaustion, dehydration, and premature death from cardiovascular or respiratory disease. The effects of extreme heat days is further exacerbated by the urban heat island effects, which is caused by dense urban areas that have more buildings, pavement, and dark surfaces with less greenery and green spaces.

As a result of extreme heat days there may be longer and more severe droughts. Extreme heat can lead to excessive drying of soil and vegetation as well as melting of California's Sierra Nevada snowpack.

Climate change can also lead to sea level rise. Orange County has the greatest risk for inundation within the SCAG region, with 3.6 percent of the population in an inundation zone. Los Angeles and Ventura Counties have 1.6% and 0.17%, respectively, of their county population living within inundation zones. Sea level rise can lead to flooding in these areas and can create important health consequences such as contaminating drinking water or respiratory issues from mold in flood-damaged homes.

Ongoing GHG Emission Reduction and Adaption Strategies in the SCAG Region

Climate change affects natural and human systems globally. Climate mitigation strategies include reducing or sequestering GHG emissions, while climate adaptation is preparing for the unavoidable impacts from climate change. Climate mitigation strategies include, but are not limited to:[52]

- Promoting energy efficiency in buildings
- Using low carbon electricity
- Transitioning to high efficiency heating and cooling systems

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52 Energy + Environmental Economics. 2015. *Summary of the California State Agencies' PATHWAYS Project: Long-Term Greenhouse Gas Reduction Scenarios*. Available online at: https://ww3.arb.ca.gov/html/fact_sheets/e3_2030scenarios.pdf , accessed March 25, 2019.

- Using low carbon and alternative fuels
- Incorporating zero emission or hybrid vehicles
- Incorporating healthy community planning (active transportation)
- Increasing urban density
- Reducing automobile dependence
- Increasing transit options
- Integrating renewable energy
- Improving waste management

Climate adaptation solutions would be long term and require a shift in thinking on how communities are designed. Adaptation strategies include, but are not limited to:[53]

- Using scarce water more efficiently
- Adapting building codes to future climate conditions and extreme weather events
- Building flood defenses and raising the levels of levees
- Developing drought tolerant crops
- Implementing urban tree planting and reforestation
- Setting aside land corridors for species migration
- Increasing collaboration on climate preparedness strategies among public agencies

Multiple jurisdictions in the SCAG region have taken action to address climate change. After assessing the climate vulnerabilities distinct to their community, these jurisdictions formulate a plan to move forward to minimize the impacts of these vulnerabilities. These actions take the form of climate action plans, general plan policies, GHG reduction plans, sustainability plans, and ordinances.[54] SCAG has undertaken several planning efforts including studying adaptation strategies and assisting jurisdictions in developing Climate Action Plans.

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53 California Air Resources Board. 2015. *FAQ about EO B-30-15: 2030 Carbon Target and Adaptation.* Available online at: http://www.arb.ca.gov/newsrel/2030_carbon_target_adaptation_faq.pdf, accessed March 25, 2019.

54 California Governor's Office of Planning and Research. 2014. *California Jurisdictions Addressing Climate Change*. Available online at: http://www.ca-ilg.org/sites/main/files/file-attachments/california_jurisdictions_addressing_climate_change_pdf_0.pdf , accessed March 25, 2019.

SCAG presents annual Sustainability Awards to recognize exemplary planning projects that support the core principles of mobility, livability, prosperity, and sustainability.

Past Sustainability Award winners include:

2018:

- City of Long Beach – 2017 Bicycle Master Plan, Communities of Excellence in Nutrition, Physical Activity and Obesity Prevention (CX3) & Willow Springs Wetland Restoration Project
- City of Cathedral City & SCRAP Gallery – Cycle Cathedral City Bicycle Outreach and Education Program
- City of San Fernando – Corridors Specific Plan
- Cities of Arcadia, Azusa, Duarte, Irwindale, Monrovia, San Marino, South Pasadena and LA Metro – 626 Golden Streets
- City of Rancho Cucamonga – Rancho Cucamonga Sustainable Community Action Plan
- City of Perris – Live Well Perris
- City of Hermosa Beach – PLAN Hermosa

2017:

- Transportation Corridor Agencies (TCA) – Foothill South Settlement Agreement
- UCLA Department of Transportation – UCLA BruinBikeSmart
- City of San Bernardino – Waterman + Baseline Neighborhood Specific Plan
- Imperial County Transportation Commission (ICTC) – Pedestrian and Bicycle Transportation Access Study for the California/Baja California Land Ports of Entry
- Los Angeles County Department of Parks and Recreation – Los Angeles County Master Plan for Sustainable Parks and Recreation: Phase 1
- City of Lynwood – Lynwood Safe and Healthy Communities Element
- City of Long Beach – Midtown Specific Plan

3.8.2 REGULATORY FRAMEWORK

3.8.2.1 International

Intergovernmental Panel on Climate Change

The World Meteorological Organization (WMO) and United Nations Environmental Program (UNEP) established the IPCC in 1988. The goal of the IPCC is to evaluate the risk of climate change caused by human activities. Rather than performing research or monitoring climate, the IPCC relies on peer-reviewed and published scientific literature to make its assessment. While not a regulatory body, the IPCC assesses information (i.e., scientific literature) regarding human-induced climate change and the impacts of human-induced climate change and recommends options to policy makers for the adaptation and mitigation of climate change. The IPCC reports its evaluations in special reports called assessment reports. The latest assessment report (i.e., Fifth Assessment Report, consisting of three working group reports and a synthesis report based on the first three reports) was published in 2013. In its 2013 report, the IPCC stated that global temperature increases since 1951 were extremely likely attributable to man-made activities (greater than 95 percent certainty).[55] The IPCC anticipates the release of the Sixth Assessment Report in 2022.[56]

Paris Accord

The most recent international climate change agreement was adopted at the United Nations Framework Convention on Climate Change in Paris in December 2015 (the "Paris Accord").[57] In the Paris Accord, the United States set its intended nationally determined contribution to reduce its GHG emissions by 26 to 28 percent below its 2005 level in 2025 and to make best efforts to reduce its emissions by 28 percent. These targets were set with the goal of limiting global temperature rise to below 2 degrees Celsius and getting to the 80 percent emission reduction by 2050.

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55 IPCC. 2013. *Climate Change 2013 The Physical Science Basis.*

56 IPCC. *AR6 Synthesis Report: Climate Change 2022.* Available online at: https://www.ipcc.ch/report/sixth-assessment-report-cycle/, accessed August 13, 2019.

57 United Nations, Paris Agreement. 2015. *Paris Agreement.* Available online at: http://unfccc.int/files/essential_background/convention/application/pdf/english_paris_agreement.pdf, accessed April 17, 2018

However, in June 2017, the U.S. announced its intent to withdraw from the Paris Accord.[58] The earliest effective date of a withdrawal by the U.S. is November 2020.

In an effort to reach the goals set by the Paris Accord, over 9,000 cities and local governments from 132 countries across the world formed the Global Covenant of Mayors (GCoM) with the goal of collectively reducing 1.3 billion tons of CO_2 emissions per year by 2030.[59] 158 cities within the United States have joined GCoM despite the federal government announcing its intent to withdraw from the Paris Accord. Many of these cities are in the SCAG region, including Los Angeles, Lancaster, Long Beach, Manhattan Beach, Santa Monica, West Hollywood, and Palm Springs.[60]

3.8.2.2 Federal

Global Change Research Act (1990)

In 1990, Congress passed and the President signed Public Law 101-606, the Global Change Research Act.[61] The purpose of the legislation was: "…to require the establishment of a United States Global Change Research Program aimed at understanding and responding to global change, including the cumulative effects of human activities and natural processes on the environment, to promote discussions towards international protocols in global change research, and for other purposes." To that end, the Global Change Research Information Office was established in 1991 to serve as a clearinghouse of information. The Act requires a report to Congress every four years on the environmental, economic, health and safety consequences of climate change; however, the first and only one of these reports to date, the National Assessment on Climate Change, was not published until 2000. In February 2004, operational responsibility for GCRIO shifted to the U.S. Climate Change Science Program.

Supreme Court Ruling

The US Supreme Court ruled in *Massachusetts v. Environmental Protection Agency, 127 S.Ct. 1438 (2007)*, that carbon dioxide and other greenhouse gases are pollutants under the Federal Clean Air Act (CCA),

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58 The White House. *Statement by President Trump on the Paris Climate Accord.* Available online at: https://www.whitehouse.gov/briefings-statements/statement-president-trump-paris-climate-accord/, accessed April 17, 2018.

59 Global Covenant of Mayors for Climate & Energy Change. *About Us*. Available online at: https://www.globalcovenantofmayors.org/about/, accessed September 3, 2019.

60 Global Covenant of Mayors for Climate & Energy. *USA*. Available online at: https://www.globalcovenantofmayors.org/region/usa/, accessed September 3, 2019.

61 Global Change Research Act (Public Law 101-606, 104 Stat. 3096-3104). 1990. Available online at: https://www.govinfo.gov/content/pkg/STATUTE-104/pdf/STATUTE-104-Pg3096.pdf, accessed August 13, 2019.

which the US Environmental Protection Agency (USEPA) must regulate if it determines they pose an endangerment to public health or welfare.

US EPA Endangerment Finding

On December 7, 2009, the US EPA Administrator signed two distinct findings regarding GHGs under section 202(a) of the Clean Air Act (42 USC Section 7521):[62]

- Endangerment Finding: The Administrator finds that the current and projected concentrations of the six key well-mixed GHGs (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride) in the atmosphere threaten the public health and welfare of current and future generations.

- Cause or Contribute Finding: The Administrator finds that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution that threatens public health and welfare.

Energy Policy Act of 1992 (EPAct)

The Energy Policy Act of 1992 (EPAct)[63] was passed to reduce the country's dependence on foreign petroleum and improve air quality. EPAct includes several parts intended to build an inventory of alternative fuel vehicles (AFVs) in large, centrally fueled fleets in metropolitan areas. EPAct requires certain federal, state, and local government and private fleets to purchase a percentage of light duty AFVs capable of running on alternative fuels each year. In addition, financial incentives are also included in EPAct. Federal tax deductions will be allowed for businesses and individuals to cover the incremental cost of AFVs. States are also required by the act to consider a variety of incentive programs to help promote AFVs.

Energy Policy Act of 2005

The Energy Policy Act of 2005[64] provides renewed and expanded tax credits for electricity generated by qualified energy sources, such as landfill gas; provides bond financing, tax incentives, grants, and loan

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62 U.S. Environmental Protection Agency. *Endangerment and Cause or Contribute Findings for Greenhouse Gases under the Clean Air Act*. Available online at: https://www.epa.gov/ghgemissions/endangerment-and-cause-or-contribute-findings-greenhouse-gases-under-clean-air-act, accessed August 13, 2019.

63 H.R. 776 – Energy Policy Act of 1992. Available online at: https://www.congress.gov/bill/102nd-congress/house-bill/776/text/enr, accessed August 13, 2019.

64 Energy Policy Act of 2005. Available online at: https://www.energy.gov/sites/prod/files/edg/media/HR6PP%281%29.pdf, accessed August 13, 2019.

guarantees for clean renewable energy and rural community electrification; and establishes a federal purchase requirement for renewable energy.

Energy Independence and Security Act

The Energy Independence and Security Act of 2007[65] includes several key provisions that will increase energy efficiency and the availability of renewable energy, which will reduce greenhouse gas emissions as a result. First, the Act sets a Renewable Fuel Standard that requires fuel producers to use at least 36 billion gallons of biofuel by 2022. Second, it increased Corporate Average Fuel Economy (CAFE) Standards to require a minimum average fuel economy of 35 miles per gallon for the combined fleet of cars and light trucks by 2020. Third, the adopted bill includes a variety of new standards for lighting and for residential and commercial appliance equipment. The equipment includes residential refrigerators, freezers, refrigerator-freezers, metal halide lamps, and commercial walk-in coolers and freezers.

EPA Reporting Rule

The US Environmental Protection Agency (USEPA) adopted a mandatory GHG reporting rule in September 2009.[66] The rule would require suppliers of fossil fuels or entities that emit industrial greenhouse gases, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of GHG emissions to submit annual reports to the USEPA beginning in 2011 (covering the 2010 calendar year emission). Vehicle and engine manufacturers were required to begin reporting GHG emissions for model year 2011.

Fuel Economy Standards

On September 15, 2009, the National Highway Traffic Safety Administration (NHTSA) and EPA announced a proposed joint rule that would explicitly tie fuel economy to GHG emissions reductions requirements. The proposed new Corporate Average Fuel Economy (CAFE) Standards[67] would cover automobiles for model years 2012 through 2016 and would require passenger cars and light trucks to meet a combined, per mile, carbon dioxide emissions level. It was estimated that by 2016, this GHG

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65 U.S. Environmental Protection Agency. *Summary of the Energy Independence and Security Act*. Available online at: https://www.epa.gov/laws-regulations/summary-energy-independence-and-security-act, accessed August 13, 2019.

66 U.S. Environmental Protection Agency. *Greenhouse Gas Reporting Program (GHGRP)*. Available online at: https://www.epa.gov/ghgreporting/history-proposed-rules, accessed August 13, 2019.

67 U.S. Department of Transportation, Corporate Average Fuel Economy (CAFÉ) Standards. Available online at: https://www.transportation.gov/mission/sustainability/corporate-average-fuel-economy-cafe-standards, accessed August 9, 2019.

emissions limit could equate to an overall light-duty vehicle fleet average fuel economy of as much as 35.5 miles per gallon. The proposed standards would require model year 2016 vehicles to meet an estimated combined average emission level of 250 grams of carbon dioxide per mile under EPA's GHG program.

On November 16, 2011, EPA and NHTSA issued a joint proposal to extend the national program of harmonized GHG and fuel economy standards to model year (MY) 2017 through 2025 passenger vehicles. In August 2012, President Obama finalized standards that will increase fuel economy to the equivalent of 54.5 mpg for cars and light-duty trucks by MY 2025.

On January 12, 2017, EPA Administrator Gina McCarthy signed her determination to maintain the GHG emissions standards for model year MY 2022-2025 vehicles. Her final determination found that automakers are well positioned to meet the standards at lower costs than previously estimated.[68]

On March 15, 2017, the new EPA Administrator Scott Pruitt and Department of Transportation Secretary Elaine Chao announced that EPA intended to reconsider the final determination, issued on January 12, 2017, that recommended no change to the greenhouse gas standards for light duty vehicles for model years 2022- 2025.[69]

On April 2, 2018, the Administrator signed the Mid-term Evaluation Final Determination which finds that the model year 2022-2025 greenhouse gas standards are not appropriate in light of the record before EPA and, therefore, should be revised.[70]

On September 19, 2019, under the Safer, Affordable, Fuel-Efficient (SAFE) Vehicles Rule, the U.S. Department of Transportation's National Highway Traffic Safety Administration (NHSTA) and the U.S. EPA issued the final "One National Program Rule." The rule states that federal law preempts state and local laws regarding tailpipe GHG emissions standards, zero emissions vehicle mandates, and fuel economy for automobiles and light duty trucks. The rule revokes California's Clean Air Act waiver and

68 U.S. Environmental Protection Agency. *Midterm Evaluation of Light-Duty Vehicle Greenhouse Gas Emissions Standards for Model Years 2022-2025.* Available online at: https://www.epa.gov/regulations-emissions-vehicles-and-engines/midterm-evaluation-light-duty-vehicle-greenhouse-gas, accessed August 13, 2019.

69 Ibid.

70 Ibid.

preempts California's Advanced Clean Car Regulations and may potentially impact SCAG's Connect SoCal and transportation projects in the SCAG region.[71, 72]

On September 20, 2019, a lawsuit was filed by California and a coalition of 22 other states, and the cities of Los Angeles, New York and Washington, D.C., in the United States District Court for the District of Columbia (Case 1:19-cv-02826) challenging the SAFE Rule and arguing that EPA lacks the legal authority to withdraw the California waiver. As such, at the time of this PEIR, it is unclear whether the SAFE Rule will remain in place.[73]

Heavy-Duty Vehicle Program

In May 2010, President Barack Obama issued a Presidential Memorandum Regarding Fuel Efficiency Standards requesting that USEPA and National Highway Traffic Safety Administration (NHTSA) take additional coordinated steps to produce a new generation of clean vehicles.[74] In response, USEPA and NHTSA adopted regulations governing Medium- and Heavy-Duty Greenhouse Gas Emissions and Fuel Efficiency (title 40, Code of Federal Regulations, Chapter I) on September 15, 2011 (most recently amended on August 16, 2013) to establish the first fuel efficiency requirements for medium- and heavy-duty vehicles beginning with the model year 2014 through model year 2018. On February 18, 2014, the President directed EPA and NHTSA to set the next round of fuel efficiency standards for Medium- and heavy-duty vehicles (beyond model year 2018) that will build on the existing standards to further reduce fuel consumption through the application of advanced cost-effective technologies and continue to improve the efficiency of moving goods across the United States. In October 2016, US EPA and NHTSA adopted Phase 2 GHG and fuel efficiency standards for medium- and heavy-duty engines and vehicles.[75]

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71 U.S. Department of Transportation and U.S. EPA. 2019. *One National Program Rule on Federal Preemption of State Fuel Economy Standards*. Available online at: https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100XI4W.pdf, accessed October 29, 2019.

72 Southern California Association of Governments. 2019. *Final Federal Safer, Affordable, Fuel-Efficient Vehicles Rule Part I (Supplemental Report).* Available online at: http://www.scag.ca.gov/committees/CommitteeDocLibrary/EEC_Item8_RC_Item10%20Supplemental%20Report.pdf, accessed October 29, 2019.

73 If the SAFE Rule remains in place, the State and region would have to develop other means of achieving the NAAQS.

74 The White House, President Barack Obama. 2010. *Presidential Memorandum Regarding Fuel Efficiency Standards*. Available online at: https://obamawhitehouse.archives.gov/the-press-office/presidential-memorandum-regarding-fuel-efficiency-standards, accessed August 13, 2019.

75 U.S. Environmental Protection Agency. *Final Rule for Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles - Phase 2*. Available online at: https://www.epa.gov/regulations-emissions-vehicles-and-engines/final-rule-greenhouse-gas-emissions-and-fuel-efficiency#rule-history, accessed March 1, 2018.

Clean Power Plan

In 2015, US EPA published the Clean Power Plan (80 Fed. Reg. 64661, October 23, 2015).[76] The Clean Power Plan sets achievable standards to reduce CO_2 emissions by 32 percent from 2005 levels by 2030. This Plan establishes final emissions guidelines for states to follow in developing plans to reduce GHG emissions from existing fossil fuel-fired electric generating units (EGUs). Specifically, US EPA is establishing: (1) CO_2 emission performance rates representing the best system of emission reduction (BSER) for two subcategories of existing fossil-fuel-fired EGUs, fossil-fuel-fired electric utility steam generating units and stationary combustion turbines; (2) state-specific CO_2 goals reflecting the CO_2 emission performance rates; and (3) guidelines for the development, submittal and implementation of state plans that establish emission standards or other measures to implement the CO_2 emission performance rates, which may be accomplished by meeting the state goals. This final rule would continue progress already under way in the United States to reduce CO_2 emissions from the utility power sector. On February 9, 2016, the Supreme Court (Order No. 15A773) stayed implementation of the Clean Power Plan pending judicial review. As directed by Executive Order on Energy Independence,[77] the U.S. EPA officially repealed the Clean Power Plan in June 2019 and issued the final Affordable Clean Energy rule in its place.[78]

Affordable Clean Energy Rule

The U.S. EPA issued the Affordable Clean Energy (ACE) rule on June 19, 2019, in order to replace the Clean Power Plan. The ACE rule establishes emissions guidelines for states to use when developing plans to limit carbon dioxide at coal-fired power plants. Specifically, the ACE rule aims at improving the heat rate as the best system of emissions reductions for carbon dioxide at coal-fired power plants and these improvements can be made at individual facilities. States will have three years to submit plans. The EPA estimates that the ACE rules will result in a reduction of CO_2 emissions from the electricity sector by as much as 35% below 2005 levels by 2030.[79]

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76 US Environmental Protection Agency. *Carbon Pollution Standards for New, Modified and Reconstructed Power Plants: Regulatory Actions.* Available online at: https://archive.epa.gov/epa/cleanpowerplan/carbon-pollution-standards-new-modified-and-reconstructed-power-plants-regulatory.html, accessed August 13, 2019.

77 The White House. 2017. *Presidential Executive Order on Promoting Energy Independence and Economic Growth*. Available online at: https://www.whitehouse.gov/presidential-actions/presidential-executive-order-promoting-energy-independence-economic-growth/, accessed August 13, 2019.

78 U.S. Environmental Protection Agency. 2019. *EPA Finalizes Affordable Clean Energy Rule, Ensuring Reliable, Diversified Energy Resources while Protecting the Environment*. Available online at: https://www.epa.gov/newsreleases/epa-finalizes-affordable-clean-energy-rule-ensuring-reliable-diversified-energy, accessed August 22, 2019.

79 Ibid.

Federal Highway Administration's Climate Change and Extreme Weather Vulnerability Assessment Framework

Published in December 2012, the Climate Change and Extreme Weather Vulnerability Assessment Framework is a guidance document for transportation agencies to assess their vulnerability to climate change and extreme weather events. Objectives for a vulnerability assessment may include siting new assets in areas less vulnerable to climate change, educating staff regarding overall climate risks to the agency's transportation system, or informing the development of adaption strategies. Based on these objectives, an agency can then select and characterize relevant assets and identify climate variables for study. The vulnerability assessment is an iterative process; information gathered on assets may inform climate information needs and vice versa.[80]

Executive Order on Energy Independence

On March 28, 2017, President Donald Trump signed Executive Order 13783, "Promoting Energy Independence and Economic Growth," which calls for:[81]

- Review of the Clean Power Plan
- Review of the 2016 Oil and Gas New Source Performance Standards for New, Reconstructed, and Modified Sources
- Review of the Standards of Performance for GHG Emissions from New, Modified, and Reconstructed Stationary Sources: Electric Generating Units
- Withdrawal of Proposed Rules: Federal Plan Requirements for GHG Emissions From Electric Utility Generating Units Constructed on or Before January 8, 2014; Model Trading Rules; Amendments to Framework Regulations; and Clean Energy Incentive Program Design Details

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80 U.S. Department of Transportation. 2012. *The Federal Highway Administration's Climate Change & Extreme Weather Vulnerability Assessment Framework*. Available online at: https://web.law.columbia.edu/sites/default/files/microsites/climate-change/fha_cc_and_extreme_weather_vulnerability_assessment_framework.pdf, accessed August 22, 2019.

81 The White House. 2017. *Presidential Executive Order on Promoting Energy Independence and Economic Growth*. Available online at: https://www.whitehouse.gov/presidential-actions/presidential-executive-order-promoting-energy-independence-economic-growth/, accessed August 13, 2019.

3.8.2.3 State

Coastal Act

The California Coastal Act of 1976 directs the California Coastal Commission (Coastal Commission) to protect and enhance the State's coastal resources.[82] The Coastal Commission has planning, regulatory, and permitting authority over all development within the coastal zone, whose landward boundary varies with location. The Act governs coastal hazards for new development, mandating that it minimize risks to life and property in areas of high flood. New development must be located such that it will not be subject to erosion or stability hazard over the course of its design life, and construction of protective devices (e.g., seawalls, revetment) that substantially alter natural land forms along bluffs and cliffs are not permitted (Section 30253).

The Coastal Commission's mandate extends to climate change, including sea level rise; however, the agency is currently assessing how best to address sea level rise and other challenges resulting from climate change. The Coastal Commission partners with local governments to form Local Coastal Programs (LCPs), transferring the power to regulate development within the coastal zone to cities and counties. Within the Bay Area, all of San Mateo, San Francisco, Marin, and Sonoma counties, along with the cities of Daly City, Pacifica and Half Moon Bay have certified LCPs. Any changes in the Coastal Commission's policies and/or regulations with respect to sea level rise may ultimately require revisions to LCPs.

Senate Bill 1078 (SB 1078), Senate Bill 107 (SB 107), Executive Order (EO) S-14-08, Executive Order S-21-09 (Renewables Portfolio Standard), and Senate Bill 100 (SB 100)

On September 12, 2002, Governor Gray Davis signed SB 1078 (Chapter 516, Statutes of 2002) requiring California to generate 20 percent of its electricity from renewable energy by 2017.[83] SB 107 (Chapter 464, Statutes of 2006), signed by the Governor on September 26, 2006 changed the due date for this goal from 2017 to 2010.[84] On November 17, 2008, Governor Arnold Schwarzenegger signed Executive Order S-14-08, which established a Renewables Portfolio Standard goal for California requiring that all retail sellers of electricity serve 33 percent of their load with renewable energy by 2020.[85] Increased use of renewable energy sources will decrease California's reliance on fossil fuels, reducing emissions of GHGs from the

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82 California Coastal Commission. 2019. *Public Resources Code Division 20 California Coastal Act*. Available online at: https://www.coastal.ca.gov/coastact.pdf, accessed August 14, 2019.

83 California Legislative Information. 2002. *Senate Bill 1078.*

84 California Legislative Information. 2006. *Senate Bill 107*.

85 Office of the Governor, Arnold Schwarzenegger. 2008. *Executive Order S-14-08*.

energy sector. In April 2011, SB X1-2 required that all electricity retailers adopt the new RPS goals providing 20 percent renewable sources by the end of 2013, 25 percent by the end of 2016, and 33 percent by the end of 2020.[86] SB 350 of 2015 (Chapter 547, Statutes of 2015) increased the renewable portfolio standard to 50 percent by the year 2030.[87]

Executive Order S-21-09 directs CARB to adopt regulations to increase California's Renewables Portfolio Standard (RPS) to 33 percent by 2020.[88] The target was signed into law as SB 2 by Governor Brown in April 2011. This builds upon SB 1078 (2002), which established the California RPS program, requiring 20 percent renewable energy by 2017, and SB 107 (2006), which advanced the 20 percent deadline to 2010. In September 2018, SB 100 was approved by Governor Brown. SB 100 requires an updated goal of 60% renewable energy resources by the year 2030, and 100% zero-carbon energy by the year 2045.[89]

Assembly Bill 1493 (AB 1493) (Pavley Regulations) - Vehicular Emissions Greenhouse Gas Emission Standards

In September 2002, AB 1493 (Chapter 200, Statutes of 2002) (referred to as Pavley I)[90] was enacted, requiring the development and adoption of regulations to achieve "the maximum feasible reduction of greenhouse gases" emitted by noncommercial passenger vehicles, light-duty trucks, and other vehicles used primarily for personal transportation in the state by January 1, 2005. Pavley I took effect for model years starting in 2009 to 2016 and Pavley II, which is now referred to as "LEV (Low Emission Vehicle) III GHG" will cover 2017 to 2025 (13 Cal. Code Regs. Section 1900 *et seq.*).[91] Fleet average emission standards were to reach a 22 percent reduction by 2012 and 30 percent by 2016.

Assembly Bill 32 (AB 32) and CARB Scoping Plan

The State of California has implemented numerous laws targeting GHG emissions. Chief among these is the California Global Warming Solutions Act of 2006 (Assembly Bill [AB] 32) (Health & Safety Code Section 38500 et seq.).[92] AB 32 represents the first enforceable statewide program to limit GHG emissions from all major sectors with penalties for noncompliance. Like EO S-3-05, AB 32 requires the State of

86 California Legislative Information. 2011. *Senate Bill 2*.

87 California Legislative Information. 2015. *SB-350 Clean Energy and Pollution Reduction Act of 2015*.

88 The Center for Climate Strategies. 2010. *Executive Order S-21-09*. Available online at: http://www.climatestrategies.us/library/library/view/290, accessed August 14, 2019.

89 California Legislative Information. 2018. *Senate Bill 100.*

90 Assembly Bill No. 1493. 2002.

91 California Air Resources Board. 2007. *The California Low-Emission Vehicle Regulations*. Available online at: https://ww3.arb.ca.gov/msprog/levprog/cleandoc/cleancomplete_lev-ghg_regs_9-07.pdf, accessed on August 14, 2019.

92 Assembly Bill 32. 2006.

California to reduce its emissions to 1990 levels by 2020. The Act establishes key deadlines for certain actions the state must take in order to achieve the reduction target. The first action under AB 32 resulted in California Air Resources Board's (CARB) adoption of a report listing three specific early action GHG reduction measures on June 21, 2007. On October 25, 2007, CARB approved an additional six early action GHG reduction measures under AB 32.[93]

As required under AB 32, on December 6, 2007, CARB approved the 1990 GHG emissions inventory, thereby establishing the emissions limit for 2020. The 2020 emissions limit was set at 427 $MMTCO_{2e}$, since updated to 431 $MMTCO_2e$.[94] The inventory indicated that in 1990, transportation, with 35 percent of the state's total emissions, was the largest single sector generating carbon dioxide; followed by industrial emissions, 24 percent; imported electricity, 14 percent; in-state electricity generation, 11 percent; residential use, 7 percent; agriculture, 5 percent; and commercial uses, 3 percent (figures are based on the 1990 inventory). AB 32 does not require individual sectors to meet their individual 1990 GHG emissions inventory; the total statewide emissions are required to meet the 1990 target by 2020.

In addition to the 1990 emissions inventory, CARB also adopted regulations requiring the mandatory reporting of GHG emissions for large facilities on December 6, 2007 (17 Cal. Code Regs. Section 95100 *et seq.*).[95] The mandatory reporting regulations require annual reporting from the largest facilities in the state, which account for approximately 94 percent of GHG emissions from industrial and commercial stationary sources in California. About 800 separate sources fall under the new reporting rules and include electricity generating facilities, electricity retail providers and power marketers, oil refineries, hydrogen plants, cement plants, cogeneration facilities, and industrial sources that emit over 25,000 tons of CO_2 each year from on-site stationary combustion sources. Affected facilities began tracking their emissions in 2008, and reported them beginning in 2009, with a phase-in process to allowed facilities to develop reporting systems and train personnel in data collection. Emissions for 2008 could be based on best available emission data. Beginning in 2010, however, emissions reporting requirements became more rigorous and are subject to third-party verification. Verification will take place annually or every three years, depending on the type of facility.

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93 CARB. *Early Action Items*. Available online at: https://ww3.arb.ca.gov/cc/ccea/ccea.htm, accessed April 17, 2018.

94 CARB. 2017. *California 1990 Greenhouse Gas Emissions Level and 2020 Limit*. Available online at: https://www.arb.ca.gov/cc/inventory/1990level/1990level.htm, accessed April 18, 2017.

95 CARB. 2007. *Notice of Public Availability of Modified Text: Public Hearing to Consider Adoption of a Regulation for the Mandatory Reporting of Greenhouse Gas Emissions*. Available online at: https://ww3.arb.ca.gov/regact/2007/ghg2007/15daynotice.pdf, accessed August 21, 2019.

In December 2008, CARB adopted a *Climate Change Scoping Plan*[96] indicating how emission reductions will be achieved from significant sources of GHGs via regulations, market mechanism, and other actions. The *Climate Change Scoping Plan* identifies 18 recommended strategies the state should implement to achieve AB 32.

CARB's initial Scoping Plan contains the main strategies California would implement to reduce the projected 2020 Business-as-Usual (BAU) emissions to 1990 levels, as required by AB 32. These strategies are intended to reduce CO_2e[97] emissions by 174 million metric tons (MT), or approximately 30 percent, from the State's projected 2020 emissions level of 596 million $MTCO_{2e}$ (MMTCO2e) under a BAU[98] scenario. This reduction of 42 million $MTCO_{2e}$, or almost 10 percent from 2002 to 2004 average emissions, would be required despite the population and economic growth forecast through 2020.

CARB's initial Scoping Plan calculates 2020 BAU emissions as those expected to occur in the absence of any GHG reduction measures. The 2020 BAU emissions estimate was derived by projecting emissions from a past baseline year using growth factors specific to each of the different economic sectors (e.g., transportation, electrical power, commercial and residential, industrial). CARB used 3-year average emissions, by sector, for 2009 to 2011 to forecast emissions to 2020. The measures described in CARB's Scoping Plan are intended to reduce the projected 2020 BAU to 1990 levels, as required by AB 32.[99]

On December 14, 2017, CARB approved the final version of *California's 2017 Climate Change Scoping Plan* (2017 Scoping Plan Update – discussed in more detail below), which outlines the proposed framework of action for achieving the SB 32 2030 GHG target of 40 percent reduction in GHG emissions relative to 1990 levels.[100] See further discussion below.

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96 CARB. 2013. *Initial AB 32 Climate Change Scoping Plan* Document. Available online at: https://www.arb.ca.gov/cc/scopingplan/document/scopingplandocument.htm, accessed April 17, 2018.

97 Carbon dioxide equivalent (CO_2e) – A metric measure used to compare the emissions from various greenhouse gases based upon their global warming potential.

98 "Business-as-Usual" refers to emissions expected to occur in the absence of any GHG reduction measure (California Environmental Protection Agency Air Resources Board Website, http://www.arb.ca.gov/cc/inventory/data/bau.htm, Accessed June 1, 2016). Note that there is significant controversy as to what BAU means. In determining the GHG 2020 limit, CARB used the above as the "definition."

99 The First Update to California's Climate Change Scoping Plan was developed by CARB in collaboration with the CAT and reflects the input and expertise of a range of state and local government agencies. The 2014 Scoping Plan Update lays the foundation for establishing a broad framework for continued emission reductions beyond 2020.

100 CARB. 2017. *California's 2017 Climate Change Scoping Plan*. Available online at: https://ww3.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf, accessed August 14, 2019.

Senate Bill 1 (SB 1)

SB 1 (2006) (Chapter 132, Statutes of 2006) set a goal to install 3,000 megawatts of new solar capacity by 2017, moving the state toward a cleaner energy future and helping lower the cost of solar systems for consumers.[101] The "Million Solar Roofs" Program is a ratepayer-financed incentive program aimed at transforming the market for rooftop solar systems by driving down costs over time. It provides up to $3.3 billion in financial incentives that decline over time.

Assembly Bill 811 (AB 811)

AB 811 (2008) (Chapter 159, Statutes of 2008) authorizes California cities and counties to designate districts within which willing property owners may enter into contractual assessments to finance the installation of renewable energy generation and energy efficiency improvements that are permanently fixed to the property.[102] These financing arrangements would allow property owners to finance renewable generation and energy efficiency improvements through low-interest loans that would be repaid as an item on the property owner's property tax bill.

SB 1383-Short Lived Climate Pollutants

Short-lived climate pollutants (SLCP) SLCPs include black carbon (soot), methane, and fluorinated gases (F-gases). SB 1383 of 2016 (Chapter 395, Statutes of 2016) sets forth legislative direction for control of SLCPs.[103] It requires CARB, no later than January 1, 2018, to approve and begin implementing its SLCP strategy to achieve the following reductions in emissions by 2030 compared to 2013 levels: methane by 40 percent, hydrofluorocarbons by 40 percent, and black carbon (non-forest) by 50 percent. The bill also specifies targets for reducing organic waste in landfills. SB 1383 also requires CARB to adopt regulations to be implemented on or after January 1, 2024 specific to the dairy and livestock industry, requiring a 40 percent reduction in methane emissions below 2013 levels by 2030, if certain conditions are met. Lastly, the bill requires CalRecycle to adopt regulations to take effect on or after January 1, 2022 to achieve specified targets for reducing organic waste in landfills.

Senate Bill 375 (SB 375)

SB 375, adopted in 2008, builds on AB 32, SB 375 (Chapter 728, Statutes of 2008)[104] seeks to coordinate land use planning, housing planning, regional transportation planning, and GHG reductions. By

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101 California Legislative Information. 2006. *Senate Bill 1.*

102 California Legislative Information. 2008. *Assembly Bill 811.*

103 California Legislative Information. 2016. *Senate Bill 1383.*

104 California Legislative Information. 2008. *Senate Bill 375*.

coordinating these efforts, it is envisioned that vehicle congestion and travel can be reduced resulting in a corresponding reduction in emissions. SB 375 directed CARB to set regional targets to reduce emissions; regional transportation plans are required to identify how they will meet these targets.

SB 375 has three major components:

- Using the regional transportation planning process to achieve reductions in emissions consistent with AB 32's goals.
- Offering California Environmental Quality Act (CEQA) incentives to encourage projects that are consistent with a regional plan that achieves emissions reductions.
- Coordinating the Regional Housing Needs Assessment (RHNA) process with the regional transportation process while maintaining local authority over land use decisions.

A Sustainable Communities Strategy (SCS) is a required component of the RTP. The SCS is a land use pattern for the region which, in combination with transportation policies and programs, strives to reduce emissions and helps meet CARB's targets for the region. An alternative planning strategy (APS) must be prepared if the SCS is unable to reduce emissions and achieve the emissions reduction targets established by CARB.

Certain transportation planning and programming activities must be consistent with the SCS; however, SB 375 expressly provides that the SCS does not regulate the use of land, and further provides that local land use plans and policies (e.g., general plans) are not required to be consistent with either the RTP or SCS. For the 2016 RTP/SCS cycle, CARB set reduction targets for the SCAG region at 8 percent for 2020 and 19 percent for 2035. This was an update to the previous 2035 target of 13 percent.[105]

The 2018 Progress Report for SB 375 was written to assess progress made toward meeting GHG reduction targets and to include data-supported metrics for strategies utilized to meet those targets. It found that California is not on track to meet GHG reductions expected under SB 375, largely due to the fact that statewide passenger vehicle travel per capita is increasing. While California has hit its 2020 climate target ahead of schedule due to strong performance in the energy sector, meeting future targets will require a greater contribution from the transportation sector. Despite increases in fuel efficiency and decreases in the carbon content of fuel, transportation emissions have grown due to the high cost of housing, forcing residents to drive longer distances between the places they need to go.

The 2018 Progress Report also found that these growth patterns reinforce racial and economic injustices by disproportionately burdening low-income residents, who pay the highest proportion of their wages

105 CARB Updated Targets March 2018 https://ww3.arb.ca.gov/cc/sb375/sb375old.htm

for housing and commuting. These residents also often live in communities with the most health impacts from lack of active transportation infrastructure and transportation pollution. Overall, CARB finds that structural changes at all levels of government are still necessary to meet climate goals and ancillary benefits.[106]

Senate Bill 743

SB 743 (Steinberg) was signed into law by Governor Jerry Brown on September 27, 2013, and encourages development of mixed-use, transit-oriented infill projects by: (1) establishing new CEQA exemptions for transit-oriented developments located in Transit Priority Areas (TPAs) that are consistent with an adopted Specific Plan; (2) eliminating the requirement to evaluate aesthetic and parking impacts in those targeted development areas; and (3) directing the OPR to develop an alternative metric to evaluate transportation-related impacts under CEQA. [107, 108]

SB 743 directed OPR to identify appropriate criteria for the evaluation of transportation impacts. OPR selected VMT as the preferred transportation impact metric and applied their discretion to require its use statewide. Vehicle level of service (LOS) and similar measures related to delay are not identified as appropriate metrics for determining the significance of transportation impacts under CEQA although they may still be appropriate for evaluation of projects as part of the planning process. The SB 743 guidance indicates that each jurisdiction throughout the state has until July 1, 2020, to adopt VMT as the metric for evaluation of transportation impacts, but until that date, lead agencies may elect to use VMT and/or LOS to analyze transportation impacts (although CEQA has already been revised to indicate VMT as the appropriate metric for evaluation of transportation impacts).

With respect to identifying what represents an appropriate threshold of significance for VMT impacts, the California Air Resources Board (CARB) published the *2017 Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals* (CARB Report) which includes non-binding technical information on what level of statewide VMT reduction, in the judgment of CARB staff, would promote achievement of statewide GHG emission reduction targets. [109] CARB asserts that the currently adopted SCSs throughout the state "would achieve in aggregate, a nearly 18 percent reduction in statewide per capita on-road light-duty transportation-related GHG emissions relative to 2005 by 2035, if those SCSs were successfully

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106 CARB. 2018. *2018 Progress Report.* November. Available online at: https://ww2.arb.ca.gov/sites/default/files/2018-11/Final2018Report_SB150_112618_02_Report.pdf, accessed October 1, 2019.

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

108 For a further discussion of SB 743, see Section 3.17 *Transportation, Traffic and Safety*.

109 California Air Resources Board. *CARB 2017 Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals* (Jan. 2019). Available online at: https://ww2.arb.ca.gov/sites/default/files/2019-01/2017_sp_vmt_reductions_jan19.pdf, accessed October 24, 2019.

implemented." However, in order to meet the state goals, the full reduction needed is a 25 percent reduction in statewide per capita on-road light-duty transportation-related GHG emissions, however, CARB has "determined that those targets would be infeasible for MPOs to achieve with currently available resources."

The CARB Report is based on modeling that incorporates cleaner technologies and fuels (CTF) assumptions consistent with the 2017 Scoping Plan Update and the 2016 Mobile Source Strategy (as discussed below) and provides an "alternate assessment tool for jurisdictions that choose to use them to complete analyses directed by the CEQA Guidelines." The CARB Report finds that:

> *Certain land use development projects located in areas that would produce rates of **total** VMT per capita that are approximately 14.3 percent lower than existing conditions, or rates of **light-duty** VMT per capita that are approximately 16.8 percent lower than existing conditions (either lower than the regional average or other appropriate planning context) could be, by virtue of their location and land use context, interpreted to be consistent with the transportation assumptions embedded in the 2017 Scoping Plan and with 2050 State climate goals. (Emphasis in original).*[110]

However, CARB notes that the modeling used for the CTF forecast identifies ratios of total statewide VMT to population and that the suggested per capita reductions are not household generated VMT and that values are not directly comparable to output from a local or regional travel demand model.

The *Technical Advisory on Evaluating Transportation Impacts in CEQA* (OPR Technical Advisory) also provides non-binding recommendations regarding assessment of VMT, thresholds of significance, and mitigation measures. [111] OPR cites to the CARB Report to reiterate that "consistency with RTP/SCSs does not necessarily lead to a less-than-significant VMT impact."[112] OPR finds:

> *Based on OPR's extensive review of the applicable research, and in light of an assessment by the California Air Resources Board quantifying the need for VMT reduction in order to meet the State's long-term climate goals, OPR recommends that a per capita [residential] or per employee [office] VMT that is fifteen percent below that of existing development may be a reasonable threshold.*[113]

As discussed in more detail in **Section 3.17 Transportation, Traffic and Safety**, for roadway capacity projects, OPR also recommends developing a project-level threshold based on VMT levels required to

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110 CARB Report at p. 11.

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

112 OPR Technical Advisory at p. 11.

113 *Id.* at p.10.

achieve legally mandated GHG emission reduction targets as set forth in the CARB Scoping Plan and 2016 Mobile Source Strategy. OPR generally recommends a threshold of 15 percent below existing VMT per capita for residential and office with a no net increase for retail projects. OPR asserts that "land use projects, residential projects, office and retail projects tend to have the greatest influence on VMT" and suggests that lead agencies with more specific location information may develop their own more specific thresholds.

Executive Order (EO) S-3-05

On June 1, 2005, EO S-3-05 set the following GHG emission reduction goals: reduce GHG emissions to 2000 levels by 2010; reduce GHG emissions to 1990 levels by 2020; and reduce GHG emissions to 80 percent below 1990 levels by 2050.[114, 115] EO S-3-05 also calls for the Secretary of California Environmental Protection Agency (Cal/EPA) to be responsible for coordination of state agencies and progress reporting.

In response to the Executive Order, the Secretary of the Cal/EPA created the Climate Action Team (CAT).[116] California's CAT originated as a coordinating council organized by the Secretary for Environmental Protection. It included the Secretaries of the Natural Resources Agency, and the Department of Food and Agriculture, and the Chairs of the Air Resources Board, Energy Commission, and Public Utilities Commission. The original council was an informal collaboration between the agencies to develop potential mechanisms for reductions in GHG emissions in the state. The council was given formal recognition in Executive Order S-3-05 and became the CAT.

The original mandate for the CAT was to develop proposed measures to meet the emission reduction targets set forth in the executive order. The CAT has since expanded and currently has members from 18 state agencies and departments.

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114 While EO S-3-05 sets a goal that Statewide GHG emissions be reduced to 80 percent below 1990 levels by 2050, the EO does not constitute a "plan" for GHG reduction, and no State plan has been adopted to achieve the 2050 goal.

115 Office of the Governor, Arnold Schwarzenegger. 2005. *Executive Order S-3-05.*

116 State of California. *Climate Action Team & Climate Action Initiative*. Available online at: https://www.climatechange.ca.gov/climate_action_team/, accessed on August 14, 2019.

The CAT is responsible for preparing reports that summarize the state's progress in reducing GHG emissions. The most recent CAT Report was published in December 2010.[117] The CAT Report discusses mitigation and adaptation strategies, state research programs, policy development, and future efforts.

Executive Order (EO) S-1-07, the Low Carbon Fuel Standard

On January 18, 2007, EO S-1-07 was issued establishing a statewide goal to reduce at least 10 percent in the carbon intensity of California's transportation fuels by 2020.[118] Regulatory proceedings and implementation of the Low Carbon Fuel Standard have been directed to the California Air Resources Board (ARB). The Low Carbon Fuel Standard has been identified by ARB as a discrete early action item in the *Climate Change Scoping Plan*.[119] CARB expects the Low Carbon Fuel Standard to achieve the minimum 10 percent reduction goal; however, many of the early action items outlined in the *Climate Change Scoping Plan* work in tandem with one another. To avoid the potential for double-counting emission reductions associated with AB 1493 (see previous discussion), the *Climate Change Scoping Plan* has modified the aggregate reduction expected from the Low Carbon Fuel Standard to 9.1 percent.

Executive Order S-13-08

Executive Order S-13-08, signed on November 14, 2008, directs California to develop methods for adapting to climate change impacts through preparation of a statewide plan.[120] In response to this order, the California Natural Resources Agency coordinated with 10 state agencies, multiple scientists, a consulting team, and stakeholders to develop the first statewide, multi-sector adaptation strategy in the country. The resulting report, *2009 California Climate Adaptation Strategy*[121,122] summarizes the best-known science to assess the vulnerability of the state to climate change impacts and outlines possible solutions that can be implemented within and across state agencies to promote resiliency. This strategy is the first step in an evolving process to reduce California's vulnerability to climate change impacts.

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117 Climate Action Team. 2010. *Climate Action Team Report to Governor Schwarzenegger and the California Legislature*. Available at: https://ww2.energy.ca.gov/2010publications/CAT-1000-2010-005/CAT-1000-2010-005.PDF, accessed on August 14, 2019.

118 Office of the Governor, Arnold Schwarzenegger. 2007. *Executive Order S-01-07*. Available online at: https://ww3.arb.ca.gov/fuels/lcfs/eos0107.pdf, accessed August 14, 2019.

119 CARB. 2017. *California's 2017 Climate Change Scoping Plan,* November.

120 The Center for Climate Strategies. 2008. *Executive Order S-13-08*. Available online at: http://www.climatestrategies.us/library/library/view/293, accessed August 14, 2019.

121 California Natural Resources Agency. 2009. *2009 California Climate Adaption Strategy.*

122 This report has been updated twice, once in 2014, and once in 2018 to reflect current adaption strategies and incorporate a "Climate Justice" chapter highlighting how equity is woven throughout the entire plan.

Adaptation refers to efforts that prepare the state to respond to the impacts of climate change – adjustments in natural or human systems to actual or expected climate changes to minimize harm or take advantage of beneficial opportunities. California's ability to manage its climate risks through adaptation depends on a number of critical factors. These include its baseline and projected economic resources, technology, infrastructure, institutional support and effective governance, public awareness, access to the best available scientific information, sustainably managed natural resources, and equity in access to these resources.

Executive Order B-16-2012

In March 23, 2012, Governor Brown issued Executive Order B-16-2012 to encourage zero-emission vehicles (ZEVs) and related infrastructure.[123] It orders CARB, CEC, CPUC, and other relevant agencies to work with the Plug-in Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks concerning ZEVs. By 2020, the state's ZEV infrastructure should support up to one million vehicles. By 2025, Executive Order B-16-2012 aims to put over 1.5 million ZEVs on California roads and displace at least 1.5 billion gallons of petroleum. The Executive Order also directs state government to begin purchasing ZEVs. In 2015, 10 percent of state departments' light-duty fleet purchases must be ZEVs, climbing to 25 percent of light-duty fleet purchases by 2020. Executive Order B-16-2012 sets a target for 2050 to reduce GHG emissions in the transportation sector by 80 percent below 1990 levels.

Executive Order N-19-19

On September 20, 2019, Governor Newsom issued Executive Order N-19-19 which requires the redoubling of the state's "efforts to reduce greenhouse gas emissions and mitigate the impacts of climate change while building a sustainable, inclusive economy." EO N-19-19 requires the Department of Finance to create a Climate Investment Framework with a strategy to align the state's $700 billion investment portfolio towards industries and sectors that contribute to the reduction of carbon emissions and increased resilience to the impacts of climate change. The State Transportation Agency shall leverage over $5 billion in annual state transportation spending to reduce fuel consumption and GHG emissions associated with the transportation sector. The Department of General Services shall reduce the state government's GHG footprint. Finally, the California Air Resources Board (CARB) shall develop new criteria for the clean vehicle incentive programs, propose new strategies to increase demand for zero

123 State of California. 2012. *Executive Order B-16-2012*. Available online at: https://www.ca.gov/archive/gov39/2012/03/23/news17472/index.html, accessed on August 14, 2019.

emission vehicles, and consider strengthening existing or adopting new transportation-GHG reduction regulations in order to meet California's goal of five million zero emissions vehicle sales by 2030.[124]

California Cap-and-Trade Program

Authorized by the California Global Warming Solutions Act of 2006 (AB 32), the Cap-and-Trade Program is a core strategy that California is using to meet its statewide GHG reduction targets for 2020 and 2030, and ultimately achieve an 80 percent reduction from 1990 levels by 2050. Pursuant to its authority under AB 32, CARB has designed and adopted a California Cap-and-Trade Program to reduce GHG emissions from major sources (deemed "covered entities") by setting a firm cap on statewide GHG emissions and employing market mechanisms to achieve AB 32's emission-reduction mandate of returning to 1990 levels of emissions by 2020 (17 CCR Sections 95800 to 96023).

In September 2012, CARB adopted a California Cap on Greenhouse Gas Emissions and Market-Based Compliance Mechanisms, which established the cap-and-trade program to manage GHG emissions, for California. The cap-and-trade program is a market-based approach wherein the government determines an overall emission target, or "cap," for a particular set of facilities. The cap is the total amount of emissions that all of the facilities can produce. Tradable emissions allowances totaling the overall emissions cap are distributed by auction or given out amongst the particular set of facilities. The emissions allowances can be traded amongst the facilities.

Under the Cap-and-Trade Program, an overall limit is established for GHG emissions from capped sectors (e.g., electricity generation, petroleum refining, cement production, and large industrial facilities that emit more than 25,000 metric tons CO_2e per year) and declines over time, and facilities subject to the cap-and-trade permits to emit GHGs. The statewide cap for GHG emissions from the capped sectors commenced in 2013 and declines over time, achieving GHG emission reductions throughout the program's duration (see generally 17 CCR Sections 95811, 95812). On July 17, 2017, the California Legislature passed Assembly Bill 398, extending the Cap-and-Trade Program through 2030.

The cap-and-trade regulation provides a firm cap, helping to ensure that the 2020 and 2030 statewide emission limits will not be exceeded. An inherent feature of the Cap-and-Trade Program is that it does not direct GHG emissions reductions in any discrete location or by any particular source. Rather, GHG emissions reductions are ensured on a state-wide basis.

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124 Adaptation Clearinghouse. 2019. *State of California Executive Order N-19-19*. Available online at: https://www.adaptationclearinghouse.org/resources/state-of-california-executive-order-n-19-19.html, accessed October 29, 2019.

Senate Bill 32 (SB 32) and AB 197

On September 8, 2016, California signed into law Senate Bill 32 (SB 32), which adds Section 38566 to the Health and Safety Code and requires a commitment to reducing statewide GHG emissions by 2020 to 1990 levels and by 2030 to 40 percent less than 1990 levels. SB 32 was passed with companion legislation AB 197 Chapter 250, Statutes of 2016), which provides greater legislative oversight of CARB's GHG regulatory programs, requires CARB to account for the social costs of GHG emissions, and establishes a legislative preference for direct reductions of GHG emissions.

CARB's 2017 Scoping Plan Update

In December 2017, CARB adopted California's 2017 Climate Change Scoping Plan (2017 Scoping Plan Update), which outlines the proposed framework of action for achieving California's SB 32 2030 GHG target: a 40 percent reduction in GHG emissions by 2030 relative to 1990 levels. The 2030 target is intended to ensure that California remains on track to achieve the goal set forth by Executive Order B-30-15 to reduce statewide GHG emissions by 2050 to 80 percent below 1990 levels.

The 2017 Scoping Plan Update identifies key sectors of the implementation strategy, which includes improvements in low carbon energy, industry, transportation sustainability, natural and working lands, waste management, and water. Through a combination of data synthesis and modeling, CARB determined that the target statewide 2030 emissions limit is 260 $MMTCO_2e$, and that further commitments will need to be made to achieve an additional reduction of 50 $MMTCO_2e$ beyond current policies and programs. Key elements of the 2017 Update include a proposed 20 percent reduction in GHG emissions from refineries and an expansion of the Cap-and-Trade program to meet the aggressive 2030 GHG emissions goal and ensure achievement of the 2050 limit set forth by E.O. B-30-15.

For the transportations sector, the 2017 Update indicates that while most of the GHG reductions will come from technologies and low carbon fuels, a reduction in the growth of vehicle miles traveled (VMT) is also needed. The 2017 Update indicates that stronger SB 375 GHG reduction targets will enable the State to make significant progress toward this goal, but alone will not provide all of the VMT growth reductions that will be needed. It notes that there is a gap between what SB 375 can provide and what is needed to meet the State's 2030 and 2050 goals. The 2017 Update recommends that local governments consider policies to reduce VMT, including: land use and community design that reduces VMT; transit-oriented development; street design policies that prioritize transit, biking, and walking; and increasing low carbon mobility choices, including improved access to viable and affordable public transportation and active transportation opportunities.

California Environmental Quality Act Guidelines Amendments

California Senate Bill (SB) 97 (Chapter 185, Statutes of 2007) required the Governor's Office of Planning and Research (OPR) to develop California Environmental Quality Act (CEQA) Guidelines "for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions." The *CEQA Guidelines* amendments provide guidance to public agencies regarding the analysis and mitigation of the effects of GHG emissions in CEQA documents. The significance of GHG emissions are specifically addressed in *State CEQA Guidelines* Section 15064.4. Section 15064.4 calls for a lead agency to make a "good-faith effort" to "describe, calculate or estimate" GHG emissions in CEQA environmental documents. Section 15064.4 further states that the analysis of GHG impacts should include consideration of (1) the extent to which the project may increase or reduce GHG emissions; (2) whether the project emissions would exceed a locally applicable threshold of significance; and (3) the extent to which the project would comply with "regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions." The guidelines also state that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program (including plans or regulations for the reduction of GHG emissions) that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area in which the project is located (*State CEQA Guidelines* Section 15064(h)(3)).

2016 Mobile Source Strategy

On May 16, 2016, the Air Resources Board (ARB or Board) released the updated Mobile Source Strategy that demonstrates how the State can simultaneously meet air quality standards, achieve greenhouse gas emission reduction targets, decrease health risk from transportation emissions, and reduce petroleum consumption over the next fifteen years. The Mobile Source Strategy aims to deliver environmental and public health benefits as well as updates to transportation infrastructure, enhancements of systemwide efficiency, and clean growth in the mobile sector. The estimated benefits of the strategy in reducing emissions from mobile sources includes an 80 percent reduction of smog-forming emissions and a 45 percent reduction in diesel particulate matter from today's levels in the South Coast. CARB estimates statewide, the Mobile Source Strategy would also result in a 45 percent reduction in greenhouse gas emissions, and a 50 percent reduction in the consumption of petroleum-based fuels.

Discussion Draft of CEQA and Climate Change Advisory

In December 2018, OPR published updated guidance with respect to how to evaluate climate change as a whole, including analysis of transportation impacts (including consideration of SB 743) and how to

evaluate different types of projects including transportation projects and land use plans. This document summarizes relevant regulations and discusses different approaches (both quantitative and qualitative) to analyzing different types of projects. The document further discusses how the analysis of GHG for individual projects may be streamlined through the preparation of greenhouse gas emission reduction plans such as climate action plans. The document suggests that emissions from individual projects may best be analyzed and mitigated at the programmatic level in regional-level documents focused on GHG emissions such as climate action plans. [125]

Caltrans Guidance on Incorporating Sea Level Rise

Pursuant to EO S-13-08 and the California Sea Level Rise Interim Guidance Document,[126] in May 2011 Caltrans released guidance on incorporating sea level rise into planning and decision making with respect to transportation projects. Caltrans' guidance recommends first determining if sea level should be incorporated into project planning, based on the project location and level of risk. A screening process with ten criteria guides the assessment of whether to incorporate sea level rise: design life, redundancy/alternative route(s), anticipated travel delays, evacuations/emergencies, traveler safety, expenditure of public funds, scope of project, effect on non-state highways, and environmental constraints. If the screening determines that sea level rise should be incorporated into project planning, the next step is to estimate the degree of potential impact and assess alternatives for preventing, mitigating and/or absorbing the impact. Caltrans uses the statewide sea level rise estimates presented in the California Sea Level Rise Interim Guidance Document for different years (2030 through 2100) to determine target sea level rise values; Caltrans directs projects with a life that extends to 2030 or earlier not to assume impacts from sea level rise. Having identified target sea level rise values for a project, Caltrans then lays out steps for implementation, including conducting more technical studies of inundation and subsidence and determining any adverse effects on facility functions and operations (e.g., from erosion, exposure to salt water), necessary adaptation measures, and the costs of mitigation.

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125 Office of Planning and Research. *Discussion Draft CEQA and Climate Change Advisory* December 2018. Available online at: http://opr.ca.gov/docs/20181228-Discussion_Draft_Climate_Change_Adivsory.pdf, accessed October 29, 2019.

126 State of California. 2010. *State of California Sea-Level Rise Interim Guidance Document*. Available online at: http://opc.ca.gov/webmaster/ftp/pdf/agenda_items/20110311/12.SLR_Resolution/SLR-Guidance-Document.pdf, accessed on August 14, 2019.

California Department of Public Health Guidance on Integrating Public Health into Climate Action Planning

In February of 2012, the California Department of Public Health released a guidance document, *Climate Action for Health: Integrating Public Health into Climate Action Planning*.[127] This document introduces key health connections to climate change mitigation strategies, and suggestions for where these fit into a local climate action plan or general plan. The guidance document also provides a number of examples of strategies taken from actual climate action plans that integrate public health objectives, with policy efforts to improve community health and reduce GHG emissions. The information provided is advisory, voluntary, and educational. The document includes specific policy recommendations for transportation and land use planning, including incorporation of green space and tree canopy to mitigate urban heat islands, and healthy siting of housing, schools and health care facilities to avoid major air quality impacts.

California's Energy Efficiency Standards for Residential and Nonresidential Buildings

California established statewide building energy standards following legislative action. The legislation required the standards to:

- Be cost effective;
- Be based on the building life cycle; and
- Include both prescriptive and performance-based approaches.

The standards have been periodically updated as technology and design have evolved. Generally, the standards are updated every three years. As a result of AB 970, passed in the fall of 2000 in response to the state's electricity crisis, an emergency update of the Standards went into effect in June 2001.[128] The Commission then initiated an immediate follow-on proceeding to consider and adopt updated Standards that could not be completed during the emergency proceeding. The 2005 Building Energy Efficiency Standards were adopted in November 2003, took effect October 1, 2005.[129] The latest amendments were made in June 2015 and went into effect on January 1, 2017.

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127 California Department of Public Health. 2012. *Climate Action for Health: Integrating Public Health into Climate Action Planning.* Available online at: https://www.cdph.ca.gov/Programs/OHE/CDPH%20Document%20Library/CCHEP-General/CDPH-2012-Climate-Action-for-Health_accessible.pdf, accessed August 14, 2019.

128 California Legislative Information. 2000. *Assembly Bill 970*.

129 California Energy Commission. 2005. *2005 Building Energy Efficiency Standards for Residential and Nonresidential Buildings.* Available online at: https://ww2.energy.ca.gov/2006publications/CEC-400-2006-015/CEC-400-2006-015.PDF, accessed August 14, 2019.

Title 24 of the California Code of Regulations comprises the state Building Standards Code.[130] Part 6 of Title 24 is the California Energy Code, which includes the building energy efficiency standards. The standards include provisions applicable to all buildings, residential and non-residential, which describe requirements for documentation and certificates that the building meets the standards. These provisions include mandatory requirements for efficiency and design of the following types of systems, equipment, and appliances:

- Air conditioning systems
- Heat pumps
- Water chillers
- Gas- and oil-fired boilers
- Cooling equipment
- Water heaters and equipment
- Pool and spa heaters and equipment
- Gas-fired equipment including furnaces and stoves/ovens
- Windows and exterior doors
- Joints and other building structure openings (envelope)
- Insulation and cool roofs
- Lighting control devices.

The standards include additional mandatory requirements for space conditioning (cooling and heating), water heating and indoor and outdoor lighting systems and equipment in non-residential, high-rise residential, and hotel or motel buildings.

130 California Energy Commission. 2019. *Building Energy Efficiency Standards – Title 24.* Available online at: https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards, accessed August 14, 2019.

In May 2018, the California Energy Commission voted unanimously, 5-0, to recommend energy efficiency standards to be added to state building regulations later in 2018, effecting all construction after Jan. 1, 2020.[131] The rules will make California the first state in the nation to require solar panels on new homes.

California Green Building Standards Code (2016), California Code of Regulations Title 24, Part 11

California's green building code, referred to as "CalGreen," was developed to provide a consistent approach to green building within the State.[132] Taking effect in January 2016, the most recent version of the Code lays out the minimum requirements for newly constructed residential and nonresidential buildings to reduce GHG emissions through improved efficiency and process improvements. It also includes voluntary tiers to further encourage building practices that improve public health, safety and general welfare by promoting the use of building concepts which minimize the building's impact on the environment and promote a more sustainable design. Local jurisdictions are required to adopt the CalGreen provisions. CalGreen is complimentary with California Energy Code, Title 24, Part 6, which continues to regulate energy efficiency in buildings.

Caltrans Strategic Management Plan, 2015 - 2020

The most recent Caltrans Strategic Management Plan[133] redefines the Caltrans mission statement and provides a vision statement. The Caltrans mission statement is: *Provide a safe, sustainable, integrated, and efficient transportation system to enhance California's economy and livability*. The Caltrans vision is: *A performance-driven, transparent, and account- able organization that values its people, resources, and partners and meets new challenges through leadership, innovation, and teamwork.* The document identifies five goals: 1) Safety and Health, 2) Stewardship and Efficiency, 3) Sustainability, Livability and Economy, 4) System Performance, and 5 Organizational Excellence. The document identifies numerous performance measures and targets including the following target with respect to Sustainability, Livability and Economy: to increase non-auto modes (triple bicycles, double pedestrian and double transit (2010 – 12 California Household Travel survey is the baseline), achieve a 15 percent reduction in per capita VMT (3 percent per year) reported by each District relative to 2010 by 2020, 85 percent reduction in diesel

131 California Energy Commission. 2019. *2019 Building Energy Efficiency Standards.* Available online at: https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2019-building-energy-efficiency, accessed August 14, 2019.

132 Building Standards Commission. 2018. *CalGreen.* Available online at: https://www.dgs.ca.gov/BSC/Resources/Page-Content/Building-Standards-Commission-Resources-List-Folder/CALGreen, accessed August 14, 2019.

133 Caltrans. *Strategic Management Plan 2015-2020*. Available online at: https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/caltrans-strategic-mgmt-plan-033015-a11y.pdf, accessed November 15, 2019.

particulate matter (relative to 2000), 80 percent reduction in NOx in the South Coast Air Basin by 2023 (from 2010).[134]

Local Development – Intergovernmental Review Program Interim Guidance, Implementing Caltrans Strategic Management Plan 2015 – 2020 Consistent with SB 743[135]

Caltrans developed this guidance for Caltrans use in providing comments to local jurisdictions through the Intergovernmental Review process. This guidance document supports the implementation of the Strategic Management Plan including achieving the identified targets.

3.8.2.4 Regional and Local

SCAG Sustainability Planning Grant Program

Formerly known as the Compass Blueprint Grant Program, SCAG's Sustainability Program works actively with Southern California communities and stakeholders to create a dynamic regional growth vision based on the principles of mobility, livability, prosperity, and sustainability. The program's work focuses on implementing the region's Sustainable Communities Strategy, the state-mandated plan for reducing GHG emissions from cars and light trucks through integrated transportation, land use, housing and environmental planning.[136]

South Coast Air Quality Management District (SCAQMD) Policy on Global Warming and Stratospheric Ozone Depletion

SCAQMD adopted a "Policy on Global Warming and Stratospheric Ozone Depletion" on April 6, 1990. The policy commits the SCAQMD to consider global impacts in rulemaking and in drafting revisions to the Air Quality Management Plan. In March 1992, the SCAQMD Governing Board reaffirmed this policy and adopted amendments to the policy. [137]

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134 This document does not provide a detailed comparison to these targets because year 2000 and year 2010 comparable data is not available, and Caltrans VMT data for districts in the SCAG region is not available.

135 Caltrans. 2016. Local Development – Intergovernmental Review Program Interim Guidance, Implementing Caltrans Strategic Management Plan 2015 – 2020 Consistent with SB 743

136 Southern California Association of Governments. 2015. *Sustainability*. Available online at: http://www.scag.ca.gov/programs/Pages/Programs/Sustainability.aspx, accessed March 25, 2019.

137 South Coast Air Quality Management District. 2019. *Climate Change.* Available online at: http://www.aqmd.gov/nav/about/initiatives/climate-change, accessed August 14, 2019.

SCAQMD Draft Guidance Regarding Interim CEQA GHG Significance Thresholds

SCAQMD released draft guidance regarding interim CEQA GHG significance thresholds. In its October 2008 document, the SCAQMD proposed the use of a percent emission reduction target (e.g., 30 percent) to determine significance for commercial/residential projects that emit greater than 3,000 metric tons per year. On December 5, 2008, the SCAQMD Governing Board adopted the staff proposal for an interim GHG significance threshold for stationary source/industrial projects where the SCAQMD is lead agency.[138] However, SCAQMD has yet to adopt a GHG significance threshold for land use development projects (e.g., residential/commercial projects) and has formed a GHG Significance Threshold Working Group to further evaluate potential GHG significance thresholds.[139]

The CEQA GHG Significance Threshold Working Group met several times in 2008 to provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents. Members of the working group included various stakeholder groups from state agencies, OPR, CARB, Attorney's General Office, local agencies, city and county planning departments, utilities, industry groups, and both environmental and professional organizations. The purpose of the working group was to solicit comments from the stakeholders as SCAQMD developed interim GHG significance thresholds to achieve a 90 percent GHG emission capture rate.[140] The Working Group discussed methodologies for determining project significance including categorical exemptions, consistency with regional GHG budgets in approved plans, a numerical threshold, performance standards, and emissions offsets.

The draft tier thresholds recommended by the SCAQMD Working Group were designed to meet reduction requirements from AB 32. Since the development of the draft tier thresholds, California passed SB 32 in order to reduce state GHG emissions to 40% below 1990 levels by 2030 (see **Section 3.8.2.3**). These recommended thresholds are over a decade old and were not designed to meet the stricter 2030 reduction requirements, as a result these thresholds are outdated and were not utilized in this analysis.

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138 South Coast Air Quality Management District. 2008. *Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans*. Available online at: http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/ghgboardsynopsis.pdf?sfvrsn=2, accessed August 14, 2019.

139 South Coast Air Quality Management District. *Greenhouse Gases (GHG) CEQA Significance Thresholds.* Available online at: http://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/ghg-significance-thresholds/page/2, accessed March 25, 2019.

140 South Coast Air Quality Management District. Accessed October 12, 2019. *Chapter 3 – Interim GHG Significance Threshold Staff Proposal.* Available at: http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqasignificance-thresholds/ghgattachmente.pdf?sfvrsn=2

Counties

Los Angeles County

The Los Angeles County Office of Sustainability[141] was created within the Internal Services Department by the Board of Supervisors in October 2009 to respond to legislation, regulation, and policy related to Climate Change and serve as a central hub to coordinate Energy Efficiency, Conservation and Sustainability Programs within the County, its facilities, and the region. The County Office of Sustainability develops and implements programs that impact and benefit the constituents of Los Angeles County, such as the Energy Upgrade California in Los Angeles County energy efficiency home improvement and rebate program, countywide Environmental Service Centers, the SolarMap LACounty.gov and Green.LACounty.gov websites, and the Los Angeles Regional Collaborative for Climate Action and Sustainability. In addition, the County Office of Sustainability is the lead in coordinating and implementing Energy and Environmental policy programs and activities by all County departments.

As of March 2015, Los Angeles County Board of Supervisors approved the first Community Climate Action Plan (CCAP). The CCAP provides a roadmap to reduce GHGs in Los Angeles County by 11 percent by 2020. This target can be achieved through cool roofs, solar, tree canopies, and more active transportation and public transit use. The County of Los Angeles Department of Regional Planning will implement the CCAP and work to develop climate adaptation strategies beyond 2020.[142]

In August 2019, the Los Angeles County Board of Supervisors adopted the OurCounty regional sustainability plan. It outlines what local governments and stakeholders can do to enhance community well-being while reducing damage to the natural environment and adapting to climate change, with a particular focus on communities disproportionately burdened by environmental pollution. OurCounty is organized around 12 goals that will guide policy toward resiliency, equity, parks, renewable energy, reducing car dependency, and more. Its most ambitious goal includes reaching complete carbon neutrality by 2050 by completely phasing out fossil fuels countywide.[143]

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141 County of Los Angeles. *LA County Chief Sustainability Office.* Available online at: https://www.lacounty.gov/sustainability/, accessed August 14, 2019.

142 Climate Resolve. 2015. *Approved: LA County's Community Climate Action Plan*. Available at: http://climateresolve.org/countyclimateactionplan/, accessed March 25, 2019.

143 OurCounty. The Plan. Available online at: https://ourcountyla.org/plan, accessed October 2, 2019.

Orange County

In early 2010, a joint committee with equal representation from the Orange County Council of Governments (COG) and the Orange County Transportation Authority (OCTA) was formed to develop the Orange County Sustainable Communities Strategy (SCS).[144] The Orange County COG/OCTA SCS Joint Working Committee led overall efforts to develop a subregional Orange County SCS to meet the requirements of SB 375 and the mutual agreements with SCAG with a plan that all local jurisdictions in Orange County could support. As a result of this collaborative effort, the Orange County SCS was adopted unanimously by the OCTA and Orange County COG Boards of Directors in June of 2011. Orange County SCS utilizes the transportation system along with land use and Best Management Practices strategies to help the County to achieve the state-mandated emissions reduction targets.

Riverside County

In July 2018, Riverside County created a Climate Action Plan to establish a clear path to sustainability and GHG reduction. The Plan establishes a 2020 reduction goal of 15% to 2008 emissions in order to be consistent with AB 32.[145]

In September 2014, Western Riverside Council of Governments (WRCOG) published the Subregional Climate Action Plan. The major goals of the Climate Action Plan are to create local jobs, promote healthier communities, achieve energy self-sufficiency, enhance social equity, reduce emissions, improve air quality, protect natural systems, and save money. WRCOG aims to reduce GHG emissions to 15 percent below 2010 levels by 2020, and 49 percent below 2010 levels by 2035.[146]

San Bernardino County

In March 2014, San Bernardino County released the final version of the San Bernardino County Greenhouse Gas Reduction Plan and Final EIR to be certified by the SANBAG Board of Directors. The plan initiated the compilation of an updated inventory of GHG emissions across the County as well as an evaluation of measures that could be adopted on a City-level to reduce emissions. The plan is in

144 OCTA/COG. 2011. *Orange County Sustainable Communities Strategy (SCS)*. Available online at: https://www.fullerton.edu/cdr/_resources/pdf/OCSCS20110614.pdf, accessed August 14, 2019.

145 Riverside County Planning Department. 2018. *Climate Action Plan*. Available online at: https://planning.rctlma.org/Portals/14/CAP/CAP_071717.pdf, accessed August 14, 2019.

146 Western Riverside Council of Governments. 2014. *Subregional Climate Action Plan*. Available online at: http://www.wrcog.cog.ca.us/DocumentCenter/View/188/Subregional-Climate-Action-Plan-CAP-PDF?bidId=, accessed March 25, 2019.

accordance with AB 32 and other regional and general plans and provides a baseline of information for jurisdictions addressing greenhouse gas emissions.[147]

Ventura County

In April 2010, the County of Ventura General Services Agency (GSA) released an Energy Action Plan to minimize energy intensities in GSA-maintained buildings, improve operational energy and water efficiencies, reduce energy and water use, pursue LEED and Energy Star certifications, and educate GSA employees. As of April 2012, the County of Ventura released a Climate Protection Plan to reduce GHG emissions by 15 percent by 2020. The six action areas include climate protection leadership, countywide responsibility, facilities, vehicle (fleet) operations, employee commute, and expanded sustainability goals.[148]

Imperial County

In October 2018, Imperial County announced the development of a Climate Action Plan in order to identify GHG emissions and reduction strategies in the Imperial Valley region.

Cities

In 2016, the Governor's Office of Planning and Research (OPR) prepared a list of plans and initiatives adopted by California jurisdictions, including jurisdictions in the SCAG region, to address climate change.[149] The list showed that about 20 percent of the local jurisdictions had either completed local climate action plans or had efforts underway. Some cities in the SCAG region have also addressed climate change and GHG policies in their planning and permitting programs. As part of its Sustainability Program, SCAG has provided funding assistance for such local GHG emissions inventory efforts and local climate action plans. Jurisdictions within the SCAG region that have undertaken plans and initiatives addressing climate change are shown in **Table 3.8-4, California Jurisdictions Addressing Climate Change in the SCAG Region (2019).**

147 San Bernardino Associated Governments. 2014. *Regional Greenhouse Gas Reduction Plan.* Available online at: https://www.gosbcta.com/plans-projects/plans/greenhouse-gas/SBC-RegionalGreenHouseGasReduction-Final.pdf, accessed March 25, 2019.

148 County of Ventura. *Working & Living Sustainably.* Available online at: https://cobapps.countyofventura.org/sustain/, accessed March 25, 2019.

149 Office of Planning and Research. 2016. *Announcement: The DRAFT California Jurisdictions Addressing Climate Change summary document now available for public review*. Available online at: http://www.opr.ca.gov/news/2016/02-11.html, accessed October 23, 2019.

Los Angeles Green New Deal

In April 2019, Mayor Eric Garcetti released a refreshed version of the City's 2015 Sustainable City Plan. The Green New Deal calls for reaching 100 percent renewable electricity by 2045, creating 300,000 green jobs by 2035, and reducing overall greenhouse gas emissions to 50 percent of 1990 levels by 2025.[150]

150 LA's Green New Deal, Sustainable City pLAn 2019. Available online at: https://plan.lamayor.org/sites/default/files/pLAn_2019_final.pdf, accessed October 1, 2019.

Table 3.8-4
California Jurisdictions Addressing Climate Change in the SCAG Region (2019)

County	Jurisdiction	Type	Document or Website Link	Vulnerability Assessment	GHG Emissions Inventory	GHG Reduction Plan	Climate Action Plan	Energy Action Plan	Adaptation or Resilience Plan	Sustainability Plan	General Plan Policy	General Plan Implementation Measures	Codes or Ordinances	Other (Specify)
Imperial	Brawley	City	City of Brawley		C	C	C				C	IP		
Imperial	Calexico	City	Climate Action Plan			P	P							
Imperial	Calipatria	City	City of Calipatria											
Imperial	El Centro	City	City of El Centro											
Imperial	Holtville	City	City of Holtville											
Imperial	Imperial	County	Imperial County											
Imperial	Imperial	City	City of Imperial											
Imperial	Westmorland	City	City of Westmorland											
Los Angeles	Agoura Hills	City	City of Agoura Hills								A	A		
Los Angeles	Alhambra	City	City of Alhambra				IP				C			
Los Angeles	Arcadia	City	Sustainable Arcadia							A	A	A	A	
Los Angeles	Artesia	City	City of Artesia											
Los Angeles	Avalon	City	City of Avalon								C			
Los Angeles	Azusa	City	City of Azusa											
Los Angeles	Baldwin Park	City	City of Baldwin Park								A			
Los Angeles	Bell	City	City of Bell											
Los Angeles	Bell Gardens	City	City of Bell Gardens											
Los Angeles	Bellflower	City	Climate Action Plan		C	P	P				A	A		
Los Angeles	Beverly Hills	City	Sustainable City Plan				P			P	A	A		
Los Angeles	Bradbury	City	General Plan Climate Action Plan		C	C	C				C			
Los Angeles	Burbank	City	General Plan			A	A			A	A	A		
Los Angeles	Calabasas	City	City of Calabasas								A	A	A	
Los Angeles	Carson	City	City of Carson		C	A	A							
Los Angeles	Cerritos	City	City of Cerritos											
Los Angeles	Claremont	City	Sustainable City Plan							A	A	A		
Los Angeles	Commerce	City	City of Commerce											
Los Angeles	Compton	City	City of Compton											

County	Jurisdiction	Type	Document or Website Link	Vulnerability Assessment	GHG Emissions Inventory	GHG Reduction Plan	Climate Action Plan	Energy Action Plan	Adaptation or Resilience Plan	Sustainability Plan	General Plan Policy	General Plan Implementation Measures	Codes or Ordinances	Other (Specify)
Los Angeles	Covina	City	Energy Climate Action Plan		C	A		A						
Los Angeles	Cudahy	City	City of Cudahy											
Los Angeles	Culver City	City	City of Culver	C						P				
Los Angeles	Diamond Bar	City	City of Diamond Bar		C		IP				P			
Los Angeles	Downey	City	Green Task Force					A						
Los Angeles	Duarte	City	City of Duarte		C			A						
Los Angeles	El Monte	City	City of El Monte		C	P								
Los Angeles	El Segundo	City	City of El Segundo		C	A	A							
Los Angeles	Gardena	City	Energy Action Plan		C	A		A						
Los Angeles	Glendale	City	Greener Glendale Plan		C	A				A				
Los Angeles	Glendora	City	City of Glendora											
Los Angeles	Hawaiian Gardens	City	City of Hawaiian Gardens											
Los Angeles	Hawthorne	City	City of Hawthorne		C		A							
Los Angeles	Hermosa Beach	City	GO GREEN/Sustainability		C	A	A			A				
Los Angeles	Hidden Hills	City	City of Hidden Hills											
Los Angeles	Huntington Park	City	City of Huntington Park											
Los Angeles	Industry	City	City of Industry											
Los Angeles	Inglewood	City	Inglewood Sustainability		C		A	A						
Los Angeles	Irwindale	City	City of Irwindale											
Los Angeles	La Canada Flintridge	City	City of La Canada Flintridge											
Los Angeles	La Habra Heights	City	City of La Habra Heights											
Los Angeles	La Mirada	City	City of La Mirada											
Los Angeles	La Puente	City	City of La Puente											
Los Angeles	La Verne	City	City of La Verne											
Los Angeles	Lakewood	City	City of Lakewood		C	A	A	A	A	A		A		
Los Angeles	Lancaster	City	City of Lancaster		A	A	A	A		A		A		
Los Angeles	Lawndale	City	City of Lawndale											
Los Angeles	Lomita	City	Greenhouse Gas Inventory Report		C		A							

County	Jurisdiction	Type	Document or Website Link	Vulnerability Assessment	GHG Emissions Inventory	GHG Reduction Plan	Climate Action Plan	Energy Action Plan	Adaptation or Resilience Plan	Sustainability Plan	General Plan Policy	General Plan Implementation Measures	Codes or Ordinances	Other (Specify)
Los Angeles	Long Beach	City	Sustainable City Plan							A				
Los Angeles	Los Angeles	City	Green LA	C		C	IP			C	A	A	A	
Los Angeles	Los Angeles	County	Community Climate Action Plan		C	A	A				A	A	A	
Los Angeles	Lynwood	City	City of Lynwood											
Los Angeles	Malibu	City	City of Malibu											
Los Angeles	Manhattan Beach	City	Climate Action Plan		C	P	P			C				
Los Angeles	Maywood	City	City of Maywood											
Los Angeles	Monrovia	City	Energy Action Plan					A						
Los Angeles	Montebello	City	City of Montebello											
Los Angeles	Monterey Park	City	Climate Action Plan		C	A	A				A			
Los Angeles	Norwalk	City	City of Norwalk											
Los Angeles	Palmdale	City	Energy Action Plan		C	A		A						
Los Angeles	Palos Verdes Estates	City	City of Palos Verdes Estates				A							
Los Angeles	Paramount	City	City of Paramount											
Los Angeles	Pasadena	City	Green City Action Plan		C	A	A			A	A	A	A	
Los Angeles	Pico Rivera	City	General Plan								C	C		
Los Angeles	Pomona	City	Green Plan		C		IP	A		A	A	A		
Los Angeles	Rancho Palos Verdes	City	City of Rancho Palos Verdes		C						A	IP		
Los Angeles	Redondo Beach	City	City of Redondo Beach				A							
Los Angeles	Rolling Hills	City	City of Rolling Hills				A							
Los Angeles	Rolling Hills Estates	City	City of Rolling Hills Estates		C	P	A						A	
Los Angeles	Rosemead	City	City of Rosemead					IP			A	A		
Los Angeles	San Dimas	City	Energy Efficiency and Cons Strategy				IP							
Los Angeles	San Fernando	City	City of San Fernando											
Los Angeles	San Gabriel	City	Sustainability Action Plan		C			A		A				
Los Angeles	San Marino	City	City of San Marino											

County	Jurisdiction	Type	Document or Website Link	Vulnerability Assessment	GHG Emissions Inventory	GHG Reduction Plan	Climate Action Plan	Energy Action Plan	Adaptation or Resilience Plan	Sustainability Plan	General Plan Policy	General Plan Implementation Measures	Codes or Ordinances	Other (Specify)
Los Angeles	Santa Clarita	City	Climate Action Plan		C	A	A				A	A	A	
Los Angeles	Santa Fe Springs	City	City of Santa Fe Springs											
Los Angeles	Santa Monica	City	15x15 Climate Action Plan		C	A	A			A			A	
Los Angeles	Sierra Madre	City	General Plan		C						A	A	A	
Los Angeles	Signal Hill	City	Sustainable City Committee											
Los Angeles	South El Monte	City	City of South El Monte											
Los Angeles	South Gate	City	City of South Gate								A			
Los Angeles	South Pasadena	City	City of South Pasadena											
Los Angeles	Temple City	City	Temple City								A			
Los Angeles	Torrance	City	City of Torrance								A			
Los Angeles	Vernon	City	Green Vernon							A				
Los Angeles	Walnut	City	City of Walnut											
Los Angeles	West Covina	City	City of West Covina	C							A			
Los Angeles	West Hollywood	City	Climate Action Plan		C	A	A				A	A		
Los Angeles	Westlake Village	City	City of Westlake Village											
Los Angeles	Whittier	City	City of Whittier											
Orange	Aliso Viejo	City	Green Initiative		C	P								
Orange	Anaheim	City	Greenhouse Gas Reduction Plan		C	A								Sustainable Center and Green Power Program
Orange	Brea	City	City of Brea			P	P	A		A				
Orange	Buena Park	City	General Plan		C	A	P			P	A	A		
Orange	Costa Mesa	City	City of Costa Mesa		C									
Orange	Cypress	City	City of Cypress											
Orange	Dana Point	City	Energy Efficiency and Conservation Plan		C	A		A						
Orange	Fountain Valley	City	City of Fountain Valley											
Orange	Fullerton	City	City of Fullerton		C	A	A							

County	Jurisdiction	Type	Document or Website Link	Vulnerability Assessment	GHG Emissions Inventory	GHG Reduction Plan	Climate Action Plan	Energy Action Plan	Adaptation or Resilience Plan	Sustainability Plan	General Plan Policy	General Plan Implementation Measures	Codes or Ordinances	Other (Specify)
Orange	Garden Grove	City	City of Garden Grove											
Orange	Huntington Beach	City	Energy Action Plan					A			A			
Orange	Irvine	City	Energy Action Plan		C			A						
Orange	La Habra	City	Climate Action Plan		C	A	A				A	A		
Orange	La Palma	City	City of La Palma											
Orange	Laguna Beach	City	City of Laguna Beach		C	A	A				A	A		
Orange	Laguna Hills	City	City of Laguna Hills		C									
Orange	Laguna Niguel	City	City of Laguna Niguel		C									
Orange	Laguna Woods	City	City of Laguna Woods				A		A					
Orange	Lake Forest	City	City of Lake Forest	A	C									
Orange	Los Alamitos	City	City of Los Alamitos				IP							
Orange	Mission Viejo	City	Sustainability Action Plan		C	A				A	A			
Orange	Newport Beach	City	Energy Action Plan					A						
Orange	Orange	City	General Plan								A			
Orange	Orange	County	Orange County Public Works											
Orange	Placentia	City	City of Placentia								A			
Orange	RanchFo Santa Margarita	City	City of Rancho Santa Margarita											
Orange	San Clemente	City	Climate Action Plan		C	A	A			A	A	A		
Orange	San Juan Capistrano	City	GO GREEN SJC											
Orange	Santa Ana	City	Climate Action Plan		C	P	P							
Orange	Seal Beach	City	City of Seal Beach											Sea Level Rise Vulnerability assessment
Orange	Stanton	City	City of Stanton											
Orange	Tustin	City	City of Tustin											
Orange	Villa Park	City	City of Villa Park								A			
Orange	Westminster	City	City of Westminster								A			
Orange	Yorba Linda	City	City of Yorba Linda											

County	Jurisdiction	Type	Document or Website Link	Vulnerability Assessment	GHG Emissions Inventory	GHG Reduction Plan	Climate Action Plan	Energy Action Plan	Adaptation or Resilience Plan	Sustainability Plan	General Plan Policy	General Plan Implementation Measures	Codes or Ordinances	Other (Specify)
Riverside	Banning	City	City of Banning											
Riverside	Beaumont	City	Climate Action Plan		C	A	A			C				
Riverside	Blythe	City	Energy Action Plan					P						
Riverside	Calimesa	City	Climate Action Plan		C	A	A				A	A		
Riverside	Canyon Lake	City	City of Canyon Lake											
Riverside	Cathedral City	City	Climate Action Plan		C	A	A	P						
Riverside	Coachella	City	City of Coachella			A	A				A	A		
Riverside	Corona	City	Climate Action Plan		C	A	A							
Riverside	Desert Hot Springs	City	City of Desert Hot Springs				IP						A	
Riverside	Eastvale	City									A			
Riverside	Hemet	City	General Plan							A	A	A		
Riverside	Indian Wells	City	Green Building Program		C	A	A	A		A				
Riverside	Indio	City	General Plan Update			IP	IP				IP			
Riverside	Jurupa Valley	City	City of Jurupa Valley			A					A	A		
Riverside	La Quinta	City	City of La Quinta		C	P				IP				
Riverside	Lake Elsinore	City	Climate Action Plan		C	A	A						A	
Riverside	Menifee	City	City of Menifee											
Riverside	Moreno Valley	City	Energy Efficiency and Climate Strategy		C	A	A	A						
Riverside	Murrieta	City	General Plan		C	A	A				A	A		
Riverside	Norco	City	City of Norco											
Riverside	Palm Desert	City	Sustainability Plan		C	A				A	A			
Riverside	Palm Springs	City	City of Palm Springs		C	A	A	A		A				
Riverside	Perris	City	General Plan		C	A	A			A	A	A	A	
Riverside	Rancho Mirage	City	City of Rancho Mirage		C			A		A	A			
Riverside	Riverside	City	Climate Action Plan		C	P	P							
Riverside	Riverside	County	Climate Action Plan		C	IP	IP			A	A	A	A	
Riverside	San Jacinto	City	City of San Jacinto											
Riverside	Temecula	City	Sustainability Plan							P				
Riverside	Wildomar	City	City of Wildomar											

County	Jurisdiction	Type	Document or Website Link	Vulnerability Assessment	GHG Emissions Inventory	GHG Reduction Plan	Climate Action Plan	Energy Action Plan	Adaptation or Resilience Plan	Sustainability Plan	General Plan Policy	General Plan Implementation Measures	Codes or Ordinances	Other (Specify)
San Bernardino	Adelanto	City	Energy Leader Partnership			P								
San Bernardino	Apple Valley	Town	Climate Action Plan		C	A	A				A	A		
San Bernardino	Barstow	City	Greenhouse Gas Analysis	C	C									
San Bernardino	Big Bear Lake	City	Greenhouse Gas Reduction Plan		C	A								
San Bernardino	Chino	City	Climate Action Plan		C	A	A				A	A	A	
San Bernardino	Chino Hills	City	City of Chino Hills		C	A	A				A			
San Bernardino	Colton	City	City of Colton		C		A							
San Bernardino	Fontana	City	City of Fontana		C	C	IP			C	C	IP		
San Bernardino	Grand Terrace	City	City of Grand Terrace							A	A			
San Bernardino	Hesperia	City	General Plan		C	A	A							
San Bernardino	Highland	City	City of Highland											
San Bernardino	Loma Linda	City	Loma Linda General Plan				A			A	A			
San Bernardino	Montclair	City	City of Montclair											
San Bernardino	Needles	City	City of Needles											
San Bernardino	Ontario	City	City of Ontario		C	A	A				A			
San Bernardino	Rancho Cucamonga	City	Rancho Cucamonga General Plan								A	A		
San Bernardino	Redlands	City	Green Initiatives				A			A	A		A	Climate Action Task Force
San Bernardino	Rialto	City	City of Rialto								A			
San Bernardino	San Bernardino	City	County of San Bernardino			IP				IP	A	A		
San Bernardino	San Bernardino	County	Regional GHG Reduction Plan		C	A					A	A	A	
San Bernardino	Twentynine Palms	City	City of Twentynine Palms								A			

County	Jurisdiction	Type	Document or Website Link	Vulnerability Assessment	GHG Emissions Inventory	GHG Reduction Plan	Climate Action Plan	Energy Action Plan	Adaptation or Resilience Plan	Sustainability Plan	General Plan Policy	General Plan Implementation Measures	Codes or Ordinances	Other (Specify)
San Bernardino	Upland	City	Climate Action Plan		C	P	A				A	A		
San Bernardino	Victorville	City	City of Victorville								A			
San Bernardino	Yucaipa	City	City of Yucaipa				A				A			
San Bernardino	Yucca Valley	Town	Town of Yucca Valley								A			
Ventura	Camarillo	City	City of Camarillo											
Ventura	Fillmore	City	Energy Action Plan					A						
Ventura	Moorpark	City	City of Moorpark											
Ventura	Ojai	City	City of Ojai											
Ventura	Oxnard	City	General Plan		C	A		A		A	A	A		
Ventura	Port Hueneme	City	City of Port Hueneme											
Ventura	Santa Paula	City	Sustainability Policy							A	IP		A	
Ventura	Simi Valley	City	Climate Action Plan		C		A	A			A	A		
Ventura	Thousand Oaks	City	City of Thousand Oaks							A				
Ventura	Ventura	City												
Ventura	Ventura	County	County of Ventura		C		A							

Source: Office of Planning and Research. 2016. 2016 California Jurisdictions Addressing Climate Change Summary. Available online at: http://www.ccpda.org/191-2016-california-jurisdictions-addressing-climate-change-summary.
SCAG, 2019
Note: A=Adopted; C=Completed; IP=In Progress; P=Planned.

3.8.3 ENVIRONMENTAL IMPACTS

3.8.3.1 Thresholds of Significance

The impacts related to GHG emissions resulting from the implementation of the proposed project would be considered significant if they would exceed the following significance criteria, in accordance with Appendix G of the *State CEQA Guidelines*:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

As discussed in **Section 3.17, Transportation, Traffic and Safety,** CARB and OPR have recommended project-level VMT thresholds of significance in their guidance documents for use in evaluating traffic impacts in CEQA documents. These thresholds are intended to meet statewide GHG emissions targets through VMT reductions from the transportation sector. Both CARB and OPR acknowledge that MPO's are tasked with meeting SB 375 GHG emissions targets, and while CARB has determined that meeting these targets will not be sufficient to attain state climate goals, more can be done at the project level. At the project level, lead agencies may consider CARB, OPR and other recommended thresholds of significance and determine which ones are appropriate and feasible for an individual project. The discussion of GHG impacts below considers the potential for the region as a whole to meet the CARB and OPR targets.

3.8.3.2 Methodology

GHG emissions and climate change were evaluated in accordance with Appendix G the 2019 *CEQA Guidelines*. GHG emissions and climate change within the SCAG region were evaluated at a programmatic level of detail, in relation to the general plans of the six counties and the 191 cities within the SCAG region; a review of related literature germane to the SCAG region.

CEQA Guidelines Section 15064.4 states that, when making a determination with respect to the significance of a project's GHG emissions, a lead agency shall have discretion to determine whether to: (1) Use a model or methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use; and/or (2) Rely on a qualitative analysis or performance-based standards. Section 15064.4 also states that a lead agency should consider the following factors when assessing the significance of the impact of GHG emissions on the environment: (1) The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting;

(2) Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and (3) The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions.

The methodology for determining the significance of GHG emissions includes the use of SCAG's 2019 Scenario Planning Model (SPM) and transportation modeling in order to estimate GHG emissions from energy, water, and transportation. GHG emissions and transportation data were projected to 2045 using SCAG's Regional Travel Demand Model and ARB's EMFAC2014 emissions model. Estimates of energy and water use are based on current demand factors and emission rates associated with current power generation operations and water supply.

Analysis of the potential GHG impacts of Connect SoCal was conducted based on regional-level modeling of mobile-source emissions and gross estimates of stationary source emissions. It is anticipated that increasingly stringent regulations, changes in technology combined with future conservation (as a result of increased pressure to conserve and increased prices) will result in a reduced demand for all types of energy, including mobile and stationary sources (as well as reduced demand for water and associated energy requirements). As energy providers and other sectors respond to SB 32 and CARB's 2017 Scoping Plan, emission rates associated with energy use are anticipated to decrease. However, in order to present a conservative analysis and without knowledge of future regulations, technologies or market drivers, only modest reductions in demand are assumed. While the analysis considers regulations, programs, and policies currently in place, there is substantial uncertainty in projecting emissions for future horizon years. Additionally, it is important to note that GHG impacts are generally cumulative in nature, and unlike the localized air quality impacts, they have broader (i.e., statewide, national, and global) implications. *See Center for Biology Diversity v. Dept. of Fish & Wildlife*, 62 Cal.4th 204, 220 (2015) (Characterizing the state's GHG emissions as a "cumulative problem.").

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

3.8.3.3 Impacts and Mitigation Measures

Impact GHG-1 **Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.**

Significant and Unavoidable- Mitigation Required.

Pursuant to Appendix G of the *CEQA Guidelines*, a significant GHG impact would occur if the Plan would generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment. While transportation sector (specifically on road source) GHG emissions resulting from implementation of the Plan are anticipated to decrease compared to existing conditions and compared to No Project conditions, they are not anticipated to be reduced sufficiently to meet the GHG emissions reduction targets established for California (as discussed in **Impact GHG-2**). Moreover, while the Plan will meet the SB 375 GHG reduction targets set by CARB for SCAG, CARB has indicated that achievement of such regional targets is insufficient for the transportation sector to meet the state's overall GHG reduction goals. As such, GHG emissions from the Plan may have a significant impact on the environment.

Connect SoCal Projects and Strategies and Associated GHG Emissions -- Overview

Connect SoCal includes transportation projects which promote increased public transit ridership, connect public transit lines, increase active transportation opportunities and facilities, and manage traffic congestion. A complete list of SCAG's transportation projects is provided in **Appendix 2.0, Project List**. The region is anticipated to experience substantial increases in population, households, and jobs by 2045 (see **Section 2.0, Project Description**, and **Section 3.14, Population and Housing**). Connect SoCal also includes the land use strategies that seek to balance that the region's land use choices and transportation investments. This means Connect SoCal focuses new growth and development in existing urbanized settings and opportunity areas such as high-quality transit corridors (HQTAs) and incorporates strategies to increase walking, biking or other forms of active transportation, in fact 48% of housing units are expected to be within HQTAs in 2045 compared to 38% under existing conditions.

Changes in technology are anticipated to complement transportation projects and land use strategies in further reducing GHG emissions. The location-based land use strategies, street design policies, and pricing and system management policies would reduce GHG emissions. Integration of changing technologies with proposed strategies would enhance the effects of the strategies. For example, in order to support an increase in alternative fuel vehicles, SCAG's multi-tier approach includes encouraging electric vehicle (EV) charging at public fast charging locations, workplaces, and multi-family housing

(land use strategy), encouraging curbside EV charging stations and parking (street design policy), and providing rebates for charging stations and EVs (pricing and system management policy).

A complete list of emerging technologies and SCAG's associated land use, street design, and pricing and system management policies is included in the **Connect SoCal's - Emerging Technologies Technical Report**. Because of the anticipated increase in compact and higher density development, less energy (e.g., multi-family housing units are insulated by each other and, therefore, require less heating and cooling as compared to single family units) and less water (e.g., multi-family units have less landscaping requiring irrigation as compared to single-family units) is expected to be used and would contribute to the reduction in GHG emissions (see **Table 3.6-1, Residential Energy Use and Cost per Household,** and **Table 3.6-3, Building Energy Consumption – Residential and Commercial,** in **Section 3.6, Energy**).

GHG emissions result from direct and indirect sources. Direct emissions in the transportation sector derive from fuel combustion in vehicles (i.e., automobiles, trucks, trains, buses, planes, ships, and trains) and natural gas combustion from stationary sources. Indirect sources include off-site emissions occurring as a result of electricity from stationary sources. Indirect sources include off-site emissions occurring as a result of electricity, water consumption and solid waste. On road transportation emissions include fuel consumption from passenger vehicles, heavy-duty trucks, buses, and other motor vehicles. Transportation accounts for the greatest proportion of GHG emissions on a regional and state level. As part of Connect SoCal, transportation network improvements would be included, and more compact, infill, walkable, and mixed-use development strategies to accommodate new region's growth would be encouraged to accommodate increases in population, housing, employment, and travel demand. Additionally, Connect SoCal includes improvements to the active transportation network as well as passenger and rail in order to decrease fuel emissions.

Transportation Emissions

In order to assess the impacts of direct emissions as a result of Connect SoCal, the transportation emissions from on-road (light and medium duty vehicles, heavy duty vehicles, and buses) and other sources transportation (rail, aviation, and ocean-going vessels) were evaluated in **Table 3.8-5, Greenhouse Gas Emissions from All On-Road Vehicles in the SCAG Region,** and **Table 3.8-6, Greenhouse Gas Emissions from Other Transportation Sources in the SCAG Region**. **Table 3.8-7, Greenhouse Gas Emissions from All On-Road Vehicles and Other Transportation Sources in the SCAG Region,** provides a summary of **Tables 3.8-5** and **3.8-6** to demonstrate that the SCAG region will decrease mobile-source GHG emissions by approximately 12 percent from 2019 to 2045.

Table 3.8-5
Greenhouse Gas Emissions from All On-Road Vehicles in the SCAG Region
(Million Metric Tons per Year)

On-Road Vehicles	2019 (MMT/year)			2045 (Plan) (MMT/year)		
	CO_2	CH_4	NO_2	CO_2	CH_4	NO_2
Light and Medium Duty Vehicles	59.43	0.002	0.0009	38.08	0.001	0.0002
Heavy Duty Vehicles	15.46	0.000	0.002	24.16	0.001	0.0009
Buses	1.50	0.0010	0.00024	1.38	0.0003	0.00004
On-Road Vehicles (Subtotal) in CO_2	76.4	0.004	0.003	63.6	0.002	0.001
On-Road Vehicles (Subtotal) in CO_2e*	76.4	0.076	0.9	63.6	0.04	0.4
Total GHG Emissions from on-road vehicles in CO_2e		77.4			64.0	

Source: SCAG Modeling, 2019.
Note: CO_2 was converted to CO_{2e} based on the Global Warming Potential (GWP): http://www.arb.ca.gov/cc/inventory/background/gwp.htm

Table 3.8-6
Greenhouse Gas Emissions from Other Transportation Sources in the SCAG Region
(Million Metric Tons per Year)

Off-Road Vehicles	2019 Base Year			2045 (Plan)		
	CO_2	CH_4	NO_2	CO_2	CH_4	NO_2
Rail	2.16	0.00004	0.0010	3.86	0.00002	0.0005
Aviation	3.15	0.00002	0.000	1.97	0.00002	0.00001
Ocean-going Vessel	1.13	0.00003	0.0005	3.95	0.0001	0.0004
Other Transportation Sources (Subtotal) in CO_2	6.4	0.000	0.002	9.8	0.000	0.001
Other Transportation Sources (Subtotal) in CO_{2e}*	6.4	0.002	0.5	9.8	0.00	0.3
Total GHG Emissions from off-road vehicles in CO_{2e}*		6.9			10.1	

Source: SCAG Modeling, 2019
Note: CO_2 was converted to CO_{2e} based on the Global Warming Potential (GWP): http://www.arb.ca.gov/cc/inventory/background/gwp.htm

Table 3.8-7
Greenhouse Gas Emissions (CO2e) from All On-Road and Other Transportation Sources in the SCAG Region
(Million Metric Tons per Year)

	2019 Base Year	2045 (Plan)
Total GHG Emissions from on-road vehicles in CO_{2e}	77.4	64.0
Total GHG Emissions from other transportation sources in CO_{2e}	6.9	10.1
All Transportation Sector (On-Road and Other Sources) in CO_{2e}	84.3	74.1
2045 Plan vs. 2016 Base Year	-12%	

Source: SCAG Modeling, 2019
Note: CO_2 was converted to CO_{2e} based on the Global Warming Potential (GWP): http://www.arb.ca.gov/cc/inventory/background/gwp.htm

Between 2019 and 2045, GHG emission from on-road mobile sources and other transportation sources, inclusive of light and medium duty vehicles and heavy-duty trucks, would decrease by approximately 12 percent (on road only would decrease by approximately 17 percent). The largest decreases would occur in the most populous counties -- Los Angeles, Orange, and Ventura Counties (**Table 3.8-8, Greenhouse Gas Emissions All On-Road and Other Transportation Sources by County [CO_2]**). As shown in **Table 3.8-8**, transportation GHG emissions in Imperial and San Bernardino Counties are expected to increase between 2019 and 2045.

Table 3.8-8
Greenhouse Gas Emissions All On-Road and Other Transportation Sources by County (CO2e)*
Million Metric Tons per Year

	2005 Base Year	2019 PEIR Base Year	2020 No Project	2020 Plan	2030 Plan	2035 Plan	2045 No Project	2045 Plan	2019 Compared to Plan Year (2045)	2005 Compared to Plan Year (2045)
Imperial	1.4	1.44	1.39	1.48	1.47	1.5	1.88	1.92	35%	37%
Los Angeles	46.81	37.57	35.5	36.73	27.89	25.67	27.98	27.64	-26%	-41%
Orange	14.08	11.81	11.08	11.5	8.73	7.99	8.41	8.33	-29%	-41%
Riverside	11.8	10.72	10.19	10.63	9.4	9.09	10.31	10.45	-3%	-11%
San Bernardino	13.05	11.42	10.8	11.29	10.2	10.14	12.03	12.26	7%	-6%
Ventura	3.68	2.84	2.69	2.77	2.07	1.91	2.05	2.03	-29%	-45%
SCAG Total	**90.82**	**75.8**	**71.66**	**74.41**	**59.86**	**56.28**	**62.64**	**62.62**	**-17%**	**-31%**
Bus (region)	-	1.59	-	1.56	1.4	1.37	-	1.4	-12%	-
Rail (region)	-	2.48	-	2.53	2.99	3.28	-	4.01	62%	-
Aviation (Region)	-	3.16	-	3.14	2.97	2.63	-	1.97	-38%	-
OGV (Region)	-	1.30	-	1.32	1.99	2.55	-	4.09	216%	=
Total All Sectors	**-**	**84.33**	**-**	**82.95**	**69.20**	**66.12**	**=**	**74.09**	**-12%**	**-**

*Note: *Light and medium duty vehicles and heavy-duty truck*
Source: SCAG modeling, 2019.

Total GHG Emissions in SCAG Region

In order to get a better estimate of total GHG emissions, emissions from other major sectors (energy and water consumption) in addition to transportation are considered in the analysis below.

As previously stated, Connect SoCal focuses growth in existing urban regions and opportunity areas, where transit and infrastructure are already in place. Locating new growth near bikeways, greenways, and transit would increase active transportation options and the use of other transit modes (public

transit, carpooling), thereby reducing number of vehicle trips and trip lengths and associated emissions. The land use strategies included in the Plan would encourage higher density development in existing urban cores and opportunity areas which would encourage more multi-family and/or mixed-use projects, via vertical development, instead of the traditional single-family home development. Compact development and utilization of conservation strategies (i.e. exceed Title 24 building codes, LEED certification), would reduce energy and water consumption.

GHG emissions for building energy were calculated in SCAG's Scenario Planning Model (SPM) a factor of 11.66 pounds (lb) CO_{2e}/therm for natural gas and 0.74 CO_{2e}/kilowatt-hour (kWh) for electricity were used to estimate 2019 and 2045 emissions). Indoor and outdoor water-related energy[151] assumed factors of 13,040 kWh/MG and 12,544 kWh/MG, respectively for 2019 and 2045. Water related energy includes the electricity used in the transport, treatment, and distribution of water. However, the analysis below does not account for changing sources of emissions that would reduce GHG emissions per kilowatt hour, nor does it account for improved technology that would reduce consumption of energy. The below analysis also does not account for reductions in water demand as a result of conservation. The analysis presented in **Table 3.8-9, Greenhouse Gas Emissions for the SCAG Region from Three Primary Sources (CO2e) (Million Metric Tons per Year)** illustrates how a more compact growth pattern can reduce GHG emissions. It does not account for technological and other reductions that are anticipated to substantially reduce emissions compared to what is shown in **Table 3.8-9.**

As shown in **Table 3.8-9, Greenhouse Gas Emissions for the SCAG Region from Three Primary Sources (CO2e) (Million Metric Tons per Year)**, the total GHG emissions from transportation, building and water-related energy are anticipated to decrease by 15.9 percent with Connect SoCal in 2045 compared to existing (2019) conditions. These three sectors account for approximately 70 percent of the total GHG emissions in the SCAG region. Additionally, as compared to 2045 No Project, GHG emissions from the three primary sources are anticipated to be approximately 10.8% lower under Connect SoCal. Compared to 2005, GHG emissions from the three primary sources are estimated to be 25.9% less than in 2005.

It is important to note that the Plan is not responsible for addressing sectors beyond transportation, including building energy and water-related energy consumption. In addition, even with respect to transportation sources, the Plan has no control over the fuels used by vehicles in the region or the types of vehicles used. As outlined in CARB's 2016 Mobile Source Strategy, changes to fuel type and types of vehicles are anticipated to result in additional substantial reductions in GHG from the transportation

[151] Water related energy includes the electricity used in the transport, treatment, and distribution of water.

sector. Note that the analysis above does not include emissions from construction equipment, agricultural operations, industrial processes, wildfires, and other unique sources.

Table 3.8-9
Greenhouse Gas Emissions for the SCAG Region from Three Primary Sources (CO2e)
(Million Metric Tons per Year)

Area	2005 Base Year[d]	2019 Base Year	2030 Plan	2035 Plan	2045 No Project	2045 Plan	2019 vs 2045 Plan	2005 vs 2045 Plan
Transportation[a]	83.6	77.4	61.3	60.0	74.6	64	-17.3%	-23.4%
Building energy[b]	44.5	35.8	34.6	35.5	32.4	31.3	-12.6%	-30%
Water-related energy[c]	3.82	3.1	2.8	2.8	2.6	2.5	-19.4%	-34.6%
Total	**131.92**	**116.3**	**98.7**	**98.3**	**109.6**	**97.8**	**-15.9%**	-25.9%

Notes:
/a/ On-road and other transportation.
/b/ Includes estimates of emissions from energy used in the region but generated outside the region.
/c/ Water related estimates of energy consumption includes the electricity used in the transport, treatment, and distribution of water
/d/ 2012 RTP/SCS PEIR
The Scenario Planning Model provides estimates of energy and water consumption; it is a scenario planning tool used for developing scenarios for the Plan during the scenario planning process to compare relative differences among scenarios and does not account for emissions reductions from cleaner fuels and technologies in the future.
The estimates of GHG emissions in this table do not include the following sources: construction, solid waste, aircraft, ships/watercraft, trains, agriculture, wildfires, industrial process or other sources.
Source: SCAG Modeling, 2019.

Construction Emissions

The construction of transportation and development projects requires use of vehicles and equipment that consume fuel and emit GHGs for construction activities (worker commutes and materials transport emissions are accounted for within the on-road emissions analysis above). Earth-moving equipment is often necessary to construct new transportation and development projects. Equipment includes graders, scrapers, backhoes, jackhammers, front-end loaders, generators, water trucks, and dump trucks. Construction-related GHG emissions for each individual project are temporary and last only for the duration of construction of that project, but on a regional scale construction is an on-going source of GHG emissions. Quantification of short-term construction related GHG emissions is generally based on the size of each project, the equipment used and the construction schedule. Such detailed information is not available on a regional scale. Construction emission estimates are not reasonably foreseeable because the nature of construction activity is so variable. The 2016 RTP/SCS PEIR notes that construction emissions are relatively minor -- typically accounting for less than 0.3 percent of total regional emissions.

Industrial, Agricultural and Other Sources

It is important to note that the Plan is primarily a transportation plan with land use strategies. SCAG currently does not collect information regarding industrial, agricultural and other sources, rather these sources of emissions are addressed by air quality management districts as part of the preparation of air quality management plans. The SCAQMD's 2016 AQMP uses an integrated approach in order to reduce criteria air pollutants, toxic pollutants, and GHG emissions. A large portion of GHG and air pollutant emissions come from the transportation and energy sectors. Industrial facilities consume approximately 10% of energy in the SCAB region, therefore contributing to a significant portion of GHG emissions. The SCAQMD's 2016 AQMP proposes to modernize industrial facilities, promotes equipment electrification, and incorporating newer technologies such as smart girds and solar panels to reduce the reliance on fossil fuel without generating more emissions from electricity use.152

Wildfires

In 2018, more than 1.8 million acres of California land burned in wildfires. The Woolsey Fire in November 2018 burned approximately 96,949 acres and 1,643 structures in Ventura and Los Angeles Counties, representing the largest fire of that year within the SCAG region.[153] At the same time, California's most destructive fire, the Camp Fire, in Butte County destroyed 18,804 structures. California's 2018 wildfires emitted approximately 45.5 $MMTCO_2e$, which represents about 11 percent of California's total GHG emissions that year.[154] Estimating GHG emissions from wildfires is highly unpredictable and beyond the scope of this PEIR. However, it is likely that wildfires and their associated emissions will continue to be a substantial source of emissions in future years as climate change leads to a longer and more intense fire season.[155]

Summary

In summary, while GHG emissions are anticipated to decrease compared to existing conditions and compared to No Project conditions, based on the analysis above they are not anticipated to be reduced sufficiently to meet the GHG emissions reduction targets established for California (see Regulatory

152 SCAQMD. 2017. *Final 2016 Air Quality Management Plan*. Available online at: http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/final2016aqmp.pdf?sfvrsn=15, accessed November 4, 2019.

153 County of Los Angeles Fire Department. 2018. *Woolsey Fire Incident Update*. Available online at: https://www.fire.lacounty.gov/woolsey-fire-incident/, accessed October 23, 2019.

154 Next10. 2019. *California's Green Innovation Index*. Available online at: https://www.next10.org/sites/default/files/2019-10/2019-california-green-innovation-index-final.pdf, accessed October 23, 2019.

155 Ibid.

Framework and discussion of Impact GHG-2 below), and therefore the GHG emissions resulting directly and indirectly from the Plan may result in significant and unavoidable impacts. However, as noted in the discussion above, the analyses of GHG emissions sources presented herein, even for transportation, do not fully take into account changes to fuels and technology that are expected to substantially reduce emissions compared to what is presented here. Nonetheless, this impact is considered significant requiring the consideration of mitigation measures.

Mitigation Measures

SCAG Mitigation Measures

SMM GHG-1: SCAG, in partnership with local air districts, shall continue to work with the counties and cities to adopt qualified GHG reduction plans (e.g., climate action plans [CAPs], develop GHG-reducing planning policies, and implement local climate initiatives. These reductions can be achieved through a combination of programs, that implement plans developed collaboratively, including ZNE in new construction, retrofits of existing buildings, incentivizing the development of renewable energy sources that serve both new and existing land uses, as well as measures to reduce GHG emissions form transportation sources.

SMM GHG-2: SCAG shall encourage energy efficient design for buildings, through SCAG's Sustainable Communities Program potentially including strengthening local building codes for new construction and renovation to achieve a higher level of energy efficiency.

SMM GHG-3: SCAG shall continue working with partners including universities, utilities, regulating agencies, the private sector and NGO's, and member agencies to support deployment of electric vehicle (EV) charging in the region. SCAG shall provide resources to member agencies and supply them with available information and data so that they can better take advantage of legislation and funding for EV charging.

SMM GHG-4: SCAG shall continue to pursue partnerships with SCE, municipal utilities, locally operated electricity providers and CPUC to promote energy efficient development in the SCAG region, through coordinated planning and data and information sharing activities.

Project Level Mitigation Measures

PMM-GHG-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation

measures to reduce substantial adverse effects related to greenhouse gas emissions. Such measures may include the following or other comparable measures identified by the Lead Agency:

a) Integrate green building measures consistent with CALGreen (California Building Code Title 24), local building codes and other applicable laws, into project design including:

   i) Use energy efficient materials in building design, construction, rehabilitation, and retrofit.

   ii) Install energy-efficient lighting, heating, and cooling systems (cogeneration); water heaters; appliances; equipment; and control systems.

   iii) Reduce lighting, heating, and cooling needs by taking advantage of light-colored roofs, trees for shade, and sunlight.

   iv) Incorporate passive environmental control systems that account for the characteristics of the natural environment.

   v) Use high-efficiency lighting and cooking devices.

   vi) Incorporate passive solar design.

   vii) Use high-reflectivity building materials and multiple glazing.

   viii) Prohibit gas-powered landscape maintenance equipment.

   ix) Install electric vehicle charging stations.

   x) Reduce wood burning stoves or fireplaces.

   xi) Provide bike lanes accessibility and parking at residential developments.

b) Reduce emissions resulting from projects through implementation of project features, project design, or other measures, such as those described in Appendix F of the *State CEQA Guidelines*.

c) Include off-site measures to mitigate a project's emissions.

d) Measures that consider incorporation of Best Available Control Technology (BACT) during design, construction and operation of projects to minimize GHG emissions, including but not limited to:

   i) Use energy and fuel-efficient vehicles and equipment;

   ii) Deployment of zero- and/or near zero emission technologies;

   iii) Use lighting systems that are energy efficient, such as LED technology;

   iv) Use the minimum feasible amount of GHG-emitting construction materials;

   v) Use cement blended with the maximum feasible amount of flash or other materials that reduce GHG emissions from cement production;

   vi) Incorporate design measures to reduce GHG emissions from solid waste management through encouraging solid waste recycling and reuse;

   vii) Incorporate design measures to reduce energy consumption and increase use of renewable energy;

   viii) Incorporate design measures to reduce water consumption;

   ix) Use lighter-colored pavement where feasible;

   x) Recycle construction debris to maximum extent feasible;

   xi) Plant shade trees in or near construction projects where feasible; and

   xii) Solicit bids that include concepts listed above.

e) Measures that encourage transit use, carpooling, bike-share and car-share programs, active transportation, and parking strategies, including, but not limited to the following:

   i) Promote transit-active transportation coordinated strategies;

   ii) Increase bicycle carrying capacity on transit and rail vehicles;

iii) Improve or increase access to transit;

iv) Increase access to common goods and services, such as groceries, schools, and day care;

v) Incorporate affordable housing into the project;

vi) Incorporate the neighborhood electric vehicle network;

vii) Orient the project toward transit, bicycle and pedestrian facilities;

viii) Improve pedestrian or bicycle networks, or transit service;

ix) Provide traffic calming measures;

x) Provide bicycle parking;

xi) Limit or eliminate park supply;

xii) Unbundle parking costs;

xiii) Provide parking cash-out programs;

xiv) Implement or provide access to commute reduction program;

f) Incorporate bicycle and pedestrian facilities into project designs, maintaining these facilities, and providing amenities incentivizing their use; and planning for and building local bicycle projects that connect with the regional network;

g) Improving transit access to rail and bus routes by incentives for construction of transit facilities within developments, and/or providing dedicated shuttle service to transit stations; and

h) Adopting employer trip reduction measures to reduce employee trips such as vanpool and carpool programs, providing end-of-trip facilities, and telecommuting programs including but not limited to measures that:

i) Provide car-sharing, bike sharing, and ride-sharing programs;

ii) Provide transit passes;

iii) Shift single occupancy vehicle trips to carpooling or vanpooling, for example providing ride-matching services;

iv) Provide incentives or subsidies that increase that use of modes other than single-occupancy vehicle;

v) Provide on-site amenities at places of work, such as priority parking for carpools and vanpools, secure bike parking, and showers and locker rooms;

vi) Provide employee transportation coordinators at employment sites;

vii) Provide a guaranteed ride home service to users of non-auto modes.

i) Designate a percentage of parking spaces for ride-sharing vehicles or high-occupancy vehicles, and provide adequate passenger loading and unloading for those vehicles;

j) Land use siting and design measures that reduce GHG emissions, including:

i) Developing on infill and brownfields sites;

ii) Building compact and mixed-use developments near transit;

iii) Retaining on-site mature trees and vegetation, and planting new canopy trees;

iv) Measures that increase vehicle efficiency, encourage use of zero and low emissions vehicles, or reduce the carbon content of fuels, including constructing or encouraging construction of electric vehicle charging stations or neighborhood electric vehicle networks, or charging for electric bicycles; and

v) Measures to reduce GHG emissions from solid waste management through encouraging solid waste recycling and reuse.

Level of Significance after Mitigation

As discussed above, regulations and polices would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing

regulations and policies. Therefore, this EIR identifies project-level mitigation measures consistent with applicable regulations and polices designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and the difficulty in quantifying the effectiveness of the mitigation measures identified above, and SCAG's lack of authority to implement project-level mitigation measures, this PEIR finds impacts related to greenhouse gas emissions to be significant and unavoidable.

Impact GHG-2 Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Significant and Unavoidable – Mitigation Required.

Pursuant to Appendix G of the *CEQA Guidelines*, a significant GHG impact is identified if the Plan could conflict with applicable GHG reduction plans, policies, or regulations. Transportation projects and anticipated development under the Plan would be subject to complying with SB 375, SB 743, AB 32, and SB 32. SB 375 requires MPO's to meet per capita emission reductions by 2020 and 2035 as compared to the base year of 2005. AB 32 and SB 32 are statewide reduction goals aimed at reducing emissions to 1990 levels by 2020 and reducing emissions to 40% below 1990 levels by 2030, respectively. The Plan will meet the reduction goals set forth in SB 375, as discussed below. However, CARB has indicated that achievement of the SB 375 goals is insufficient for the transportation sector to meet the state's overall GHG reduction goals. In addition, without additional information as to how other sectors (energy, water-related energy and other sources of emissions) would reduce emissions to meet targets, the Plan would not be consistent with AB 32 and SB 32. As a result, the impact would be significant and unavoidable.

Compliance with SB 375

As described in the Regulatory Framework, SB 375 requires CARB to develop regional GHG emission reduction targets for cars and light-duty trucks for 2020 and 2035 (compared to 2005 emissions) for each of the state MPOs on a per capita basis. Each MPO is required to prepare an SCS as part of the RTP in order to meet these GHG emissions reduction targets by aligning transportation, land use, and housing strategies with respect to SB 375. For SCAG, the targets are to reduce per capita GHG emissions by 8 percent below 2005 levels by 2020 and 19 percent below 2005 levels by 2035. Determining the per capita CO_2 emissions requires modeling vehicle miles traveled (VMT) by passenger vehicles and light trucks that emit CO_2 and dividing the number by the total population.

SCAG estimates that the per capita 2005 emissions from cars and light-duty trucks as 23.8 pounds of CO_2 per person per day (**Table 3.8-10, SB 375 Analysis**).

Table 3.8-10
SB 375 Analysis

	2005 (Baseline)	2020 (Plan)	2035 (Plan)
Resident population (per 1,000)	17,161	19,194	21,110
CO2 emissions (per 1,000 tons)	204.0/a/	204.5/b/	198.6/b/
Per capita emissions (pounds/day)	23.8	21.3	18.8
% difference from Plan (2020) to Baseline (2005)			–8%
% difference from Plan (2035) to Baseline (2005)			–19%/c/

Note:
/a/ Based on EMFAC2007
/b/Based on EMFAC2014 and SCAG modeling, 2019.
/c/ Includes off-model adjustments for 2035 and 2045
Source: SCAG modeling, 2019.
http://www.scag.ca.gov/committees/CommitteeDocLibrary/jointRCPC110515fullagn.pdf

As shown in **Table 3.8-10, SB 375 Analysis**, per capita CO_2 emissions from cars and light-duty trucks (only) are calculated at 21.3 pounds per day in 2020 with the Plan. The result of the Plan is an 8 percent decrease in per capita CO_2 emissions from 2005 to 2020. The percent decrease would achieve the 8 percent emissions reduction target by 2020 for the region set by SB 375. By 2035, Connect SoCal projects 18.8 pounds per day for per capita CO_2 emissions from cars and light-duty trucks (only). This represents an approximately 19 percent decrease in per capita CO_2 emissions from 2005 to 2035. This 19 percent decrease would achieve the 19 percent emissions reduction target set by CARB for 2035. CARB has not set per capita GHG emission reduction targets for passenger vehicles for the Plan's horizon year (2045). However, due to the projects and policies proposed by SCAG to reduce GHG emissions through transit improvements, traffic congestion management, emerging technology, and active transportation, the Plan's GHG emission reduction trajectory is expected to meet more aggressive GHG emission reductions by 2045. Additional reduction strategies are provided in the SCS and include congestion pricing, mileage-based user fees, and co-working at strategic locations.

By meeting the SB 375 targets for 2020 and 2035, as well as providing strategies and policies to further reduce per capita GHG emissions into 2045, the Plan would be in compliance with SB 375 with respect to meeting CARB targets.

SB 743 and VMT Guidance

As also discussed in **Section 3.17, Transportation, Traffic, and Safety**, in January 2019, CARB identified guidance with respect to necessary VMT reductions to meet state climate goals.[156] That guidance indicates that population in the state is anticipated to grow by 24 percent as compared to 2015, and that in order to meet the state's 2050 climate goal, the increase in total cumulative statewide daily VMT should not be more than 6.5 percent as compared to 2015. This corresponds to a reduction of 14.3 percent in per capita total daily VMT as compared to 2015 (from 24.6 VMT per capita in 2015 to about 21 VMT per capita in 2050) and 16.8 percent decrease in per capita daily VMT for light-duty vehicles (from 22.2 VMT per capita in 2015 to about 18.5 VMT per capita in 2050). CARB notes that the modeling used for the Cleaner Technology and Fuels (CTF) forecast identifies ratios of total statewide VMT to population and that the suggested per capita reductions are not household generated VMT and that values are not directly comparable to output from a local or regional travel demand model. Given that the CARB guidance is not intended to be directly compared to regional travel demand model outputs, VMT from SCAG's model should not be compared to these guidance numbers for purposes of determining consistency with SB 743 and associated CARB guidance. However, for purposes of general comparison and information, **Table 3.8-11, Population and Daily VMT (2019 and 2045),** presents information related to population, daily VMT and VMT per capita for the years 2019 and 2045.

Table 3.8-11
Population and VMT (2019 and 2045)

	2019	2045	2045 vs 2019
Total Population	19,339,700	22,507,200	14.1%
Total VMT	460,153,316	517,631,374	11.1%
VMT Per Capita Light Duty Vehicles	22.09	20.67	-6.4%
VMT Per Capita All Vehicles	23.79	22.89	-3.8%

Source: SCAG modeling, 2019.

OPR and Caltrans have also provided guidance on recommended VMT thresholds at the project level which are discussed in **Section 3.17, Transportation, Traffic, and Safety**. According to OPR, VMT is the preferred transportation impact metric in CEQA documents. OPR developed the *Technical Advisory on Evaluating Transportation Impacts in CEQA* (OPR Technical Advisory) which provides non-binding recommendations regarding assessment of VMT, thresholds of significance, and mitigation measures.

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

OPR recommends that a per capita (residential) or per employee (office) VMT that is 15% below that of existing development may be a reasonable threshold.[157] In addition, as discussed above, Caltrans prepared their *Strategic Management Plan 2015-2020*, which set a target of 15% reduction in per capita VMT relative to 2010 levels by 2020.[158]

Compliance with AB 32 and SB 32

As noted in **Section 3.8.2, Regulatory Framework**, AB 32 requires the state to reduce GHG emissions to 1990 levels by 2020. SB 32 was created to further reduce GHG emissions and requires the state to reduce GHG emissions to 40 percent below 1990 levels by 2030. In order to ensure the state reaches these goals, CARB was ordered to prepare an updated Scoping Plan. In November 2017, CARB released the 2017 Scoping Plan as a framework to meet the 2030 reduction requirements. The Scoping Plan is designed to shift California's economy away from fossil fuels to more sustainable options that deliver economic growth, job development, and environmental benefits. Key programs that are part of the Scoping Plan include Cap-and-Trade regulation, the Low Carbon Fuel Standard, cleaner cars, trucks and freight travel, renewable energy, and reduce methane emissions from agricultural and other wastes.[159]

The 2017 Scoping Plan is designed to reduce statewide GHG emissions across different economic sectors, including: energy, transportation, industry, water, waste management, agriculture, and natural and working lands. As discussed above, under the Plan, per capita mobile source GHG emissions from cars and light-duty trucks would be reduced by approximately 8 percent by 2020 and 19 percent by 2035 which meets (for 2035) the SB 375 reduction targets.

In 2045 under the Plan, GHG emissions from the three primary sources -- transportation, energy, and water-related energy are all anticipated to decrease as compared to existing conditions (see **Table 3.8-9, Greenhouse Gas Emissions for the SCAG Region from Three Primary Sources [CO2e])**.

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157 Governor's Office of Planning and Research. 2018. *Technical Advisory – On Evaluating Transportation Impacts in CEQA*. Available online at: http://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf, accessed November 15, 2019.

158 Caltrans. *Strategic Management Plan 2015-2020*. Available online at: https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/caltrans-strategic-mgmt-plan-033015-a11y.pdf, accessed November 15, 2019. This document does not provide a detailed comparison to these targets because year 2000 and year 2010 comparable data is not available, and Caltrans VMT data for districts in the SCAG region is not available.

159 CARB. 2017. *California's 2017 Climate Change Scoping Plan*. Available online at: https://ww3.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf, accessed August 14, 2019.

Transportation Sources -- Cars and Light-Duty Vehicles

In November of 2018, CARB released its 2018 California's Sustainable Communities and Climate Protection Act Progress Report.[160] The report recognizes the importance of realizing and measuring the benefits identified through the SB 375 planning work. Key findings of the report include that while positive gains have been made to improve the alignment of transportation, land use, and housing policies with state goals, the data suggest that more is necessary for climate success.

CARB indicates their regional 2035 GHG emissions reduction targets under SB 375 are not adequate to fully meet the goals of the 2017 Scoping Plan for the cars and light-duty trucks. Collectively, CARB determined that if the state's 18 MPOs' all met the SB 375 GHG cars and light-duty trucks emission reduction targets set by CARB in 2018, a 19 percent reduction in per capita VMT (from cars and light-duty trucks) would be achieved by 2035. In the target re-setting report, CARB expressed that to meet the statewide reduction goals set forth by SB 32 and the 2017 Scoping Plan, the state would need to reduce per capita GHG emissions from cars and light-duty trucks by 25 percent by 2035, resulting in a 6 percent gap between the 19 percent emissions reductions targets set for the regions (averaged for the 18 MPOs and compared to a baseline year of 2005).[161] Therefore, even with meeting CARBs SB 375 GHG emissions reduction targets, a 6 percent gap compared to the state's 25 percent reduction need remains.

As CARB notes, "[a]n RTP/SCS that meets the applicable SB 375 targets alone will not produce the GHG emissions reductions necessary to meet state climate goals in 2030 nor in 2050."[162] CARB has also noted that greater reductions in VMT will be required to make up the 6 percent gap in GHG. Further, according to the 2018 Sustainable Communities Progress Report, "California – at the state, regional, and local levels – has not yet gone far enough in making the systemic and structural changes to how we build and invest in communities that are needed to meet state climate goals." It will take collaboration among all these levels of government to identify the additional VMT reductions needed to achieve the state's climate goals because MPOs do not have the land use authority or resources to meet challenge alone.

OPR and CARB have both provided recommendations for reducing VMT reductions at the project level which could be a means to close the gap between GHG reductions achieved through SCS implementation

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160 CARB. 2018. *2018 Progress Report California's Sustainable Communities and Climate Protection Act*. Available online at: https://ww2.arb.ca.gov/sites/default/files/2018-11/Final2018Report_SB150_112618_02_Report.pdf, accessed October 3, 2019.

161 CARB. 2017. *Final Staff Report Proposed Update to the SB 375 Greenhouse Gas Emission Reduction Targets*. Available online at: https://ww3.arb.ca.gov/cc/sb375/final_staff_proposal_sb375_target_update_october_2017.pdf?_ga=2.217174102.1993336916.1570127197-1229197864.1566229390, accessed October 4, 2019.

162 Ibid.

and the GHG reductions necessary to meet the state's GHG reduction goals. For example, OPR has provided a recommended threshold of 15 percent VMT reduction at the project level.[163] CARB also recommends project specific VMT reduction thresholds of 16.8 percent reduction from baseline for light-duty vehicle VMT (i.e., passenger cars and light trucks) or a 14.3 percent reduction for total VMT (i.e., all vehicles).[164] As GHG reductions from the transportation sector become more difficult to achieve, it is also possible that Cap-and-Trade could be a viable method of capturing transportation emissions and reducing them through market-based carbon trading.[165] Such an expansion of that program is speculative at the time of writing this PEIR, however.

Given the state's emphasis on VMT reduction as the only feasible way to achieve additional GHG reductions needed from cars and light-duty trucks, and in recognition of the climate change benefits that occur from reduced VMT resulting in reductions in GHGs, the projected land use pattern proposed under the Plan supports HQTAs. However, SCAG lacks the land use authority to enforce specific land uses. Implementation of the projected land use pattern under the Plan is within the purview of local agencies. As described in **Section 2.0, Project Description**, in order to incentivize implementation, SCAG has established several programs that support transit-oriented development in the region. For example: promoting congestion pricing, implementing complete streets strategies, and improving connectivity between existing transit systems.

In sum, while overall, California has hit its 2020 climate target ahead of schedule due to advances in the energy sector, the transportation sector has not seen the same gains and is still approximately 40 percent of the state's emissions. Emissions from the transportation sector have continued to rise despite increases in fuel economy and decreases in the carbon content of fuel.[166]

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163 Office of Planning and Research Technical Advisory on Evaluating Transportation Impacts in CEQA, December 2018 http://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf?

164 California Air Resources Board 2017 Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals, January 2019.

165 In June 2015, fuels (gasoline, diesel, and natural gas) were covered under the Cap-and-Trade programs, which would require fuel suppliers to reduce GHG emissions by supplying low carbon fuels or purchase allowances to cover the GHG emissions produced when conventional petroleum- based fuel is burned. Therefore, a program is already in place within the Cap-and-Trade program to reduce GHG emissions from the transportation section. (See: CARB. *California's Cap and Trade Program: Fuel Facts*. Available online at: https://ww3.arb.ca.gov/cc/capandtrade/guidance/facts_fuels_under_the_cap.pdf, accessed October 23, 2019.)

166 CARB. 2017. *Final Staff Report Proposed Update to the SB 375 Greenhouse Gas Emission Reduction Targets*. Available online at: https://ww3.arb.ca.gov/cc/sb375/final_staff_proposal_sb375_target_update_october_2017.pdf?_ga=2.217174102.1993336916.1570127197-1229197864.1566229390, accessed October 4, 2019.

Other Emission Sources

GHG emissions from sectors other than cars and light-duty trucks are anticipated to be reduced in future years due to the implementation of statewide regulations and policy directed at reducing emissions (see **Table 3.8-8, Greenhouse Gas Emissions All On-Road and Other Transportation Sources by County (CO2e)**). For example, emissions from agriculture and the solid waste sector may be reduced through regulatory requirements of SB 1383, which requires a 50 percent reduction in the level of statewide disposal of organic waste compared to 2014 levels by 2020 and a 75 percent reduction by 2025. SB 100, the 100 Percent Clean Energy Act of 2018 also requires that the state's electricity sector achieve carbon neutrality by 2045 with benchmark targets of 50 percent renewable energy by 2026 and 60 percent by 2030. However, while these reductions are expected, implementation of statewide regulations is beyond the scope of SCAG's authority.

The 2017 Scoping Plan recognizes that 2030 serves as a benchmark year in the state's long-term climate change goals; however, the 2017 Scoping Plan guides the state only to the 2030 goal. Moreover, given that the 2050 target of achieving an 80 percent reduction from 1990 GHG levels has not yet been codified in legislation (although established by Executive Order S-3-05), the 2017 Scoping Plan does not provide a framework to achieve emissions targets beyond 2030. Nonetheless, given the identified gap between SCAG's 19 percent reduction target and the state's 25 percent reduction target for 2030, it is anticipated that such a gap would remain when looking toward 2050.

Implementation of development projects with the Plan would be subject to Title 24 Building Code requirements, including the California Energy Code and the mandatory requirements of the CalGreen Code. Future development would also be required to undergo environmental review that would evaluate the potential for climate change impacts to occur. It is likely that in cases where climate change impacts are identified, appropriate and feasible mitigation would be applied to reduce GHG emissions including on- and off-site GHG reduction measures (e.g., low-flow water appliance, energy-efficient home appliances, landscaping limits), investments in local or regional programs to reduce GHGs (e.g., electrified school bus programs, home refurbishment rebate programs), and the purchase of carbon offsets through programs verified by third party such as the Climate Action Reserve.

Table 3.8-9, Greenhouse Gas Emissions for the SCAG Region from Three Primary Sources, provides a comparison of estimated emissions for three primary sources for the years 2005, 2019 and 2045. When 1990 data is not available, 15 percent below 2005 may be used as an estimate of 1990.[167] Therefore

[167] CARB. 2014. *First Update to the Climate Change Scoping Plan*. Available online at: https://ww3.arb.ca.gov/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf, accessed November 4, 2019.

estimated 1990 emissions for three primary sources of emissions in the SCAG region is 15 percent less than 131.92 MMT or 112.13. 2045 total emissions these sources are estimated at 97.8 MMT or about 13 percent less than estimated 1990 emissions. Therefore 2045 emissions for the SCAG region (as estimated by currently available emissions and consumption factors that do not take into account GHG reduction requirements) would not meet 2030 emission targets and would not be on track to meet 2050 emission targets.

Summary

The Plan has demonstrated that it will meet and exceed CARB's targets for greenhouse gas emissions from light duty passenger vehicles for 2020 and 2035, respectively. By meeting the SB 375 targets, the Plan has technically contributed its share (in the transportation sector), towards meeting the AB 32, SB 32, and the Scoping Plan targets. As discussed above, GHG impacts are generally cumulative in nature and have broader (i.e. statewide, national, and global) implications. Also, CARB has indicated that even if all MPOs meet their regional SB 375 GHG targets, the state would not be able to meet the statewide GHG reduction goals of AB 32, SB 32, and the Scoping Plan. As recognized by CARB, MPO's do not have land use authority to implement additional VMT reductions. Furthermore, SCAG has no control or authority over the other key sectors (e.g., energy, industry, water, waste and agriculture) in meeting the AB 32, SB 32, and Scoping Plan targets. Assuming existing available emission factors, GHG emissions in the SCAG region are not on-track to achieve targets identified in AB 32, SB 32 and the Scoping Plan resulting in a significant and unavoidable impact. Mitigation is required.

Mitigation Measures

SCAG Mitigation Measures

See **SMM GHG -1, SMM GHG-2, SMM GHG-3,** and **SMM GHG-4.**

Project Level Mitigation Measures

See **PMM-GHG-1.**

Level of Significance after Mitigation

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

feasible. However, because of the regional nature of the analysis, the estimated GHG emissions from the three primary sources, the difficulty in quantifying both future emission and water and energy consumption factors and the effectiveness of the mitigation measures identified above, and SCAG's lack of authority to implement project-level mitigation measures, this PEIR finds impacts related to greenhouse gas emissions and potential conflicts with applicable plans, policies and regulations to be significant and unavoidable.

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3.9 HAZARDS AND HAZARDOUS MATERIALS

3.9.1 ENVIRONMENTAL SETTING

This section of the Program Environmental Impact Report (PEIR) describes the hazards and hazardous materials in the SCAG region, identifies the regulatory framework with respect to laws and regulations that govern hazards and hazardous materials, and analyzes the significance of the potential impacts from hazards and hazardous materials that could result from development of the Connect SoCal Plan ("Connect SoCal"; "Plan"). In addition, this PEIR provides regional-scale mitigation measures as well as project-level mitigation measures to be considered by lead agencies for subsequent, site-specific environmental review to reduce identified impacts as appropriate and feasible. **Section 3.17, Transportation, Traffic, and Safety,** also addresses emergency response and evacuation plans**.**

3.9.1.1 Definitions

Definitions of terms used in the regulatory framework, characterization of baseline conditions, and impact analysis for hazards and hazardous materials are provided.

Hazard versus Risk. Workers' health and general public health are potentially at risk whenever hazardous materials have been used or where there could be an exposure to such materials. Inherent in the setting and analyses presented in this section are the concepts of the "hazard" of these materials and the "risk" they pose to human health. Exposure to some chemical substances may harm internal organs or systems in the human body, ranging from temporary effects to permanent disability, or death. Hazardous materials that result in adverse effects are generally considered "toxic." Other chemical materials, however, may be corrosive, or react with other substances to form other hazardous materials, but they are not considered toxic because organs or systems are not affected. Because toxic materials can result in adverse health effects, they are considered hazardous materials, but not all hazardous materials are necessarily "toxic." For purposes of the information and analyses presented in this section, the terms hazardous substances or hazardous materials are used interchangeably and include materials that are considered toxic.

The risk to human health is determined by the probability of exposure to a hazardous material and the severity of harm such exposure would pose. That is to say, the likelihood and means of exposure, in addition to the inherent toxicity of a material, are used to determine the degree of risk to human health. For example, a high probability of exposure to a low toxicity chemical would not necessarily pose an unacceptable human health or ecological risk, whereas a low probability of exposure to a very high toxicity chemical might. Various regulatory agencies, such as the U.S. Environmental Protection

Agency (USEPA), California Environmental Protection Agency's (Cal/EPA), State Water Resources Control Board (SWRCB), Cal/EPA Department of Toxic Substances Control (DTSC), and state and federal Occupational Safety and Health Administration (OSHA) are responsible for developing and/or enforcing risk-based standards to protect the public and the environment.

Hazardous Material: The term "hazardous material" can have varying definitions depending on the regulatory programs. For the purposes of this PEIR, the term refers to both hazardous materials and hazardous wastes. The California Health and Safety Code Section 25501(n)(1)[1] defines hazardous material as follows:

> *Hazardous material means any material that because of its quantity, concentrations, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. Hazardous materials include but are not limited to hazardous substances, hazardous waste, and any material which a handler or the administering agency has a reasonable basis for believing would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.*

Soil and groundwater can become contaminated by hazardous material released in a variety of ways, including permitted or illicit use and accidental or intentional disposal or spillage. Before the 1980s, most land disposal of chemicals was unregulated, resulting in numerous industrial properties and public landfills becoming dumping grounds for unwanted chemicals. In general, the largest and most contaminated of these sites became federal Superfund (see definition below) sites in the early 1980s, so named for their eligibility to receive cleanup money from a federal fund established for that purpose under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA).[2] Sites are added to the National Priorities List (NPL) following a hazard ranking system.[3] The U.S. EPA maintains a list of federal Superfund sites, as well as a more extensive list of all sites with potential to be listed as contaminated, this list is maintained in the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS).[4]

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1 California Legislative Information. *ARTICLE 1. Business and Area Plan [25500-25519].*

2 U.S. Environmental Protection Agency. 2019. *Summary of the Comprehensive Environmental Response, Compensation, and Liability Act (Superfund).* Available online at: https://www.epa.gov/laws-regulations/summary-comprehensive-environmental-response-compensation-and-liability-act, accessed August 19, 2019.

3 U.S. Environmental Protection Agency. 2018. *Superfund: National Priorities List (NPL).* Available online at: https://www.epa.gov/superfund/superfund-national-priorities-list-npl, accessed August 19, 2019.

4 U.S. Environmental Protection Agency. 2019. *Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS).* Available online at: https://cfpub.epa.gov/si/si_public_record_report.cfm?Lab=&dirEntryId=2785, accessed August 19, 2019.

Numerous smaller properties also have been designated as contaminated sites. Often, these are gas station sites, where leaking underground storage tanks were upgraded under a federal requirement in the late 1980s. Another category of sites, which may have some overlap with the types already mentioned, is brownfields sites. Brownfields sites are those areas that were previously used for industrial purposes or certain commercial uses. The land may be contaminated by low concentrations of hazardous waste or pollution, and has the potential to be reused once it is cleaned up. Both the U.S. EPA and DTSC maintain lists of known brownfield sites.[5,6] These sites are often difficult to inventory due to their owners' reluctance to publicly label their property as potentially contaminated. In California, numerous regulatory barriers have blocked effective reuse of brownfields sites, including uncertainty as to cleanup levels and ultimate cleanup cost. Senate Bill (SB) 32, adopted in 2001, establishes a locally based program to help speed the cleanup and reuse of brownfields sites.[7]

Hazardous Waste: A "hazardous waste" is a waste that poses substantial or potential threats to public health or the environment. Hazardous wastes are defined under the Resource Conservation and Recovery Act (RCRA)[8] as exhibiting one or more of the characteristics identified below:

Toxic Substances: Toxic substances may cause short-term or long-lasting health effects, ranging from temporary effects to permanent disability, or even death. For example, such substances can cause disorientation, acute allergic reactions, asphyxiation, skin irritation, or other adverse health effects if human exposure exceeds certain levels. The level depends on the substances involved and is chemical-specific. Carcinogens (substances that can cause cancer) are a special class of toxic substances. Examples of toxic substances include benzene (a component of gasoline and a suspected carcinogen) and methylene chloride (a common laboratory solvent and a suspected carcinogen).

Ignitable Substances: Ignitable substances are hazardous because of their ability to burn. Gasoline, hexane, and natural gas are examples of ignitable substances.

Corrosive Materials: Corrosive materials can cause severe burns. Corrosives include strong acids and bases such as sodium hydroxide (lye) or sulfuric acid (battery acid).

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5 U.S. Environmental Protection Agency. 2019. *Brownfields and Land Revitalization Activities Near You*. Available online at: https://www.epa.gov/brownfields/brownfields-and-land-revitalization-activities-near-you, accessed August 19, 2019.

6 Department of Toxic Substances Control. 2019. *Site Mitigation & Restoration Program*. Available online at: https://dtsc.ca.gov/brownfields/, accessed August 19, 2019.

7 California Legislative Information. 2001. *Senate Bill No. 32*.

8 U.S. Environmental Protection Agency. 2019. *Resource Conservation and Recovery Act (RCRA) Laws and Regulations*. Available online at: https://www.epa.gov/rcra, accessed August 19, 2019.

Certified Unified Program Agencies: California Unified Program Agencies (CUPA) implement the hazardous waste and material standard including petroleum storage, areas plans for hazardous material emergencies, California Accidental Release Prevention (CalARP) Program, hazardous materials release response plans and inventories, hazardous material management plan and inventory statements, onsite waste treatment program, and underground storage tank program.[9] The CalARP program was implemented on 1997 to prevent accidental releases of substances that can cause serious harm to the public and the environment, to minimize the damage if releases do occur, and to satisfy community right-to-know laws. This is accomplished by requiring businesses that handled regulated substance above a threshold to develop a risk management plan with safety information, operating procedures, and training requirements, compliance audits, and other incident investigation measures to reduce accidental release potential.[10]

Contaminated Sites: A site at which hazardous substances occur at concentration above background levels and where assessment indicates it poses, or is likely to pose, an immediate or long-term hazard to human health or the environment. DTSC maintains a database of properties in California where hazardous substances were released, see **Section 3.9.1.2, Properties Included on a List of Hazardous Materials Sites Pursuant to Government Code Section 65962.5**.

Federal Emergency Management Agency (FEMA): FEMA coordinates the federal government's role in preparing for, preventing, mitigating the effects of, responding to, and recovering from all domestic disasters, whether natural or man-made, including acts of terror, see **Section 3.9.2.1, Federal Regulations**.[11]

Reactive Materials: Reactive materials may cause explosions or generate toxic gases. Explosives, pure sodium or potassium metals (which react violently with water), and cyanides are examples of reactive materials.

Radioactive Materials: Materials that emit radiation resulting from changes in the nuclei of atoms of the element.

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9 California Environmental Protection Agency. 2019. *More about the Unified Program*. Available online at: https://calepa.ca.gov/cupa/about/, accessed August 19, 2019.

10 California Office of Emergency Services. 2019. *California Accidental Release Prevention.* Available online at: https://www.caloes.ca.gov/cal-oes-divisions/fire-rescue/hazardous-materials/california-accidental-release-prevention, accessed August 19, 2019.

11 FEMA. *About the Agency*. Available online at: https://www.fema.gov/about-agency, accessed September 5, 2019.

By definition, EPA determined that some specific wastes are hazardous when they exhibit the characteristics of ignitability, reactivity, corrosivity, and toxicity. Once a site is determined hazardous, CERCLA provides a mechanism and assign liabilities for cleanup of the sites. The actions may involve short-term measures taken to address releases, long-term actions to permanently and significantly reduce the risk of release of hazardous substances, and a preliminary assessment/site inspection then a remedial investigation/feasibility study.

Spill Cleanup Site: Facilities with aboveground oil storage facilities greater than 1,320 gallons of oil and/or with total aggregate capacity of completely buried storage tanks greater than 42,000 gallons of oil are subjected to Spill Prevention Control and Countermeasure (SPCC) rules. These facilities need to be regulated to prevent discharge of oil into navigable waters or adjoining shorelines. Owners of a facility develop a response plan to prepare and respond to oil discharge or threats of discharge during drilling, producing, gathering, storing, processing, refining, transferring, distributing, using, or consuming oil. The U.S. EPA is the lead federal response agency for providing cleanup of oil spills to prevent, prepare for, and respond to spills that occur in and around inland waters of the U.S.[12]

State Response System: The State of California's response system is represented by the Department of Fish and Wildlife (CDFW), Office of Oil Spill Prevention and Response (OSPR), local government, and the U.S. Coast Guard. Section 8670.7 of the California Government Code establishes that the Administrator of OSPR has the primary state authority to direct removal, abatement, response, containment, and cleanup efforts with regard to all aspects of any oil spill in the marine waters of the state.[13]

Superfund Sites: Superfund sites generally refer to contaminated sites that have been designated by EPA on the National Priorities List (NPL) that are eligible for funding from the trust fund (the "Superfund") established by EPA for cleaning up abandoned or uncontrolled hazardous waste sites pursuant to CERCLA. CERCLA was enacted in the wake of the discovery of toxic waste dumps such as Love Canal and Times Beach in the 1970s. It allows the U.S. EPA to clean up such sites and to compel responsible parties to perform cleanups or reimburse the government for EPA-led cleanups.

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12 U.S. Environmental Protection Agency. 2010. *Spill Prevention, Control, and Contermeasure (SPCC) Regulation*. Available online at: https://www.epa.gov/sites/production/files/documents/spccbluebroch.pdf, accessed August 19, 2019.

13 California Legislative Information. 1990. *ARTICLE 10. Environmental Enhancement Fun [8670.70-8670.73].*

Voluntary Cleanup Program (VCP): The VCP is a program administered by DTSC, and was introduced as a streamlined program to protect human health, clean up the environment and get property back to productive use. Corporations, real estate developers, local and state agencies entering into Voluntary Cleanup Program agreements are able to restore properties quickly and efficiently, rather than having their projects compete for DTSC's limited resources with other low-priority hazardous waste sites. State voluntary cleanup programs have played a major role in cleaning up brownfields since the 1990s. Through a nonbinding memorandum of agreement, the U.S. EPA partnered with the state to provide resource and coordination of Superfund sites to meet Resource Conservation and Recovery Act (RCRA) liabilities and provide corrective actions to provide "one cleanup" approaches. Selection of sites eligible for VCPs are provided under EPA's March 2003 guidance that exclude sites from "eligible response site" when not meeting regional determinations under Section 101(41)(C)(i) of CERCLA.[14]

Asbestos Containing Materials (ACMs). Asbestos is a naturally occurring fibrous material that was widely used in structures built between 1945 and 1978 for its fireproofing and insulating properties. ACMs were banned by USEPA between the early 1970s and 1991 under the authority of the federal CAA and TSCA as exposure to ACMs increases the risk of developing lung disease and cancers. Common ACMs include vinyl flooring and associated mastic, wallboard and associate joint compound, plaster, stucco, acoustic ceiling spray, ceiling tiles, heating system components, and roofing materials. Commercial/industrial structures are affected by asbestos regulations if damage occurs or if remodeling, renovation, or demolition activities disturb ACMs. Since many of the structures within the SCAG Region were constructed before 1978, there is a potential for the presence of ACMs to exist in a wide variety of building materials within the SCAG Region.

Lead and Lead-Based Paint (LBP). Lead is a naturally occurring metallic element. Because of its toxic properties, lead is regulated as a hazardous material. Excessive exposure to lead can result in the accumulation of lead in the blood, soft tissues, and bones. Children are particularly susceptible to potential lead-related health problems, because it is easily absorbed into developing systems and organs. Among its numerous uses and sources, lead can be found in paint, water pipes, solder in plumbing systems, and in soils around buildings and structures painted with LBP. LBP was primarily used during the same time period as ACMs. Commercial/industrial structures are affected by lead-based paint regulations if the paint is in a deteriorated condition or if remodeling, renovation, or demolition activities disturb LBP surfaces. Since many of the structures within the SCAG Region were constructed before

14 California Environmental Protection Agency. *Guidance on Regional Determination Regarding Eligible Response Sites.* Available at: http://www2.epa.gov/enforcement/guidance-regional-determinations-regarding-eligible-response-sites, accessed September 11, 2015.

1978, there is potential for structures in the SCAG region to contain paints and coatings with detectable or elevated concentrations of lead.

Polychlorinated Biphenyls (PCBs). PCBs are mixtures of up to 209 individual chlorinated compounds. There are no known natural sources of PCBs. PCBs have been used as coolants and lubricants in transformers, capacitors, and other electrical equipment because they do not burn easily and are good insulators. The manufacture of PCBs was stopped in the United States in 1977 because of evidence that they build up in the environment and can cause cancers and other harmful health effects, including to the immune system, reproductive system, nervous system, and endocrine system. Products made before 1977 that may contain PCBs include old fluorescent lighting fixtures and electrical devices containing PCB capacitors, and old microscope and hydraulic oils.

3.9.1.2 Properties Included on a List of Hazardous Materials Sites Pursuant to Government Code Section 65962.5

The DTSC maintained a database, known as CalSites, which contained information on properties in California where hazardous substances were released, or where the potential for a release existed.[15] In 2006, DTSC launched its brownfields site database, EnviroStor, which replaced the CalSites database. EnviroStor includes identification of formerly contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites (**Table 3.9-1, Number of Cleanup Sites by County**).[16] The DTSC also tracks and monitors hazardous materials through the HazNet list and Cortese List, while the Cal EPA, State Water Resources Control Board (SWRCB), and the California Integrated Waste Management Board monitor potential solid waste hazards, Leaking Underground Storage Tanks, and potential clean-up sites.

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15 U.S. Environmental Protection Agency. 201. *CalSites, Annual Work Plan (AWP), CA Department of Toxic Substance Control (DTSC)*. Available online at: https://cfpub.epa.gov/si/si_public_record_Report.cfm?Lab=ORD&dirEntryID=142416, accessed August 19, 2019.

16 Department of Toxic Substances Control. *EnviroStor*. Available online at: https://www.envirostor.dtsc.ca.gov/public/, accessed August 19, 2019.

Table 3.9-1
Number of Cleanup Sites by County

County	Federal Superfund (NPL)	School Cleanup	State Response	Voluntary Cleanup
Imperial	1	1	15	11
Los Angeles	18	149	165	370
Orange	4	14	48	62
Riverside	3	16	27	35
San Bernardino	5	23	34	47
Ventura	2	5	14	27
Total	33	208	303	552

Source: Department of Toxic Substances Control (DTSC). 2019. Envirostor. Available online at: https://www.envirostor.dtsc.ca.gov/public/search?basic=True, accessed February 8, 2019.

3.9.1.3 Underground Storage Tanks (USTs)[17]

A UST system is a tank and any underground piping connected to the tank that has at least 10 percent of its combined volume underground. Federal UST regulations apply only to underground tanks and piping storing either petroleum or certain hazardous substances. When the UST program began, there were approximately 2.1 million regulated tanks in the United States. Today, there are far fewer regulated tanks, since many substandard UST systems have been closed. Nearly all USTs at these sites contain petroleum. These sites include marketers who sell gasoline to the public (such as service stations and convenience stores) and nonmarketers who use tanks solely for their own needs (such as fleet service operators and local governments). The U.S. EPA estimates about 10,000 tanks hold hazardous substances covered by the UST regulations.

The greatest potential hazard from a leaking underground storage tank (LUST) is that the petroleum or other hazardous substance can seep into the soil and contaminate groundwater, the source of drinking water for nearly half of all Americans (although not such a high percentage in the SCAG region). A LUST can present other health and environmental risks, including the potential for fire and explosion. Until the mid-1980s, most USTs were made of bare steel, which is likely to corrode over time and allow UST contents to leak into the environment. Faulty installation or inadequate operating and maintenance procedures also can cause USTs to release their contents into the environment. There are nearly 15,000

17 U.S. Environmental Protection Agency. 2018. *Underground Storage Tanks (USTs).* Available online at: http://www.epa.gov/OUST/overview.htm, accessed February 8, 2019.

LUSTs in the SCAG region, with over half in Los Angeles County, and the least number, by an order of magnitude, in Imperial County (**Table 3.9-2, Leaking Underground Storage Tank Cleanup Sites**).

Table 3.9-2
Leaking Underground Storage Tank Cleanup Sites

County	Leaking Underground Storage Tank (LUST)
Imperial	235
Los Angeles	7,528
Orange	3,020
Riverside	1,364
San Bernardino	1,083
Ventura	1,407

Source:
Cal EPA, State Water Resources Control Board. 2019. Geotracker. Available online at: http://geotracker.waterboards.ca.gov/sites_by_county.asp, accessed September 3, 2019.

3.9.1.4 Routine Transport, Use, or Disposal of Hazardous Materials

There are several risks associated with the transportation-related use of hazardous materials in the SCAG region. Actual transport of hazardous materials via truck, rail, and other modes involves a degree of risk of accident and release. The use of hazardous materials and the generation of hazardous waste in the construction and maintenance of the transportation system are other avenues for risk or exposure. Finally, the past disposal of hazardous materials in a manner that creates residual contamination of soil or water can be a source of risk when such sites are disturbed in the course of future transportation projects or associated development. Each of these avenues is discussed below.

Hazardous materials move through the SCAG region by a variety of modes: truck, rail, air, ship, and pipeline. According to the Office of Hazardous Materials Safety (OHMS) in the U.S. Department of Transportation (U.S. DOT), hazardous materials shipments can be regarded as equivalent to deliveries, but any given shipment may involve one or more movements, or trip segments, that may occur by different modes. For instance, a shipment might involve initial pickup by truck (one movement), a transfer to rail (a second movement), and a final delivery by truck again (for a total of three movements). Each movement of hazardous materials implies a degree of risk, depending on the material being moved, the mode of transport, and numerous other factors.[18]

18 U.S. Department of Transportation. *Office of Hazardous Material Safety*. Available online at: https://www.phmsa.dot.gov/about-phmsa/offices/office-hazardous-materials-safety, accessed August 19, 2019.

There are 20 hazardous material treatment storage and disposal facilities in the SCAG region (**Table 3.9-3, Hazardous Material Treatment Storage and Disposal Facilities in the SCAG Region**).

3.9.1.5 Release of Hazardous Materials in the Environment

Hazardous materials may be released into the environment in a variety of ways, including permitted or illicit use and accidental or intentional disposal or spillage. Before the 1980s, most land disposal of chemicals was unregulated, resulting in numerous industrial properties and public landfills becoming the recipients of authorized and unauthorized hazardous materials. In general, the largest and most contaminated of these sites became federal Superfund sites in the early 1980s, so named for their eligibility to receive cleanup money from a federal fund established for that purpose under CERCLA. Sites are added to the NPL following a hazard ranking system. The U.S. EPA maintains this list of federal Superfund sites, as well as a more extensive list of all sites with potential to be listed known as CERCLIS. 16 of the 29 superfund sites on the National Priorities List in the SCAG region were in the process of being cleaned up during the period of preparation of this PEIR:[19]

- Barstow Marine Corps Logistics Base, Barstow
- Cooper Drum Co., South Gate
- Del Amo Hazardous Waste Site, Torrance
- George Airforce Base, Victorville
- Halaco Engineering Company, Oxnard
- Jet Propulsion Lab (NASA), Pasadena
- March Air Force Base, Riverside
- Montrose Chemical Corp, Torrance
- Newmark Ground Contamination, San Bernardino
- Omega Chemical Corporation, Whittier
- Palos Verdes Shelf
- Pemaco, Maywood
- Rockets, Fireworks, and Flares Site, Rialto
- San Fernando Valley, Areas 1,2, and 4, County of Los Angeles
- San Gabriel Valley (Areas 2, 4): Baldwin Park
- Stringfellow, Glen Avon Heights

[19] U.S. EPA. National Priorities List (NPL) Sites – by State. Available online at: https://www.epa.gov/superfund/national-priorities-list-npl-sites-state#CA, accessed July 29, 2019.

Table 3.9-3
Hazardous Material Treatment Storage and Disposal Facilities in the SCAG Region

Facility Name	Handler ID	Address (click for map)	Contact	Operator
Clean Harbors Los Angeles, LLC	CAD050806850	5756 Alba Street Los Angeles, CA 90058	Contact: Roger R Fox, 3232772528	Operator: Clean Harbors Los Angeles, LLC
Clean Harbors Westmorland, LLC	CAD000633164	5295 S Garvey Rd Westmorland, CA 92281	Contact: Andrew M Yadvish, 7603449400 Ext. 4004	Operator: Clean Harbors Westmorland LLC
Crosby & Overton	CAD028409019	1610 West 17th Street Long Beach, CA 90813	Contact: Michael A Shloub, 5624325445 Ext. 228	Operator: Crosby And Overton INC
Demenno / Kerdoon	CAT080013352	2000 North Alemeda Street Compton, CA 90222	Contact: Bonnie Booth, 3105377100 Ext. 224	Operator: Demenno / Kerdoon
DK Environmental	CAT080033681	3650 East 26th Street Los Angeles, CA 90023	Contact: Rosemary Domino, 3232685056 Ext. 108	Operator: DK Environmental
Filter Recycling Services, Inc.	CAD982444481	180 West Monte Avenue Rialto, CA 92376	Contact: Wade K Riddering, 9098734141	Operator: Filter Recycling Services, Inc.
GCE Industries, Inc	CAD981377492	1891 Nirvana Ave Chula Vista, CA 91911	Contact: Charles W Ball, 6194211151 Ext. 254	Operator: GCE Industries, Inc
Heraeus Metal Processing, Inc.	CAD060398229	13429 Alondra Blvd. Santa Fe Springs, CA 90670	Contact: Peter Eckert, 5624831830	Operator: Heraeus Metal Processing, Inc.
Lighting Resources Inc	CAL000827758	805 Francis St Ontario, CA 91761	Contact: Dan P Gillespie, 9099237252 Ext. 14	Operator: Dan Gillespie
Onyx Environmental Services, L.L.C.	CAD008302903	1704 W First St Azusa, CA 91702	Contact: Javed Hussain, 6268152220	Operator: Onyx Environmental Services
Pacific Resource Recovery Services	CAD008252405	3150 East Pico Blvd. Los Angeles, CA 90023	Contact: Mark Russell, 3232618114 Ext. 343	Operator: Pacific Resource Recovery
Phibro-Tech, Inc.	CAD008488025	8851 Dice Road Santa Fe Springs, CA 90670	Contact: Marty Voss, 5626988036 Ext. 120	Operator: Phibro-Tech, Inc.
Quemetco, Inc.	CAD066233966	720 S. 7th Avenue City of Industry, CA 91746	Contact: Neal I Lyon, 6263302294 Ext. 242	Operator: Quemetco, Inc.
Raytheon Co Space And Airborne Systems	CAD000633230	2000 E El Segundo Blvd El Segundo, CA 90245	Contact: Dean D Richardson, 3103347385	Operator: Raytheon Co

Facility Name	Handler ID	Address (click for map)	Contact	Operator
RHO-Chem Corp	CAD008364432	425 Isis Avenue Inglewood, CA 90301	Contact: Hector U Sanchez, 3237766233 Ext. 204	Operator: Philip Services Corporation
Safety-Kleen Systems Inc	CAT000613976	2120 South Yale Santa Ana, CA 92704	Contact: Nahid Toossi, 7144294355	Operator: Safety-Kleen Systems Inc
Safety-Kleen Systems Inc	CAT000613927	7979 Palm Ave Unit A Highland, CA 92346	Contact: Nahid Toossi, 7144294355	Operator: Safety-Kleen Systems Inc
Safety-Kleen Systems Inc	CAT000613893	10625 Hickson St Unit A El Monte, CA 91731	Contact: John Matthews, 6264010106	Operator: Safety-Kleen Systems Inc
Safety-Kleen Systems Inc	CAT000613935	2918 Worthen Ave Los Angeles, CA 90039	Contact: John Matthews, 6264010106	Operator: Safety-Kleen Systems Inc
Teris Wilmington	CAD044429835	1737 E Denni St Wilmington, CA 90744	Contact: Joe L Christopher, 3108359998 Ext. 499	Operator: Teris LLC
USFilter Recovery Services	CAD097030993	5375 South Boyle Avenue Vernon, CA 90058	Contact: Ingun Littorin, 3232771518 Ext. 1518	Operator: USFilter Recovery Services

Source:
TSD & Recycling State Resource Locator. Available online at: https://www.envcap.org/tsdf/srl.php?srl=18&state=CA, accessed February 8, 2019.

Numerous smaller properties also have been designated as contaminated sites. Often, these are gas station sites, where leaking underground storage tanks were upgraded under a federal requirement in the late 1980s. Another category of sites, which may have some overlap with the types already mentioned, are brownfields sites. Brownfields sites are those areas that were previously used for industrial purposes or certain commercial uses. The land may be contaminated by low concentrations of hazardous waste or pollution, and has the potential to be reused once it is cleaned up. Both the U.S. EPA and DTSC maintain lists of known brownfield sites. These sites are often difficult to inventory due to their owners' reluctance to publicly label their property as potentially contaminated. In California, numerous regulatory barriers have blocked effective reuse of brownfields sites, including uncertainty as to cleanup levels and ultimate cleanup cost.

Radioactive Materials

San Onofre Nuclear Generating Station

Although there are no nuclear power stations within the SCAG region, the retired San Onofre Nuclear Generating Station (SONGS) is located just south of Orange County near San Clemente, in the northwestern corner of San Diego County and is jointly owned by SCE, San Diego Gas & Electric, and the City of Riverside.[20] SONGS went offline in January 2012 and was ordered by the Nuclear Regulatory Commission to stay offline while tubing wear issues were investigated. Subsequently, plant owners announced in June 2013 that remaining Units 2 and 3 would be permanently retired. Since the decision to retire the facility, SCE has initiated the process of providing for final repository of radioactive materials from SONGS. Spent fuel storage from SONGS poses a risk to the SCAG region if cracks develop in the thin steel canisters that will store the waste, and radioactive waste material is released into the environment. In 2015, SCE provided an update to the public, stating that all nuclear fuel would be transferred into dry cask storage and will remain on-site until the federal government develops a program to dispose of the waste. [21] On October 17, 2019 the California Coastal Commission approved a coastal development permit allowing dismantlement of plant structures and decontamination of the site.[22]

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20 California Energy Commission. 2019. *Nuclear Energy in California.* Available online at: http://www.energy.ca.gov/nuclear/california.html, accessed January, 10, 2019.

21 Southern California Edison. 2019. *Continued Safe Storage of Nuclear Fuel*. Available online at: http://www.songscommunity.com/nuclear-fuel-storage.asp, accessed January 10, 2019.

22 Southern California Edison, 2019. Crucial Milestone Achieved for Decommissioning, https://www.songscommunity.com/news/releases/crucial-milestone-achieved-for-decommissioning-san-onofre-nuclear-plant, accessed November 2, 2019.

Hazardous Emissions within One-Quarter Mile of a School Site

As described in **Section 4.15.3, Public Services-Schools**, there are nearly 5,000 public and private schools in the SCAG region ranging from K–12 through the California State University and University of California university systems. Over half of the K–12 schools and community colleges are located in Los Angeles County, and the least number of the K–12 schools and community colleges are located in Imperial County, with comparable statistics for private schools, with Los Angeles County having 42 percent of the private K–12 schools. The California Education Code 17213(b)[23] has minimum standards to minimize the potential for hazardous emissions within one-quarter mile of a school site:

- The property line of the school site, even if it is operated pursuant to a joint use agreement, shall be sited as specified distances from the edge of respective power line easements:
  - 1,100 feet for 50-133 kV line
  - 2,150 feet for 220-230 kV line
  - 3,350 feet for 500-550 kV line
- If the proposed site is within 1,500 feet of a railroad track easement, a safety study shall be done by a competent professional trained in assessing cargo manifests, frequency, speed, and schedule of railroad traffic, grade, curves, type and condition of track need for sound or safety barriers, need for pedestrian and vehicle safeguards at railroad crossings, presence of high pressure gas lines near the tracks that could rupture in the event of a derailment, preparation of an evacuation plan. In addition to the analysis, possible and reasonable mitigation measures must be identified.
- The site shall not be located near an above-ground water or fuel storage tank or within 1,500 feet of the easement of an above ground or underground pipeline that can pose a safety hazard as determined by a risk analysis study, conducted by a competent professional, which may include certification from a local public utility commission.
- Existing or proposed zoning of the surrounding properties shall be compatible with schools in that it would not pose a potential health or safety risk to students or staff in accordance with Education Code Section 17213 and Government Code Section 65402 and available studies of traffic surrounding the site.
- The district is required to consider environmental factor of light, wind, noise, aesthetics, and air pollution in its site selection process.

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23 California Legislative Information. 1996. *ARTICLE 1. General Provisions [17210-17224].*

- If the proposed site is on or within 2,000 feet of a significant disposal of hazardous waste, the school district shall contact the Department of Toxic Substance Control for a determination of whether the property should be considered a Hazardous Waste Property or Border Zone Property.

Properties Located within Two Miles of a Public, Public Use, or Private Airport

There are 57 public and private airports in the SCAG region, including 12 major airports (**Figure 3.9-1, Airports in the SCAG Region**).[24]

Goods Movement

Goods movement generally refers to the movement of raw, semi-finished, and finished materials and products used by businesses and residents across the transportation system. These goods move in myriad ways and through complex systems, often using multiple modes of transportation (e.g., ships, trucks, trains, planes, etc.). Products can be produced within the U.S. or another country, and make their way to a business, retail store, or directly to consumers versus traditional purchases by consumers at physical retail outlets. The efficient movement of these goods are critical to maintain a strong economy and ensure improvements in the quality of life of regional residents.

Goods movement supports industries and activities that provide jobs, tax revenue, and resources that bolster innovation, creativity, and access to local and world markets through trade. This movement depends directly on the infrastructure that comprises the transportation network such as highways, rail lines, ports, and networks of warehousing and other distribution facilities. Maintaining and improving existing infrastructure, and expanding infrastructure capacity where appropriate, is key to ensuring the competitiveness of a growing economy. However, goods movement also has negative impacts and externalities. Growing trade and increased volumes of goods moving across the transportation system have contributed to greater congestion, safety concerns, harmful emissions of dangerous pollutants, wear-and-tear on roadways and impacts on local neighborhoods. As the Metropolitan Planning Organization (MPO) for the region, SCAG has adopted a vision for the region's goods movement system.

Federal law (23 U.S.C. §§ 134-135) mandates that MPOs encourage and promote the safe and efficient management, operation, and development of surface transportation systems that will serve the mobility needs of people and freight and foster economic growth and development within and between States and urbanized areas. Specifically, MPOs should consider projects and strategies that will increase the

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24 U.S. Federal Aviation Administration. 2019. *Airport Data and Contact Information*. Available online at: http://www.faa.gov/airports/airport_safety/airportdata_5010/, accessed January 10, 2019.

accessibility and mobility of people and for freight and enhance the integration and connectivity of the transportation system, across and between modes, for people and freight.[25]

At the state level, MPOS are required to perform regional transportation planning to prepare and provide for the region's mobility in a fiscally and environmentally responsible manner, consistent with the needs, preferences, and sensibilities of the community. This coincides with California Government Code 65041.1 (Cal Civ. Code § 65041.1) and identifies planning considerations for freight that are consistent with federal requirements.

Emergency Response Plan / Emergency Evacuation Plan

California updated its State of California Multi-Hazard Mitigation Plan in 2018.[26] The state is required to adopt a federally approved State Multi-Hazard Mitigation Plan to be eligible for certain disaster assistance and mitigation funding. The State Multi-Hazard Mitigation Plan is an evaluation of the hazards California faces and the strategies, goals, and activities the state will pursue to address these hazards. It:

- Documents statewide hazard mitigation planning in California,
- Describes strategies and priorities for future mitigation activities,
- Facilitates the integration of local and tribal hazard mitigation planning activities into statewide efforts, and
- Meets state and federal statutory and regulatory requirements.

All six SCAG counties and a number of cities within the SCAG region have completed Hazard Mitigation Plans, although Ventura County is currently in the process of updating its documents. California Emergency Management Agency (Cal EMA) dictates that these plans must be updated every three years.[27] **See Section 3.20, Wildlife,** for an additional discussion of emergency response plans and emergency evacuation plans.

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25 United State Code. 2019. *§134. Metropolitan transportation planning*. Available online at: https://www.govregs.com/uscode/title23_chapter1_section134, accessed September 16, 2019.

26 California Governor's Office of Emergency Services. 2019. State Hazard Mitigation Plan. Available online at: https://www.caloes.ca.gov/cal-oes-divisions/hazard-mitigation/hazard-mitigation-planning/state-hazard-mitigation-plan, accessed July 29, 2019.

27 California Emergency Management Agency. 2019. *Local Hazard Mitigation Program.* Available online at: https://www.caloes.ca.gov/cal-oes-divisions/hazard-mitigation/hazard-mitigation-planning/local-hazard-mitigation-program, accessed July 11, 2019.

3.9.2 REGULATORY FRAMEWORK

3.9.2.1 Federal

Occupational Safety and Health Act of 1970

The Occupational Safety and Health Act (29 Code of Federal Regulations [CFR] Parts 70 to 2400), which is implemented by the Federal Occupational Safety and Health Administration (OSHA), contains provisions with respect to hazardous materials handling. Federal OSHA requirements, as set forth in 29 CFR Section 1910 et seq., are designed to promote worker safety, worker training, and a worker's right–to-know. In California, OSHA has delegated the authority to administer OSHA regulations to the State of California.[28]

Hazardous Materials Transportation Act of 1975

The Hazardous Materials Transportation Act (Title 49 U.S. Code [USC] Sections 5101–5127) is the principal federal law regulating the transportation of hazardous materials. Its purpose is to "protect against the risks to life, property, and the environment that are inherent in the transportation of hazardous material in intrastate, interstate, and foreign commerce" under the authority of the U.S. Secretary of Transportation.

Regulations implementing the Hazardous Materials Transportation Act of 1975 specify additional requirements and regulations with respect to the transport of hazardous materials. For example, the Act requires that every employee who transports hazardous materials receive training to recognize and identify hazardous materials and become familiar with hazardous materials requirements. Drivers are also required to be trained in function and commodity specific requirements.[29]

Hazardous Materials Transportation Act (HMTA)

Enacted in 1975, the HMTA (49 USC 51, Sections 5101 et seq.) is the principal federal law regulating the transportation of hazardous materials. Its purpose is to "protect against the risks to life, property, and the

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28 U.S. Department of Labor. *Regulations (Standards – 29 CFR)*. Available online at: https://www.osha.gov/laws-regs/regulations/standardnumber, accessed August 19, 2019.

29 U.S. Environmental Protection Agency. *Hazardous Materials Transportation Act*. Available online at: https://archive.epa.gov/emergencies/content/lawsregs/web/html/hmtaover.html#provisions, accessed August 19, 2019.

environment that are inherent in the transportation of hazardous material in intrastate, interstate, and foreign commerce" under the authority of the U.S. Secretary of Transportation.[30]

Response Conservation and Recovery Act (RCRA)

The RCRA of 1976 (42 USC 2) was the first major federal act regulating the potential health and environmental problems associated with hazardous and nonhazardous solid waste. RCRA and the implementation regulations developed by the U.S. EPA provide the general framework for the national hazardous and nonhazardous waste management systems. This framework includes the determination of whether hazardous wastes are being generated, techniques for tracking wastes to eventual disposal, and the design and permitting of hazardous waste management facilities.[31]

RCRA amendments enacted in 1984 and 1986 began the process of eliminating land disposal as the principal hazardous waste disposal method. Hazardous waste regulations promulgated in 1991 address site selection, design, construction, operation, monitoring, corrective action, and closure of disposal facilities. Additional regulations addressing solid waste issues are contained in 40 CFR, Part 258.[32]

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

CERCLA (1980; 42 USC Sections 1906 et seq.), also known as the Superfund Act, outlines the potential liability related to the cleanup of hazardous substances; available defenses to such liability; appropriate inquiry into site status under Superfund, which is the federal government's program to clean up the nation's uncontrolled hazardous waste sites; statutory definitions of hazardous substances and petroleum products; and the petroleum product exclusion under CERCLA. CERCLA provides broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA establishes requirements concerning closed and abandoned hazardous waste sites, provides for liability of persons responsible for releases of hazardous waste at these sites, and establishes a trust fund to provide for cleanup when no responsible party can be identified. CERCLA also establishes the National Contingency Plan (NCP), which provides guidelines and procedures necessary to respond to releases and threatened releases of hazardous

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30 *49 USC 5101*. Available online at: https://uscode.house.gov/view.xhtml?req=granuleid:USC-prelim-title49-section5101&num=0&edition=prelim, accessed August 19, 2019.

31 U.S. Environmental Protection Agency. 2019. *Summary of the Resource Conservation and Recovery Act*. Available online at: https://www.epa.gov/laws-regulations/summary-resource-conservation-and-recovery-act, accessed August 19, 2019.

32 Electronic Code of Federal Regulations. *Part 258- Criteria for Municipal Solid Waste Landfills*. Available online at: https://www.ecfr.gov/cgi-bin/text-idx?SID=6015fe03e8fe343109548a041a62130c&mc=true&node=pt40.27.258&rgn=div5, accessed August 19. 2019.

substances.[33] The SCAG region lies within U.S. Environmental Protection Agency (EPA) Region 9, which has the responsibility for designation and oversight of Superfund sites on the National Priorities List. There are 33 Superfund sites on the National Priorities List in the SCAG region.[34]

Emergency Planning and Community Right-to-Know Act (EPCRA)

The EPCRA of 1986 (42 USC 116, Sections 9601 et seq.) was created to help communities plan for emergencies involving hazardous substances. EPCRA requires hazardous chemical emergency planning by federal, state, and local governments; Native American tribes; and industry. It also requires industry to report on the storage, use, and releases of hazardous chemicals to federal, state, and local governments.[35]

Superfund Amendment and Reauthorization Act (SARA), Title III

SARA, Title III, of 1986 is the Emergency Planning and Community Right-to-Know Act (40 CFR Parts 350– 372). Facilities are required to report the following items on U.S. EPA Form R, the Toxic Chemical Release Inventory Reporting Form: facility identification, off-site locations where toxic chemicals are transferred in wastes, chemical-specific information, and supplemental information.

Form R requires a facility to list the hazardous substances that are handled on-site and to account for the total aggregate releases of listed toxic chemicals for the calendar year. Releases to the environment include emissions to the air, discharges to surface water, and on-site releases to land and underground injection wells.[36]

Robert T. Stafford Disaster Relief and Emergency Assistance Act, as Amended, and Related Authorities

The Robert T. Stafford Disaster Relief and Emergency Assistance Act (Public Law 100-707), signed into law on November 23, 1988, amended the Disaster Relief Act of 1974 (Public Law 93-288). The Stafford Act

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33 U.S. Environmental Protection Agency. 2018. *Superfund: CERCLA Overview*. Available online at: https://www.epa.gov/superfund/superfund-cercla-overview, accessed August 19, 2019.

34 U.S. Environmental Protection Agency. Pacific Southwest, Region 9. *Map of Superfund Sites in Southern California.* Available online at: https://www.epa.gov/superfund/search-superfund-sites-where-you-live#map, accessed January 10, 2019.

35 U.S. Environmental Protection Agency. 2019. *Summary of the Comprehensive Environmental Response, Compensation, and Liability Act (Superfund)*. Available online at: https://www.epa.gov/laws-regulations/summary-comprehensive-environmental-response-compensation-and-liability-act, accessed August 19, 2019.

36 U.S. Environmental Protection Agency. 1987. *Title III Section 313 Release Reporting Requirements*. Available online at: https://nepis.epa.gov/Exe/ZyPDF.cgi/9100AFKN.PDF?Dockey=9100AFKN.PDF, accessed August 19, 2019.

constitutes the statutory authority for most federal disaster response activities especially as they pertain to FEMA and FEMA programs.[37]

Disaster Mitigation Act (DMA) of 2000

DMA 2000 (Public Law 106-390) provides the legal basis for FEMA mitigation planning requirements for state, local and Indian Tribal governments as a condition of mitigation grant assistance. DMA 2000 amended the Robert T. Stafford Disaster Relief and Emergency Assistance Act by repealing the previous mitigation planning provisions and replacing them with a new set of requirements that emphasize the need for state, local, and Indian Tribal entities to closely coordinate mitigation planning and implementation efforts. The requirement for a state mitigation plan is continued as a condition of disaster assistance, adding incentives for increased coordination and integration of mitigation activities at the state level through the establishment of requirements for two different levels of state plans. DMA 2000 also established a new requirement for local mitigation plans and authorized up to 7 percent of HMGP funds available to a state for development of state, local, and Indian Tribal mitigation plans.[38]

Pipeline and Hazardous Materials Safety Administration Hazardous Materials Regulations

PHMSA is the federal regulator for the movement of hazardous materials by rail. Regulations cover product classification, operating rules, and tank car standards.[39]

Code of Federal Regulations, Title 14, Part 77

FAA's primary role is to promote aviation safety and control the use of airspace. Public use airports that are subject to the FAA's grant assurances must comply with specific FAA design criteria, standards, and regulations. Land use safety compatibility guidance from the FAA is limited to the immediate vicinity of the runway, the runway protection zones at each end of the runway, and the protection of navigable airspace. The FAA enforces safety standards and investigates and corrects violations, as appropriate.

Title 14, Part 77 of the CFR, *Safe Efficient Use and Preservation of the Navigable Airspace,* establishes the federal review process for determining whether proposed development activities in the vicinity of an airport have the potential to result in a hazard to air navigation. 14 CFR Part 77 identifies criteria that

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37 FEMA. *Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended, and Related Authorities as of August 2016.* Available online at: https://www.fema.gov/media-library/assets/documents/15271.

38 FEMA. 2000. *Disaster Mitigation Act of 2000*. Available online at: https://www.fema.gov/media-library/assets/documents/4596, accessed August 19, 2019.

39 U.S. Department of Transportation. *Pipeline and Hazardous Materials Safety Administration*. Available online at: https://www.phmsa.dot.gov/, accessed August 19, 2019.

govern which projects require notice to be filed with the FAA, as well as identifying standards for determining whether a proposed project would represent an obstruction "that may affect safe and efficient use of navigable airspace and the operation of planned or existing air navigation and communication facilities." Objects that are identified as obstructions based on these standards are presumed to be hazards until an aeronautical study conducted by the FAA determines otherwise.

14 CFR Part 77.9, *Construction or Alteration Requiring Notice*, indicates that notice must be filed with the FAA for any construction or alteration of objects within 20,000 feet of a public use airport runway when the height of the objects exceeds (i.e., is taller than) an imaginary surface with a 100:1 (1 foot upward per 100 feet horizontally) slope from the nearest point of the nearest runway. This requirement applies when the airport has at least one runway that exceeds 3,200 feet in length; for shorter runways, the notification surface has a50:1 slope and extends 10,000 feet from the runway. For heliports, the notification surface has a 25:1 slope and extends 5,000 feet from the helicopter takeoff and landing area, commonly referred to as final approach and takeoff area. The notification requirements apply to all public-use airports, military airports, and heliports. When FAA notification is required, it must be provided using FAA Form 7460-1, Notice of Proposed Construction or Alteration.[40]

Title 40 - Protection of Environment, Chapter I - Environmental Protection Agency (Continued) CFR Part 68 - Chemical Accident Prevention Provisions

This part sets forth the list of regulated substances and thresholds, the petition process for adding or removing substances to the list of regulated substances, the requirements for owners or operators of stationary sources concerning the prevention of accidental releases, and the state accidental release prevention programs approved under Section 112(r).[41]

International Fire Code

The International Fire Code (IFC), created by the International Code Council, is the primary means for authorizing and enforcing procedures and mechanisms to ensure the safe handling and storage of any substance that may pose a threat to public health and safety. The IFC regulates the use, handling, and storage requirements for hazardous materials at fixed facilities. The IFC and the International Building Code use a hazard classification system to determine what protective measures are required for fire and life safety. These measures may include construction standards, separations from property lines, and

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40 Electronic Code of Federal Regulation. 2019. *Part 77 – Safe, Efficient Use, and Preservation of the Navigable Airspace*. Available online at: https://www.ecfr.gov/cgi-bin/text-idx?rgn=div5&node=14:2.0.1.2.9, accessed August 19, 2019.

41 U.S. Government Information. 2016. *Title 40 Protection of the Environment Parts 64 to 71*. Available online at: https://www.govinfo.gov/content/pkg/CFR-2016-title40-vol17/pdf/CFR-2016-title40-vol17.pdf, accessed August 19, 2019.

specialized equipment. To ensure that these safety measures are met, the IFC employs a permit system based on hazard classification. The IFC is updated every 3 years, and is the basis for the California Fire Code (CFC; also updated triennially). Local jurisdictions then adopt the CFC, in some cases with local amendments.[42]

Presidential Policy Directive 8: National Preparedness

The National Response Framework (NRF) is an essential component of the National Preparedness System mandated in Presidential Policy Directive 8: National Preparedness (PPD-8). PPD-8 is aimed at strengthening the security and resilience of the United States through systematic preparation for the threats that pose the greatest risk to the security of the Nation. PPD-8 defines five mission areas—Prevention, Protection, Mitigation, Response, and Recovery—and mandates the development of a series of policy and planning documents to explain and guide the Nation's collective approach to ensuring and enhancing national preparedness. The NRF presents the guiding principles that enable all response partners to prepare for and provide a unified national response to disasters and emergencies. It establishes a comprehensive, national, all-hazards approach to domestic incident response. The National Response Plan was replaced by the NRF effective March 22, 2008 and updated most recently in June 2016.

The NRF defines the principles, roles, and structures that organize response protocols as a nation. The NRF:

- Describes how communities, tribes, states, the federal government, private-sectors, and nongovernmental partners work together to coordinate national response;
- Describes specific authorities and best practices for managing incidents; and
- Builds upon the National Incident Management System (NIMS), which provides a consistent template for managing incidents.[43]

Federal Response Plan

The Federal Response Plan of 1999 is a signed agreement among 27 federal departments and agencies, including the American Red Cross, that (1) provides the mechanism for coordinating delivery of federal assistance and resources to augment efforts of state and local governments overwhelmed by a major disaster or emergency; (2) supports implementation of the Robert T. Stafford Disaster Relief and Emergency Act, as well as individual agency statutory authorities; and (3) supplements other federal

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42 International Code Council. *Overview of the International Fire Code.* Available online at: https://www.iccsafe.org/products-and-services/i-codes/2018-i-codes/ifc/, accessed August 19, 2019.

43 U.S. Department of Homeland Security. 2008. *National Response Framework*. Available online at: https://www.fema.gov/pdf/emergency/nrf/nrf-core.pdf, accessed August 19, 2019.

emergency operations plans developed to address specific hazards. The Federal Response Plan is implemented in anticipation of a significant event likely to result in a need for federal assistance or in response to an actual event requiring federal assistance under a Presidential declaration of a major disaster or emergency.[44]

Federal Railroad Administration Office of Railroad Safety

FRA's Office of Railroad Safety promotes and regulates safety throughout the Nation's railroad industry.[45] The regional offices enforce compliance with regulations related to hazardous materials, motive power equipment, operating practices, signal and train control, and tracks. California is in Region 7, which is headquartered in Sacramento, California.

Federal Emergency Management Agency (FEMA)

FEMA's mission is to reduce the loss of life and property and protect communities nationwide from all hazards, including natural disasters, acts of terrorism, and other man-made disasters. FEMA leads and supports the nation in a risk-based, comprehensive emergency management system of preparedness, protection, response, recovery and mitigation.

In March 2003, the Federal Emergency Management Agency (FEMA) became a department of the U.S. Department of Homeland Security (DHS), pursuant to 44 CFR, Chapter 1 Part 201. The primary mission of FEMA is to reduce the loss of life and property and protect the nation from all hazards, including natural disasters, acts of terrorism, and other human-made disasters, by leading and supporting the nation in a risk-based, comprehensive emergency management system of preparedness, protection, response, recovery, and mitigation. SCAG is under the jurisdiction of FEMA Region 9, which covers Arizona, California, Hawaii, Nevada, Guam, American Samoa, Commonwealth of Northern Mariana Islands, Republic of Marshall Islands, Federated State of Micronesia, and more than 150 sovereign tribal entities. In Southern California, FEMA Region 9 specifically plans for hazards such as major earthquakes and wildfires. A catastrophic earthquake could result in 1,800 fatalities, 9 million people displaced, and $200 billion in losses.[46]

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44 FEMA. 1999. *Federal Response Plan*. Available online at: https://biotech.law.lsu.edu/blaw/FEMA/frpfull.pdf, accessed August 19, 2019.

45 Federal Railroad Administration. 2019. Office of Safety Analysis. Available online at: https://safetydata.fra.dot.gov/OfficeofSafety/default.aspx, accessed August 19, 2019.

46 FEMA. 2019. *FEMA Region IX: Arizona, California, Hawaii, Nevada, and the Pacific Islands*. Available online at: https://www.fema.gov/fema-region-ix-arizona-california-hawaii-nevada-pacific-islands, accessed August 19, 2019.

National Fire Plan

The Department of the Interior's National Fire Plan is intended to ensure an appropriate federal response to severe wildland fires, reduce fire impacts to rural communities, and ensure sufficient firefighting capacity in the future.[47] The Rural Fire Assistance program is funded to enhance the fire protection capabilities of rural fire districts and safe and effective fire suppression in the wildland/urban interface. The program promotes close coordination among local, state, tribal, and federal firefighting resources by conducting training, equipment purchase, and prevention activities on a cost-shared basis.[48]

3.9.2.2 State

Hazardous Waste Control Law of 1972

The Hazardous Waste Control Act (Health and Safety Code Sections 25100 et seq.) created the state hazardous waste management program, which is similar to but more stringent than the federal RCRA program.[49] The Act is implemented by regulations contained in Title 26 of the California Code of Regulations (CCR), which describes the following required aspects for the proper management of hazardous waste: identification and classification; generation and transportation; design and permitting of recycling, treatment, storage, and disposal facilities; treatment standards; operation of facilities and staff training; and closure of facilities and liability requirements. These regulations list more than 800 materials that may be hazardous and establish criteria for identifying, packaging, and disposing of such waste. Under the Hazardous Waste Control Act and Title 26, the generator of hazardous waste must complete a manifest that accompanies the waste from generator to transporter to the ultimate disposal location. Copies of the manifest must be filed with DTSC.

Hazardous Materials Release Response Plans and Inventory Law of 1985

The Hazardous Materials Release Response Plans and Inventory Law of 1985 (Business Plan Act; HSC Division 20 Chapter 6.95 [25500–25547.8]) governs hazardous materials handling, reporting requirements, and local agency surveillance programs.[50]

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47 U.S. Department of the Interior. *Implementing the National Fire Plan*. Available online at: https://www.doi.gov/sites/doi.gov/files/migrated/budget/appropriations/2003/upload/Implementing-the-National-Fire-Plan.pdf, accessed August 19, 2019.

48 U.S. Fish & Wildlife Service. 2009. *Rural Fire Assistance*. Available online at: https://www.fws.gov/fire/living_with_fire/rural_fire_assistance.shtml, accessed August 19, 2019.

49 California Legislative Information. 1972. *ARTICLE 1. Findings and Declarations [25100-25106]*.

50 California Legislative Information. 2013. *Article 1. Business and Area Plans [25500-25519]*.

Lempert-Keene-Seastrand Oil Spill Prevention and Response Act

The Lempert-Keene-Seastrand Oil Spill Prevention and Response Act of 1990 granted the Office of Spill Prevention and Response (OSPR) the authority to direct prevention, removal, abatement, response, containment, and cleanup efforts with regard to all aspects of any oil spill in marine waters of California. OSPR implements the California Oil Spill Contingency Plan, consistent with the National Contingency Plan, which pays special attention to marine oil spills and impacts to environmentally- and ecologically-sensitive areas. In 2014, the OSPR program was expanded to cover all statewide surface waters at risk of oil spills from any source, including pipelines and the increasing shipments of oil transported by railroads.[51]

California Disaster Assistance Act (CDAA)

The California Disaster Assistance Act (CDAA; CCR Title 19, Chapter 6) authorizes the Director of the California Governor's Office of Emergency Services (Cal OES) to administer a disaster assistance program that provides financial assistance from the state for costs incurred by local governments as a result of a disaster event. Funding for the repair, restoration, or replacement of public real property damaged or destroyed by a disaster is made available when the Director concurs with a local emergency proclamation requesting state disaster assistance.[52]

Office of Emergency Services

The Office of Emergency Services (OES) is an agency responsible for overseeing and coordinating emergency preparedness, response, recovery and homeland security activities, in cooperation with fire and law and other enforcement agencies. Each county within the SCAG region has an OES which is responsible for coordinating and maintaining resources necessary for first responders to protect the community. In addition to maintaining a Material Safety Data Sheets (MSDS), notifications to the OES must be made when there is a hazardous material incident or spill that may require clean-up. OES is responsible for preparing, and gathering information on incident, participate in offering guidance to residents and communities affected by incident, coordinating with FEMA, state, and county/city agencies for other needed resource, and implement a reduction of risk program to prevent future accidents causing physical and natural or human casualties.

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51 Oil Spill Task Force. *California.* Available online at: http://oilspilltaskforce.org/about/task-force-jurisdictions/california/, accessed August 19, 2019.

52 California Office of Emergency Services. 2019. *California Disaster Assistance Act (CDAA).* Available online at: https://www.caloes.ca.gov/cal-oes-divisions/recovery/public-assistance/california-disaster-assistance-act, accessed August 19, 2019.

The Cal OES mission statement is "Protect lives and property, build capabilities, and support our communities for a resilient California." Cal OES goals include:

- **Goal 1:** Anticipate and enhance prevention and detection capabilities to protect our State from all hazards and threats.
- **Goal 2:** Strengthen California's ability to plan, prepare for, and provide resources to mitigate the impacts of disasters, emergencies, crimes, and terrorist events.
- **Goal 3:** Effectively respond to and recover from both human-caused and natural disasters.
- **Goal 4:** Enhance the administration and delivery of all state and federal funding, and maintain fiscal and program integrity.
- **Goal 5:** Develop a united and innovative workforce that is trained, experienced, knowledgeable, and ready to adapt and respond.
- **Goal 6:** Strengthen capabilities in public safety communication services and technology enhancements.[53]

Local Community Rail Security Act

The Local Community Rail Security Act of 2006 (Public Utilities Code Sections 7665-7667) requires all rail operators to provide security risk assessments to CPUC, the Director of Homeland Security, and the Catastrophic Event Memorandum Account that describe the following:

- Location and function of each rail facility
- Types of cargo stored at or typically moved through the facility
- Hazardous cargo stored at or moved through the facility
- Frequency of hazardous movements or storage
- A description of sabotage-terrorism countermeasures
- Employee training programs
- Emergency response procedures

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53 California Governor's Office of Emergency Services (Cal OES). 2019. *About Cal OES*. Available online at: https://www.caloes.ca.gov/Cal-OES-Divisions/About-Cal-OES, accessed September 4, 2019.

- Emergency response communication protocols[54]

California State Aeronautics Act

The purpose of the California State Aeronautics Act pursuant to Public Utilities Code Section 21001 et seq. "is to further and protect the public interest in aeronautics and aeronautical progress" through encouraging the development of private flying and air transportation, promoting safety in aeronautics, effecting uniformity in laws and regulations relating to aeronautics, providing cooperation with federal authorities, protecting residents from unreasonable levels of aircraft noise, and promoting the development of a stable regional air carrier system. The California Department of Transportation (Caltrans), Division of Aeronautics, administers much of this statute.[55]

Hazardous Substances Account Act (State Superfund) (HSC Sections 25300–25301)

Chapter 6.8 of the California Health and Safety Code requires the DTSC to include "the largest manageable number" of potentially responsible parties (PRPs) in any cleanup order that applies to a multiple PRP site after considering certain factors, including the adequacy of the evidence of each PRP's liability, the financial viability of each PRP, and the degree to which each PRP contributed to the release of hazardous substances at the site.[56]

California Emergency Services Act (Assembly Bill (AB) 38 (Chapter 372)

AB 38 combined the Office of Homeland Security and the Office of Emergency Services into Cal EMA. Under AB 38 Cal EMA was responsible for overseeing and coordinating emergency preparedness, response, recovery, and homeland security activities in the state.[57] In 2013, under the Governor's reorganization plan #2, Cal EMA was eliminated and restored to the Governor's Office, renaming it the California Governor's Office of Emergency Services (Cal OES). [58]

Hazardous Materials Release Cleanup (Assembly Bill (AB) 440 Chapter 588)

AB 440 Chapter 588, passed into law in 2013, authorizes a local agency to take clean up action similar to that under the Polanco Redevelopment Act that the local agency determines is necessary, consistent with other state and federal laws, to remedy or remove a release of hazardous substances within the

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54 California Legislative Information. 2006. *Article 7.3. Local Community Rail Security Act of 2006 [7665-7667].*

55 California Legislative Information. *Chapter 1 General Provisions and Definitions [21001-21020].*

56 California Legislative Information. 1999. *ARTICLE 1. Short Title and Legislative Intent [25300-25301].*

57 California Legislative Information. 2008. *Assembly Bill No. 38.*

58 California Office of Emergency Services. 2019. *About CAL OES.* Available online at: https://caloes.ca.gov/cal-oes-divisions/about-cal-oes, accessed October 24, 2019.

boundaries of the local agency. AB 440 allows the local agency to designate another agency, in lieu of the department or the regional board, to review and approve a cleanup plan and to oversee the cleanup of hazardous material from a hazardous material release site, under certain conditions. It also provides immunity to the local agency as long as the action is in accordance with a cleanup plan prepared by a qualified independent contractor, and approved by the department, a regional board, or the designated agency, and the cleanup is undertaken and properly completed. Finally, AB 440 authorizes the local agency to recover cleanup costs from the responsible party.[59]

Asbestos Regulations

In 1990, ARB issued an Airborne Toxic Control Measure (ATCM), which prohibited the use of serpentine aggregate for surfacing if the asbestos content was 5 percent or more.[60] In July 2000, ARB adopted amendments to the existing ATCM prohibiting the use or application of serpentine, serpentine-bearing materials and asbestos-containing ultramafic rock for covering unpaved surfaces unless it has been tested using an approved asbestos bulk test method and determined to have an asbestos content that is less than 0.25 percent.[61] In July 2001, ARB adopted a new ATCM for construction, grading, quarrying, and surface mining operations in areas with serpentine or ultramafic rocks.[62] These regulations are codified in Title 17, Section 93105 of the CCR. The regulations require preparation and implementation of an Asbestos Dust Mitigation Plan for construction or grading activities on sites greater than 1 acre in size with known Naturally Occurring Asbestos (NOA) soils. The air districts enforce this regulation.[63]

In October 2000, the Governor's Office of Planning and Research (OPR) issued a memorandum providing guidance to lead agencies in analyzing the impacts of NOA on the environment through the California Environmental Quality Act (CEQA) review process.[64] In November 2000, the California Department of Real Estate added a section to subdivision forms that includes questions related to NOA on property

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59 California Legislative Information. 2013. *Assembly Bill No. 440*.

60 California Air Resources Board. 2019. *Asbestos ATCM for Surfacing Applications.* Available online at: https://ww3.arb.ca.gov/toxics/atcm/asbeatcm.htm, accessed August 19, 2019.

61 California Air Resources Board. 2001. *Amendments to the Asbestos Regulation for Surfacing Applications.* Available online at: https://ww3.arb.ca.gov/toxics/asbestos/atcm/regadv1101.pdf, accessed August 19, 2019.

62 California Air Resources Board. 2001. *Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying, and Surface Mining Operations*. Available online at: https://ww3.arb.ca.gov/toxics/asbestos/atcm/regadv0702.pdf, accessed August 19, 2019.

63 California Code of Regulations. *Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying, and Surface Mining Operations.* Available online at: http://www.baaqmd.gov/~/media/Files/Compliance%20and%20Enforcement/Asbestos/final_reg_order.ashx, accessed August 19, 2019.

64 Governor's Office of Planning and Research. 2000. *Addressing Naturally Occurring Asbestos in CEQA Documents*. Available online at: http://www.co.mendocino.ca.us/aqmd/pdf_files/NOA_OPR.pdf, accessed August 19, 2019.

proposed for development.[65] In 2004, as part of its school-site review program, the DTSC's School Property Evaluation and Cleanup Division released interim guidance on evaluating NOA at school sites.[66]

In addition, HSC Section 19827.5 prohibits the issuance of demolition permits by local and State agencies for any building or structure that has not submitted all required asbestos notifications to the US EPA, pursuant to Part 61 of Title 40 of the Code of Federal Regulations.[67]

California Occupational Safety and Health Administration (Cal/OSHA) Regulations. Cal/OSHA sets forth regulations for the disturbance of Asbestos Containing Construction Materials (ACCMs) including removal operations for all types of ACCMs. Cal/OSHA requires contractors and employers that remove ACCMs to be registered and consultants and technicians who conduct sampling and/or removal to be certified. In addition, the agency has developed standards for general industry and the construction industry hazardous waste operations and emergency response. Cal/OSHA ensures that employers must have controls to reduce and monitor exposure levels of hazardous materials, an informational program describing any exposure during operations and the inspection of drums and containers prior to removal or opening. Decontamination procedures and emergency response plans must be in place before employees begin working in hazardous waste operations.[68]

California Code of Regulations (CCR) Title 8 Section 1529. This section of the CCR regulates asbestos exposure for work identified in Section 1502, including demolition or salvage of structures where asbestos is present; removal or encapsulation of materials containing asbestos; construction, alteration, repair, maintenance, or renovation of structures, substrates, or portions thereof, that contain asbestos, installation of products containing asbestos; asbestos spill/emergency cleanup; transportation, disposal, storage, containment of and housekeeping activities involving asbestos or products containing asbestos, on the site or location at which construction activities are performed; and excavation that may involve exposure to asbestos as a natural constituent which is not related to asbestos mining and milling activities.[69]

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65 California Department of Real Estate. *Subdivision Forms*. Available online at: http://www.bre.ca.gov/Forms/Subdivisions.html, accessed August 19, 2019.

66 Department of Toxic Substances Control. 2004. *Interim Guidance Naturally Occurring Asbestos (NOA) at School Sites*. Available online at: https://dtsc.ca.gov/wp-content/uploads/sites/31/2018/09/SMBRP_POL_Guidance_Schools_NOA.pdf, accessed August 19, 2019.

67 California Legislative Information. 1979. *ARTICLE 1. Contents [19825-19829].*

68 State of California Department of Industrial Relations. 2019. *Cal/OSHA*. Available online at: https://www.dir.ca.gov/DOSH/, accessed September 16, 2019.

69 California Code of Regulations. *§1529. Asbestos*. Available online at: https://www.dir.ca.gov/title8/1529.html, accessed September 16, 2019.

SCAQMD Rule 1403. The Clean Air Act regulates asbestos as a hazardous air pollutant, which subjects it to regulation by South Coast Air Quality Management District (SCAQMD) under its Rule 1403. OSHA also regulates asbestos as a potential worker safety hazard. These rules and regulations prohibit emissions of asbestos from demolition or construction activities, require medical examinations and monitoring of employees engaged in activities that could disturb asbestos fibers, and require notice to federal and local government agencies prior to renovation or demolition activities that could disturb asbestos.[70]

Lead Regulations

Because of its toxic properties, lead is regulated as a hazardous material. Lead is also regulated as a toxic air contaminant. State-certified contractors must perform inspection, testing, and removal (abatement) of lead-containing building materials in compliance with applicable health and safety and hazardous materials regulations, including those outlined in Title 17 of the CCR.

CCR Title 8 Section 1532.1. This section of the CCR applies to all construction work where employees could be occupationally exposed to lead, including demolition or salvage of structures where lead or materials containing lead are present; removal or encapsulation of materials containing lead; new construction, alteration, repair, or renovation of structures, substrates, or portions thereof, that contain lead or materials containing lead; installation of products containing lead; lead contamination/emergency clean-up; transportation, disposal, storage, or containment of lead or materials containing lead on the site or location at which construction activities are performed; and maintenance operations associated with construction activities. This section sets a maximum exposure limit; requires an assessment to determine whether employees may be exposed to lead; requires employees to create a compliance program to ensure that employee exposure to lead are at or below the permissible exposure limit to the extent feasible; and requires that employees with exposure to lead are provided with respiratory protection, protective work clothing and equipment.[71]

Other state laws that address lead include:

- Hazardous Waste Control Law
- Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65)

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70 South Coast Air Quality Management District. 2007. *Rule 1403. Asbestos Emissions from Demolition/Renovation Activities*. Available online at: http://www.aqmd.gov/docs/default-source/rule-book/reg-xiv/rule-1403.pdf, accessed September 16, 2019.

71 California Code of Regulations. *§1532.1. Lead*. Available online at: https://www.dir.ca.gov/title8/1532_1.html, accessed September 16, 2019.

- Carpenter-Presley-Tanner Hazardous Substances Account Act
- Hazardous Waste Management Planning and Facility Siting (Tanner Act)
- Hazardous Materials Release Response Plan and Inventory Law of 1985 (Business Plan Act)

California Accidental Release Prevention Program

The California Accidental Release Prevention Program (CalARP; CCR Title 19, Division 2, Chapter 4.5) was implemented on January 1, 1997, and replaced the California Risk Management and Prevention Program (RMPP). The CalARP program encompasses both the federal "Risk Management Program," established in the Code of Federal Regulations, Title 40, Part 68, and the State of California program, in accordance with the Title 19 of the California Code of Regulations, Division 2, Chapter 4.5.[72]

The main objective of the CalARP program is to prevent accidental releases of those substances determined to potentially pose the greatest risk of immediate harm to the public and the environment, and to minimize the consequences if releases do occur. These substances are called regulated substances and include both flammable and toxic hazardous materials listed on the Federal Regulated Substances for Accidental Release Prevention and on the State of California Regulated Substances lists. Businesses that handle regulated substances in industrial processes above threshold quantity levels are subject to CalARP program requirements.

The CalARP program requires businesses to have planning activities that are intended to minimize the possibility of an accidental release by encouraging engineering and administrative controls. It is further intended to mitigate the consequences of an accidental release, by requiring owners or operators of facilities to develop and implement an accident prevention program.

California Human Health Screening Levels

The California Human Health Screening Levels (CHHSLs) were developed as a tool to assist in the evaluation of contaminated sites for potential adverse threats to human health. Preparation of the CHHSLS was required by the California Land Environmental Restoration and Reuse Act of 2001. The CHHSLs were developed by OEHHA, an agency under the umbrella of Cal/EPA, and are contained in its report entitled *Human-Exposure- Based Screening Numbers Developed to Aid Estimation of Cleanup Costs for*

72 California Office of Emergency Services. 2019. *California Accidental Release Prevention*. Available online at: https://www.caloes.ca.gov/cal-oes-divisions/fire-rescue/hazardous-materials/California-Accidental-Release-Prevention, accessed August 19, 2019.

Contaminated Soil1.[73] The thresholds of concern used to develop the CHHSLs are an excess lifetime cancer risk of one in 1 million and a hazard quotient of 1.0 for non-cancer health effects. The CHHSLs were developed using standard exposure assumptions and chemical toxicity values published by EPA and Cal/EPA. The CHHSLs can be used to screen sites for potential human health concerns where releases of hazardous chemicals to soils have occurred. Under most circumstances, the presence of a chemical in soil, soil gas, or indoor air at concentrations below the corresponding CHHSLs can be assumed to not pose a significant health risk to people who may live (residential CHHSLs) or work (commercial/ industrial CHHSLs) at the site.[74]

California Fire Code (CFC)

The CFC is Chapter 9 of CCR Title 24. It is the primary means for authorizing and enforcing procedures and mechanisms to ensure the safe handling and storage of any substance that may pose a threat to public health and safety. The CFC regulates the use, handling, and storage requirements for hazardous materials at fixed facilities. The CFC and the California Building Code use a hazard classification system to determine what protective measures are required to protect fire and life safety. These measures may include construction standards, separations from property lines, and specialized equipment. To ensure that these safety measures are met, the CFC employs a permit system based on hazard classification. The CFC is updated every three years.[75]

2017 State of California Emergency Plan

The 2017 State of California Emergency Plan, also referred to as the State Emergency Plan (SEP), addresses the state's response to extraordinary emergency situations associated with natural disasters or human-caused emergencies. The California Emergency Services Act provides the basic authorities for conducting emergency operations following the proclamation of emergencies by appropriate local officials and/or the Governor. The provisions of this act are further reflected and expanded upon by local emergency ordinances. In accordance with this act, the SEP describes the methods for carrying out emergency operations, the process for rendering mutual aid, the emergency services of governmental agencies, how resources are mobilized, how the public will be informed and the process to ensure

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73 Office of Environmental Health Hazard Assessment. 2005. *Human-Esposure-Based* Screening Numbers Developed to Aid Estimation of Cleanup Costs for Contaminated Soil. Available online at: https://oehha.ca.gov/media/downloads/crnr/screenreport010405.pdf, accessed September 4, 2019.

74 Office of Environmental Health Hazard Assessment. 2019. *California Human Health Screening Levels*. Available online at: https://oehha.ca.gov/risk-assessment/california-human-health-screening-levels-chhsls, accessed August 19, 2019.

75 International Code Council. 2019. *2019 California Fire Code, Title 24, Part 9*. Available online at: https://codes.iccsafe.org/content/chapter/15600/, accessed August 19, 2019.

continuity of government during an emergency or disaster. The SEP emphasizes mitigation programs to reduce the vulnerabilities to disaster and preparedness activities to ensure the capabilities and resources are available for an effective response. To assist communities and governments to recover from the disaster, the SEP outlines programs that establish a consistent, statewide framework to enable state, local, tribal governments, federal government and the private sector to work together to mitigate, prepare for, respond to and recover from the effects of emergencies regardless of cause, size, location, or complexity.[76]

2018 State Hazard Mitigation Plan (SHMP)

Approved by FEMA in September 2018, as an Enhanced State Mitigation Plan, the 2018 SHMP update continues to build upon California's commitment to reduce or eliminate the impacts of disasters caused by natural, technological, accidental, and adversarial/human-caused hazards, and further identifies and documents progress made in hazard mitigation efforts, new or revised state and federal statutes and regulations, and emerging hazard conditions and risks that affect the State of California. Resilience depends on the whole community and is a shared responsibility for all levels of government, private and nonprofit sectors, and individuals.[77]

3.9.2.3 Local

Certified Unified Program Agencies (Senate Bill 1082)

Californians are protected from hazardous waste and materials by a unified program that ensures consistency throughout the state in regards to administrative requirements, permits, inspections, and enforcements. The goal of the CUPA is to create a more cohesive, effective, and efficient program. Under the CUPA, application and required submission forms are standardized and consolidated, inspections are combined where possible, annual fees for each program element are merged into a single fee system, and enforcement procedures are made more consistent. The program elements consolidated under the CUPA are:

- Hazardous waste generator and onsite hazardous waste treatment programs (a.k.a. Tiered permitting);
- Aboveground petroleum storage tank spill prevention control and countermeasure plan (SPCC);

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76 California Emergency Management Agency. 2017. *State of California Emergency Plan 2017*. Available online at: https://www.caloes.ca.gov/cal-oes-divisions/planning-preparedness/state-of-california-emergency-plan-emergency-support-functions, accessed September 16, 2019.

77 California's Office of Emergency Services. 2018. *2018 California State Hazard Mitigation Plan*. Available online at: https://www.caloes.ca.gov/cal-oes-divisions/hazard-mitigation/hazard-mitigation-planning/state-hazard-mitigation-plan, accessed August 19, 2019.

- Hazardous materials release response plans and inventory program (a.k.a. hazardous materials disclosure or community-right-to-know)
- California Accidental Release Prevention Program (Cal ARP);
- Underground storage tank program (UST); and
- Uniform fire code plans and inventory requirements.

CalEPA oversees the program, and certifies 83 local government agencies, including 37 in the SCAG region. Local agencies administering one or more of the six program elements have the option to either apply for CUPA status within the CalEPA or retain their programs by becoming a participating agency under another CUPA's jurisdiction. Some examples of the agencies that are participating under the CUPA are fire departments, environmental and health branches, Department of Toxic Substances Controls within city and municipal governments.[78]

County General Plans and Other County-wide Planning

In addition to federal and state requirements, general plans and municipal codes of counties and cities in the SCAG region may include safety elements that goals and policies related protecting people and property from risks from hazards and hazardous materials.

Los Angeles County General Plan

The Safety Element of the Los Angeles County General Plan 2035 Update, in conjunction with the AllHazard Mitigation Plan prepared by the Chief Executive Office, Office of Emergency Management (CEO OEM), sets strategies for natural and man-made hazards in Los Angeles County. The All-Hazard Mitigation Plan, which has been approved by FEMA and the California Emergency Management Agency (CalEMA), includes a compilation of known and projected hazards in Los Angeles County.[79,80]

Los Angeles County Operational Area Emergency Response Plan (ERP)

The County of Los Angeles developed the ERP to ensure the most effective allocation of resources for the maximum benefit and protection of the public in time of emergency. The ERP does not address normal

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78 California Environmental Protection Agency. 2019. *Unified Program*. Available online at: https://calepa.ca.gov/cupa/, accessed August 19, 2019.

79 Los Angeles County Department of Regional Planning. 2015. *Los Angeles County General Plan*. Available online at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan.pdf, accessed August 19, 2019.

80 County of Los Angeles, Chief Executive Office – Office of Emergency Management. 2014. All-Hazard Mitigation Plan. Available online at: https://ceo.lacounty.gov/wp-content/uploads/OEM/hazmitgplan.pdf, accessed September 4, 2019.

day-to-day emergencies or the well-established and routine procedures used in coping with them. Instead, the operational concepts reflected in this plan focus on potential large-scale disasters like extraordinary emergency situations associated with natural and man-made disasters and technological incidents which can generate unique situations requiring an unusual or extraordinary emergency response. The purpose of the plan is to incorporate and coordinate all the facilities and personnel of County government, along with the jurisdictional resources of the cities and special districts within the County, into an efficient Operational Area organization capable of responding to any emergency using a Standard Emergency Management System, mutual aid and other appropriate response procedures. The goal of the plan is to take effective life-safety measures and reduce property loss, provide for the rapid resumption of impacted businesses and community services, and provide accurate documentation and records required for cost-recovery.[81]

San Bernardino County General Plan

The San Bernardino County General Plan contains an entire element regarding household hazardous waste, which includes reduction implementation programs.[82] The Safety Element was amended in 2014 with goals such as the County providing a Hazard Mitigation Plan which will become part of the Safety Element.[83]

Imperial County General Plan

The Land Use Planning and Public Safety and Emergency Preparedness Elements of the Imperial County General Plan have established goals related to protection of public health and safety for consideration in the land use planning process. The specified goals and objectives are intended to minimize potential hazards to public health and safety, and prevent the loss of life and damage to properties, and rely heavily on ensuring conformance with established applicable state codes. The General Plan has specific goals related protecting the public from exposure to hazardous materials and wastes, by discouraging the transport of hazardous materials/waste near or through residential areas and critical facilities, measures to minimize the possibility of hazardous materials/waste spills, land use planning policies to discourage incompatible development adjacent to sites and facilities for the production, storage, disposal, and transport of hazardous materials/waste as identified in the County General Plan and other regulations,

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81 County of Los Angeles. *Los Angeles County Operational Area Emergency Response Plan*. Available online at: https://www.caloes.ca.gov/AccessFunctionalNeedsSite/Documents/LA%20County%20OA%20Emergency%20Response%20Plan.pdf, accessed September 16, 2019.

82 County of San Bernardino Land Use Services Division. 2014. *County of San Bernardino 2007 General Plan.* Available online at: http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGP.pdf, August 19, 2019.

83 County of San Bernardino Land Use Services Division. 2014. *County of San Bernardino 2007 General Plan.* Available online at: http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGP.pdf, August 19, 2019.

and an established objective of adopting and ordinances, policies, and guidelines that assure the safety of Imperial County ground and surface waters from toxic or hazardous materials and wastes.[84]

Orange County General Plan

The Safety Element of the Orange County General Plan provides for the protection of people and property from risks associated with hazards and hazardous materials through the implementation of mitigation measures as outlined in the California Emergency Plan, the California Master Mutual Aid Agreement, the Orange County Emergency Plan, the Orange County Operational Area Plan, S.O.N.G.S. Plan, County of Orange and Orange County Fire Authority Hazard Mitigation Plan, and other emergency management plans. The Safety Element of the Orange County General Plan focuses primarily upon the County's planned response to extraordinary emergency situations associated with natural disasters, technological incidents, intentional acts of terrorism and nuclear protection operations. To reduce the County's susceptibility and vulnerability to extraordinary emergency situations, the Safety Element recommends continued emphasis is placed on several coordinated efforts:

- Mitigation
- Emergency planning
- Training of full-time, auxiliary, and reserve personnel
- Public awareness and education; and assuring the adequacy and availability of sufficient resources to cope with such emergencies[85]

In November 2015, the Board of Supervisors adopted a new County of Orange and Orange County Fire Authority Hazard Mitigation Plan (HMP) in compliance with federal and state regulations.[86]

Ventura County General Plan

The Safety Element of the Ventura County General Plan contains specific goals to minimize the risk of loss of life, injury, serious illness, damage to property, and economic and social dislocations resulting from the use, transport, treatment and disposal of hazardous materials and hazardous wastes. Additionally specific goals are identified to locate potentially hazardous facilities and operations in areas

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84 Imperial County Planning & Development Services. 2015. *Land Use Element of the Imperial County General Plan*. Available online at: http://www.icpds.com/CMS/Media/Land-Use-Element-(2015).pdf, accessed August 19, 2019.

85 Orange County Planning & Development. *Chapter IX Safety Element*. Available online at: https://www.ocgov.com/civicax/filebank/blobdload.aspx?blobid=40234, accessed August 19, 2019.

86 County of Orange & Orange County Fire Authority. 2015. *Local Hazard Mitigation Plan*. Available online at: http://cams.ocgov.com/Web_Publisher/Agenda07_12_2016_files/images/O00216-000668A.PDF, accessed August 19, 2019.

that would not expose the public to a significant risk of injury, loss of life, or property damage. The plan identifies five policies and 13 programs related to the management of hazards and hazardous materials.[87]

City General Plans

The SCAG region spans six counties and 191 cities, each of which has a general plan containing policies related to hazards and hazardous materials. Additional plans and ordinances at the master plan level, city-level, and specific plan level may also apply within the SCAG region, such as the City of Los Angeles Local Hazard Mitigation Plan. The Local Hazard Mitigation Plan meets the planning requirements of FEMA's Community Rating System.[88] Furthermore, fire departments and other agencies in the SCAG region have a variety of local laws that regulate reporting, storage, handling, and transporting hazardous substances and materials. See **Section 3.20, Wildfire,** for an additional discussion on hazards in relation to wildland fires.

3.9.3 ENVIRONMENTAL IMPACTS

3.9.3.1 Thresholds of Significance

For the purposes of this PEIR, SCAG has determined the Plan could result in significant impacts related to hazards and hazardous materials, if the Plan would result in any of the following:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment;
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area; or

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87 Ventura County. 2019. *Ventura County 2040 General Plan Preliminary Public Review Draft*. Available online at: https://vc2040.org/images/2040_General_Plan_Files_-_May_2019/PPRD_2040_General_Plan_COMPLETE-compressed.pdf, accessed August 19, 2019.

88 City of Los Angeles Emergency Management Department. 2018. *Local Hazard Mitigation Plan*. Available online at: https://emergency.lacity.org/sites/g/files/wph496/f/2018_LA_HMP_Final_2018-11-30.pdf, accessed September 4, 2019.

- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or

- Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires (this criterion is addressed in **Section 3.20, Wildfire**, **Impact WF-2**).

3.9.3.2 Methodology

The potential for implementation of the Plan to expose people or property to risk from hazards or hazardous materials was evaluated in accordance with Appendix G of the 2019 *State California Environmental Quality Act (CEQA) Guidelines*, and at the programmatic level of detail, in relation to the general plans of the six counties and the 191 cities within the SCAG region, a query of government data bases, and a review of related literature germane to the SCAG region.

The frequency and location of hazardous material shipments are an indicator of potential risk. The impact of hazardous materials transportation through the SCAG region can be assessed by examining the Plan's effect on shipments of hazardous materials. To assess potential hazards to sensitive receptors adjacent to transportation corridors, geographic information systems (GIS) analysis was used to identify where major highway, rail, and transit projects included in the Plan would be within 150 feet of 2045 residential land uses. Major projects considered in the Plan since the 2016 RTP/SCS was adopted include additional highway projects, high-occupancy vehicle (HOV) projects, mixed flow projects, and toll projects.

The methodology for determining the significance of hazardous material impacts compares the existing conditions (2019) to the future 2045 conditions under the Plan, as required in CEQA Section 15126.2(a). Implementation of the Plan would affect the transportation and handling of hazardous materials in the SCAG region by improving and increasing transportation routes in proximity to sensitive receptors such as educational and residential uses. The potential for risk related to the transport of hazardous materials was assessed by evaluating the locations of proposed transportation projects in relation to the surrounding uses, as well as potential significant impacts related to the risk of accidental releases of hazardous materials due to an increase in the transportation of hazardous materials and the potential for such releases to reach schools, and communities adjacent to transportation facilities included in the Plan.

In 2015, the California Supreme Court in *CBIA v. BAAQMD*, held that CEQA generally does not require a lead agency to consider the impacts of the existing environment on the future residents or users of a project. However, if a project exacerbates a condition in the existing environment, the lead agency is required to analyze the impact of that exacerbated condition on future residents and users of a project, as well as other impacted individuals. The following discussion presents a programmatic, regional

evaluation of potential impacts of transportation projects, land use strategies, and development projects anticipated to occur under the Plan on increased risk of exposure to hazardous materials.[89]

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

3.9.3.3 Impacts and Mitigation Measures

Impact HAZ-1 **Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.**

Significant and Unavoidable Impact- Mitigation Required.

The transportation, use, and/or disposal of hazardous materials are subject to numerous laws, regulations, and health and safety standards set forth by federal, state, and local authorities that regulate the proper handling of such materials and their containers. These include the EPA, OSHA, U.S. DOT, and the Food and Drug Administration (FDA) for the federal government. State agencies, including the Cal/EPA, have parallel and, in some cases, more stringent rules governing the use of hazardous materials. U.S. DOT requires that hazardous waste inventories (which are used to ensure that hazardous wastes are strictly monitored and tracked from the point of generation through ultimate disposal) be maintained. To operate in California, all hazardous waste transporters must be registered with the DTSC. Unless specifically exempted, hazardous waste transporters must comply with the California Highway Patrol Regulations, the California State Fire Marshal Regulations, and the U.S. DOT regulations.

The Connect SoCal Plan includes transportation projects and land use strategies, that may create a significant hazard to the public or the environment through the transportation, use, and/or disposal of

89 Note that as discussed in **Section 3.15.3 Public Services – Schools**, CEQA review of school construction generally does require an evaluation of the effects of existing air quality exposure on pupils, and to the extent the health risk is unacceptable, the school would not be built. CEQA also provides limited protection and requires analysis of impacts of the existing environment on certain housing development projects exercising exemptions under Pub. Res. Code § 21096.

hazardous materials, constituting a significant impact. Goods movement activities can facilitate the movement of hazardous materials throughout the transportation network. Proposed freight rail enhancements and other goods movement capacity enhancements identified in the Plan could result in increased or new transport of hazardous materials or wastes. In addition, construction and maintenance of these projects would result in use of equipment that contains or uses routine hazardous materials (e.g., diesel-fuel, paint and cleaning solutions), and the transportation of excavated soil and/or groundwater containing contaminants from previously contaminated areas. Port traffic (and associated goods movement in the region) is anticipated to triple over the lifetime of the Plan. Container traffic for the San Pedro Bay Ports is anticipated to increase from approximately 17.6 million Twenty-foot Equivalent Units (TEUs) in 2018 to a projected 34 million TEUs in 2040. The fraction of containers that include hazardous materials is not known, but if it is assumed that it remains constant, transport of hazardous materials would be expected to triple along with other container traffic. In addition to container traffic, hazardous materials are transported via company trucks (for example gas companies transport gasoline, diesel and other flammable substances) and various industrial users transport materials for their businesses (raw materials and waste products).

Reducing conflicts between goods movement and people movement is critical to realize a safer system for users. In 2016, there were nearly 3,700 truck-involved accidents[90] in the SCAG region, an increase of 22.8 percent versus 2012, and more than 130 of them resulted in fatalities.[91] A greater separation of passenger and goods movement is envisioned in the Plan to make the system safer for all users.

Regional goods movement strategies should also mitigate neighborhood and community impacts to the maximum extent possible by selecting the least intrusive alignments for new facilities, seeking shared-use corridors (e.g., rail and truck, transportation and utility), and separating modal system conflicts. The California Air Resources Board (CARB) plans to release a freight handbook in early 2020 that will offer communities recommendations on mitigation from freight facilities. This is consistent with the Plan which offers an aggressive program of technology research, development, and demonstration aimed at zero emission truck and rail technologies as major elements of the vision.

The construction and maintenance of transportation projects and development projects anticipated to occur under the Plan would potentially involve the use of hazardous materials such as fuels, solvents, paints, and other architectural coatings. The use and storage of these materials is regulated by local fire departments, Certified Unified Program Agencies (CUPAs), and the Cal OSHA. Materials remaining after

90 Another 245 resulted in severe injuries and more than 1,000 others had other visible injuries.

91 With the exception of 2015, the number of fatalities in truck involved collisions has increased annually since 2012. However, the ratio of overall fatalities to truck-involved collisions has remained between 3.6 percent to 3.8 percent for each year besides 2014 (4.1 percent).

project construction can likely be reused on other projects. For materials that cannot be or are not reused, disposal would be regulated by DTSC under state and federal hazardous waste regulations. Additionally, increased transport and handling of hazardous materials particularly by goods movement facilities could result in increased risk of accidental releases reaching neighborhoods and communities adjacent to the transportation facilities).

To accommodate the region's new growth (3.2 million more people by 2045), the Connect SoCal Plan's land use strategies encourage growth adjacent to transit and transportation facilities in order to reduce trips and trip lengths. However, with increasing growth adjacent to such transportation facilities, there would be greater potential risk for exposure of people and property to hazardous materials from the routine transport, use, and disposal of hazardous materials. While the transport, use, and disposal of hazardous materials is heavily regulated as discussed above, and transportation projects and development projects would be required to comply with all existing applicable regulations, due to the volume of transportation projects and large amount of growth anticipated to occur under the Plan, it is possible that significant impacts could occur thus requiring the consideration of mitigation measures.

Mitigation Measures

SCAG Mitigation Measures

SMM HAZ-1: SCAG shall work with the U.S. DOT, the Office of Environmental Service Caltrans, and the private sector to continue to conduct driver safety training programs and enforce speed limits on roadways. In an effort to reduce risks associated with the transport of hazardous materials in the SCAG region, SCAG shall encourage the U.S. Department of Transportation and the California Highway Patrol to continue to enforce speed limits and existing regulations governing goods movement and hazardous materials transportation.

SMM HAZ-2: SCAG shall notify member agencies of the importance of ensuring that construction and operation of transportation projects provide for the safe transport and disposal of hazardous waste, consistent with the provisions of HMR, 49 CFR Parts 171–180.

SMM HAZ-3: SCAG shall coordinate with the Office of Environmental Services to identify any transportation infrastructure elements within the SCAG region where risks to people and property occur at an above-average incident level, potentially warranting consideration for remedial design in future regional transportation plans (RTPs).

Project Level Mitigation Measures

PMM HAZ-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to the routine transport, use, or disposal of hazardous materials, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

a) Where the construction or operation of projects involves the transport of hazardous material, provide a written plan of proposed routes of travel demonstrating use of roadways designated for the transport of such materials.

b) Specify Project requirements for interim storage and disposal of hazardous materials during construction and operation. Storage and disposal strategies must be consistent with applicable federal, state, and local statutes and regulations. Specify the appropriate procedures for interim storage and disposal of hazardous materials, anticipated to be required in support of operations and maintenance activities, in conformance with applicable federal, state, and local statutes and regulations, in the business plan for projects as applicable and appropriate.

c) Submit a Hazardous Materials Business/Operations Plan for review and approval by the appropriate local agency. Once approved, keep the plan on file with the Lead Agency (or other appropriate government agency) and update, as applicable. The purpose of the Hazardous Materials Business/Operations Plan is to ensure that employees are adequately trained to handle the materials and provides information to the local fire protection agency should emergency response be required. The Hazardous Materials Business/Operations Plan should include the following:

- The types of hazardous materials or chemicals stored and/or used on-site, such as petroleum fuel products, lubricants, solvents, and cleaning fluids.
- The location of such hazardous materials.
- An emergency response plan including employee training information.

- A plan that describes the way these materials are handled, transported and disposed.

d) Follow manufacturer's recommendations on use, storage, and disposal of chemical products used in construction.

e) Avoid overtopping construction equipment fuel gas tanks.

f) Properly contain and remove grease and oils during routine maintenance of construction equipment.

g) Properly dispose of discarded containers of fuels and other chemicals.

h) Prior to shipment remove the most volatile elements, including flammable natural gas liquids, as feasible.

i) Identify and implement more stringent tank car safety standards.

j) Improve rail transportation route analysis, and modification of routes based on that analysis.

k) Use the best available inspection equipment and protocols and implement positive train control.

l) Reduce train car speeds to 40 miles per hour when passing through urbanized areas of any size.

m) Limit storage of crude oil tank cars in urbanized areas of any size and provide appropriate security in storage yards for all shipments.

n) Notify in advance county and city emergency operations offices of all crude oil shipments, including a contact number that can provide real-time information in the event of an oil train derailment or accident.

o) Report quarterly hazardous commodity flow information, including classification and characterization of materials being transported, to all first response agencies (49 Code Fed. Regs. 15.5) along the mainline rail routes used by trains carrying crude oil identified.

p) Fund training and outfitting emergency response crews that includes the cost of backfilling personnel while in training.

q) Undertake annual emergency responses scenario/field based training including Emergency Operations Center Training activations with local emergency response agencies.

Level of Significance after Mitigation

As discussed above, regulations and policies would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this EIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis, the volume of transportation projects and amount of growth under the Plan, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts related to routine use, transport or disposal of hazardous waste to be significant and unavoidable.

Impact HAZ-2 **Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.**

Significant and Unavoidable Impact – Mitigation Required.

Implementation of transportation projects included in the Connect SoCal Plan would result in significant impacts by facilitating the movement of goods, including hazardous materials, through the SCAG region. The Plan's land use strategies may guide regional growth, including industrial types of uses that could generate hazardous materials. The region's highway and arterial system covers over 73,000 lane miles and serves more than 63 million trips daily.[92] As a result of anticipated growth that is projected to occur within cities and counties under the Plan in the next 25 years, it is anticipated that there would be a substantial increase in vehicle miles traveled (VMT) by trucks, a common mode of hazardous materials transport, as Plan transportation improvements close critical gaps in the highway network. In addition, freight rail enhancements, truck mobility improvements, intermodal facilities, and other goods movement capacity enhancements are included in the Plan, including new and expanded railyards, additional main line railroad tracks, improved and modernized port terminals and critical bottleneck

92 Southern California Association of Governments. 2019. Highways and Arterials Draft Technical Report.

relief projects on major freeways. Specifically, the Plan proposes to expand near-dock rail and double the capacity of the Intermodal Transfer Container Facility. In order to improve on-road transportation, the Plan has identified 42 heavy duty truck bottlenecks in the region and proposes the Bottleneck Relief Strategy and freight corridors to alleviate truck congestion. Moreover, near the San Pedro Port and the Port of Hueneme, many modernization and new on-road transportation projects have been proposed and are included in the Connect SoCal's Goods Movement Report.[93]

Transportation of goods, in general, and hazardous materials, in particular, can thus be expected to increase substantially with implementation of the transportation projects included in the Plan. It is estimated that daily regional heavy-duty truck vehicle hours of delay (VHD) within the SCAG region would increase from 113,192 in 2019 to 177,459 in 2045, which is an approximately 56 percent increase. Further, the Plan estimates a 300 percent increase in vehicle hours of delay at rail-highway grade crossings in the region by 2045. The past several Plan updates including this one, incorporate dedicated truck lane facilities. These facilities would be aligned to connect freight intensive locations such as the ports, warehousing/distribution center locations and manufacturing locations. They would have fewer ingress/egress locations than typical urban interstates have to smooth the flow of goods in the region. Additional transportation strategies and projects included in the Plan would generally improve transportation safety, thus reducing the likelihood of hazardous material transportation incidents.

Plan projects, including rail-to-rail grade separations, rail operations safety improvements, truck mobility improvements such as truck-only freight corridors, and grade separations of streets and highways from rail lines, could be expected to reduce the level of risk posed by hazardous materials transport by separating freight transportation from other traffic types and reducing the risk of collisions. Such improvements to the transportation system may provide an incentive for even greater goods shipment through the SCAG region, potentially offsetting this benefit. The imposition of tolls or fees for dedicated truck lane facilities may induce the transfer of some freight, including hazardous materials, to rail rather than truck. Federal statistics show that hazardous materials incidents are much less common by rail than on highways. Since most hazardous materials are transported by truck, the majority of incidents related to the movement of hazardous materials occur on highways or in truck terminals. A very small share of hazardous materials transportation incidents are the result of a vehicular crash or derailment (referred to as "accident related"). While 1.5 percent of the incidents in 2016 were accident related, they accounted for

93 See 2020 RTP/SCS Goods Movement Technical Report.

64.3 percent of all property damage. Highway had the highest share of incidents at 90.4 percent but accounted for 60.9 percent of all property damage.[94]

Even with Plan transportation improvements, there remains the potential for significant impacts related to reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment from implementation of transportation projects and development anticipated to occur under the Plan, requiring the consideration of mitigation measures.

Mitigation Measures

SCAG Mitigation Measures

See **SMM HAZ-1** through **SMM HAZ-3.**

Project Level Mitigation Measures

See **PMM HAZ-1.**

PMM HAZ-2: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce hazards related to the reasonably foreseeable upsets and accidents involving the release of hazardous materials, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

Require implementation of safety standards regarding transport of hazardous materials, including but not limited to the following:

a) Removal of the most volatile elements, including flammable natural gas liquids, prior to shipment;

b) More stringent tank car safety standards;

c) Improved rail transportation route analysis, and modification of routes based on that analysis;

d) Utilization of the best available inspection equipment and protocols, and implementation of positive train control;

94 U.S. Department of Transportation, Bureau of Transportation Statistics. 2017. *Freight Facts and Figures*. Available online at: https://rosap.ntl.bts.gov/view/dot/34923, accessed September 5, 2019.

e) Reduced train car speeds to 40 miles per hour when passing through urbanized areas of any size;

f) Limitations on storage of hazardous materials tank cars in urbanized areas of any size and provide appropriate security in storage yards for all shipments;

g) Advance notification to county and city emergency operations offices of all crude oil and hazardous materials shipments, including a contact number that can provide real-time information in the event of an oil train derailment or accident;

h) Quarterly hazardous commodity flow information, including classification and characterization of materials being transported, to all first response agencies (49 Code Fed. Regs. 15.5) along the mainline rail routes used by trains carrying hazardous materials.

Level of Significance after Mitigation

As discussed above, regulations and policies would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this EIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis, the increased truck volumes and increases in passenger and freight rail traffic as a result of implementation of the Plan, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts related to foreseeable accident conditions resulting in the release of hazardous materials to be significant and unavoidable.

Impact HAZ-3 **Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.**

Significant and Unavoidable Impact - Mitigation Required.

Implementation of the transportation projects in the Plan and growth from the Plan could result in significant impacts with regard to emitting hazardous emission or handling of hazardous or acutely hazardous materials, substance, or waste within one-quarter mile of an existing or proposed school. Transportation and development projects may result in the use, transport and/or storage of hazardous materials. Using SCAG's GIS data, the Plan's network of transportation projects was overlaid on the

region to determine the potential for effects related to hazardous materials emissions to impact schools. Results of the GIS analysis show that under the Plan, approximately 36 existing kindergarten through 12th-grade schools are within a one-quarter mile buffer of the transportation projects included in the Plan (see **Table 3.9-4, School, Hospitals, and Nursing Homes within One-Quarter Mile of Connect SoCal Transportation Projects**).

Increased transport of hazardous materials carried on existing roadways could affect adjacent land uses including along existing facilities within one-quarter mile of schools if there were to be a release or incident during transportation. Changes in air toxics and potential impacts on sensitive receptors (including schools) is discussed in **Section 3.3, Air Quality**. In general, the transport, use, and storage of hazardous materials is heavily regulated as described in the regulatory framework section above, to ensure that hazardous materials do not pose a significant risk to nearby receptors including schools.

However, due to the number of transportation projects and more dense, compact urban development encouraged by land use strategies in the Plan, there would be the potential for significant impacts related to the emission of hazardous materials or the handling of hazardous or acutely hazardous materials, substances, or wastes within one-quarter mile of an existing or proposed school, requiring mitigation measures.

Table 3.9-4
School, Hospitals, and Nursing Homes within One-Quarter Mile of Connect SoCal Transportation Projects

Mode	Connect SoCal Plan
Colleges	66
Hospitals	117
K-12 Schools	36
Nursing Homes	17
Senior Centers	20
Urgent Care Centers	5

Source: SCAG, 2019: TeleAtlas/TomTom 2018
Note: The above figures account for all types of colleges, hospitals, k-12 schools, nursing homes, senior centers, and urgent care centers.

Mitigation Measures

SCAG Mitigation Measures

See **SMM HAZ-1** through **SMM HAZ-3**.

Project Level Mitigation Measures

See **PMM HAZ-1 and PMM HAZ-2.**

PMM HAZ-3: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to the release of hazardous materials within one-quarter mile of schools, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

a) Where the construction and operation of projects involves the transport of hazardous materials, avoid transport of such materials within one-quarter mile of schools, when school is in session, wherever feasible.

b) Where it is not feasible to avoid transport of hazardous materials, within one-quarter mile of schools on local streets, provide notifications of the anticipated schedule of transport of such materials.

Level of Significance after Mitigation

As discussed above, regulations and policies would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this EIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis, the volume of transportation projects, the more dense and compact urban development resulting from the land use strategies in the Plan, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts related to release of hazardous materials within one-quarter mile of schools to be significant and unavoidable.

Impact HAZ-4 **Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment.**

Significant and Unavoidable - Mitigation Required.

Transportation projects and development projects anticipated to occur under the Plan may have the potential to be located on a site which is included on a list of hazardous materials sites compiled pursuant

to Government Code Section 65962.5 (the Cortese List). The Plan includes transportation system improvements to close critical gaps in the transportation network that currently hinder access to certain parts of the region. Construction related to these transportation projects and anticipated development could involve construction on or adjacent to sites that are contaminated (buildings and/or soil and/or groundwater) due to past use or disposal of hazardous materials. Federal, state, and local laws regulate the remediation of these sites, and it is likely that the majority of contaminated sites have been identified or are easily identifiable from existing information. Given the intensity of past use of land, there are a substantial number of contaminated sites on the Cortese List in the SCAG region (See **Table 3.9-1)**. In urban as well as rural areas, many projects, both transportation and development, would likely need to address at least the potential for contamination. Because of the large number of contaminated sites and the risk associated with encountering and cleaning up of these sites, this impact could be significant.

The land use strategies included in the Plan as well as transportation strategies and investments that are intended to increase mobility and improve accessibility would potentially influence population distribution, resulting in a potentially significant impact related to disturbance of contaminated sites by new urban development, most of which would be in existing urban areas. The land use strategies included in the Plan generally aim to direct future population growth toward high-quality transit areas (HQTAs) in close proximity to transit. Consequently, the redevelopment and reuse of urban infill lands as well as urban opportunity areas that are currently underutilized may become more common as the region grows.

Because Connect SoCal may cause transportation projects and development to be located on sites which are included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, the Plan would have the potential to create a significant hazard to the public or the environment, requiring mitigation measures.

Mitigation Measures

SCAG Mitigation Measures

See **SMM HAZ-1** through **SMM HAZ-3.**

Project Level Mitigation Measures

PMM HAZ-4: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to projects that are located on a site

which is included on the Cortese List, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

a) For any listed sites or sites that have the potential for residual hazardous materials as a result of historic land uses, complete a Phase I Environmental Site Assessment, including a review and consideration of data from all known databases of contaminated sites, during the process of planning, environmental clearance, and construction for projects.

b) Where warranted due to the known presence of contaminated materials, submit to the appropriate agency responsible for hazardous materials/wastes oversight a Phase II Environmental Site Assessment report if warranted by a Phase I report for the project site. The reports should make recommendations for remedial action, if appropriate, and be signed by a Registered Environmental Assessor, Professional Geologist, or Professional Engineer.

c) Implement the recommendations provided in the Phase II Environmental Site Assessment report, where such a report was determined to be necessary for the construction or operation of the project, for remedial action.

d) Submit a copy of all applicable documentation required by local, state, and federal environmental regulatory agencies, including but not limited to: permit applications, Phase I and II Environmental Site Assessments, human health and ecological risk assessments, remedial action plans, risk management plans, soil management plans, and groundwater management plans.

e) Conduct soil sampling and chemical analyses of samples, consistent with the protocols established by the U.S. EPA to determine the extent of potential contamination beneath all underground storage tanks (USTs), elevator shafts, clarifiers, and subsurface hydraulic lifts when on-site demolition or construction activities would potentially affect a particular development or building.

f) Consult with the appropriate local, state, and federal environmental regulatory agencies to ensure sufficient minimization of risk to human health and environmental resources, both during and after construction, posed by soil contamination, groundwater contamination, or other surface hazards including, but not limited to, underground storage tanks, fuel distribution lines, waste pits and sumps.

g) Obtain and submit written evidence of approval for any remedial action if required by a local, state, or federal environmental regulatory agency.

h) Cease work if soil, groundwater, or other environmental medium with suspected contamination is encountered unexpectedly during construction activities (e.g., identified by odor or visual staining, or if any underground storage tanks, abandoned drums, or other hazardous materials or wastes are encountered), in the vicinity of the suspect material. Secure the area as necessary and take all appropriate measures to protect human health and the environment, including but not limited to, notification of regulatory agencies and identification of the nature and extent of contamination. Stop work in the areas affected until the measures have been implemented consistent with the guidance of the appropriate regulatory oversight authority.

i) Soil generated by construction activities should be stockpiled on-site in a secure and safe manner. All contaminated soils determined to be hazardous or non-hazardous waste must be adequately profiled (sampled) prior to acceptable reuse or disposal at an appropriate off-site facility. Complete sampling and handling and transport procedures for reuse or disposal, in accordance with applicable local, state and federal laws and policies.

j) Groundwater pumped from the subsurface should be contained on-site in a secure and safe manner, prior to treatment and disposal, to ensure environmental and health issues are resolved pursuant to applicable laws and policies. Utilize engineering controls, which include impermeable barriers to prohibit groundwater and vapor intrusion into the building.

k) As needed and appropriate, prior to issuance of any demolition, grading, or building permit, submit for review and approval by the Lead Agency (or other appropriate government agency) written verification that the appropriate federal, state and/or local oversight authorities, including but not limited to the Regional Water Quality Control Board (RWQCB), have granted all required clearances and confirmed that the all applicable standards, regulations, and conditions have been met for previous contamination at the site.

l) Develop, train, and implement appropriate worker awareness and protective measures to assure that worker and public exposure is minimized to an

acceptable level and to prevent any further environmental contamination as a result of construction.

m) If asbestos-containing materials (ACM) are found to be present in building materials to be removed, submit specifications signed by a certified asbestos consultant for the removal, encapsulation, or enclosure of the identified ACM in accordance with all applicable laws and regulations, including but not necessarily limited to: California Code of Regulations, Title 8; Business and Professions Code; Division 3; California Health and Safety Code Section 25915-25919.7; and other local regulations.

n) Where projects include the demolitions or modification of buildings constructed prior to 1978, complete an assessment for the potential presence or lack thereof of ACM, lead based paint, and any other building materials or stored materials classified as hazardous waste by state or federal law.

o) Where the remediation of lead-based paint has been determined to be required, provide specifications to the appropriate agency, signed by a certified Lead Supervisor, Project Monitor, or Project Designer for the stabilization and/or removal of the identified lead paint in accordance with all applicable laws and regulations, including but not necessarily limited to: California Occupational Safety and Health Administration's (Cal OSHA's) Construction Lead Standard, Title 8 California Code of Regulations (CCR) Section 1532.1 and Department of Health Services (DHS) Regulation 17 CCR Sections 35001–36100, as may be amended. If other materials classified as hazardous waste by state or federal law are present, the project sponsor should submit written confirmation to the appropriate local agency that all state and federal laws and regulations should be followed when profiling, handling, treating, transporting, and/or disposing of such materials.

Level of Significance after Mitigation

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

feasible. However, because of the regional nature of the analysis, the number of contaminated sites on the Cortese List in the region, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts related to being located on a hazardous materials site to be significant and unavoidable.

Impact HAZ-5 **For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area.**

Significant and Unavoidable – Mitigation Required.

The Plan would not in itself result in a safety hazard; however, increased population growth that would occur by 2045 would result in increased air traffic in major commercial airports in Southern California. Air travel in the SCAG region continues to grow. The 2020 Plan's regional air passenger demand forecast is 197.14 million annual passengers (MAP) in 2045, and the Plan's air cargo demand is approximately 7.77 million tons in 2045. The MAP forecast is higher than the previously adopted 2016 RTP/SCS's number of 136.2 MAP adopted for 2040, and the air cargo demand is similarly higher than what was adopted in the previously adopted 2016 RTP/SCS (approximately 3.78 million metric tons in 2040). Aircraft operations are not anticipated to grow as fast as passenger growth, but are still expected to grow -- from 3.7 million in 2017 to 4.58 million in 2045,[95]

There are 57 public and private airports in the SCAG region, including 12 major airports serving the region **(Figure 3.9-1).** The Plan's land use strategies generally aim to focus growth in HQTAs and transit priority areas (TPAs) in locations away from airport clear zones and accident potential zones. Encouraging and distributing new growth in HQTAs and TPAs is expected to decrease the number of Southern California residents' proximity to airports and potential for safety risks and hazards associated with air traffic.

In addition, most major public airports are required to implement an Airport Land Use Compatibility Plan which regulates safety and land use in adjacent areas. As explained in the Connect SoCal Aviation and Airport Ground Access Technical Report,[96] existing law mandates the creation of an ALUCP to coordinate planning for areas that surround public use airports. The ALUCP protects the public by minimizing their exposure to excessive noise[97] and safety hazards within these areas. See **Section 3.13**

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95 Southern California Association of Governments. 2019. *Aviation and Airport Ground Access Draft Technical Report*.

96 Southern California Association of Governments. 2019. *Aviation and Airport Ground Access Draft Technical Report*.

97 Noise impacts related to airports/aircraft are specifically discussed in **Section 3.13, Noise.**

Noise, Impact NOI-3 for a further discussion noise impacts from airports/aircrafts**.** However, it is conservatively assumed sensitive receptors may experience a greater risk to hazard impacts than at present in the vicinity of airports resulting in significant impacts.

Mitigation Measures

SCAG Mitigation Measures

SMM NOISE-1

SMM HAZ-5: SCAG shall continue to collaborate with key stakeholders on regional aviation planning issues through the Aviation Technical Advisory Committee (ATAC). The ATAC is a partnership between the airports, transportation agencies and commissions, experts, and other community members.

Project Level Mitigation Measures

PMM NOISE-1

Level of Significance after Mitigation

As discussed above, regulations and policies would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this EIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts related to safety hazards and excessive noise in proximity to airports to be significant and unavoidable.

Impact HAZ-6 Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

Significant and Unavoidable - Mitigation Required.

The Plan would result in significant impacts in regards to impairing implementation of or physically interfering with an adopted emergency response plan or emergency evacuation plan. SCAG does not have a direct role as first response or emergency management, however SCAG can facilitate policy forums to help develop regional consensus and education on security policies and emergency responses,

assist in expediting the planning and programming of transportation infrastructure repairs after any major disasters, and leverage projects and planning functions that benefit transportation security efforts and emergency services.

Section 3.15, Public Services Fire, addresses the potential for the Plan to result in substantial physical impacts associated with the construction of new or physically alter fire stations that would be required to maintain acceptable service ratios and response time for fire protective services. Additionally, the county general plans include Safety Elements that discuss critical infrastructure systems and services to assure adequate circulation, communications, and transportation services. Depending upon the timing, location, and duration of construction activities from transportation projects included in the Plan, traffic and/or road closures in grade crossings, arterials, interchanges, and auxiliary lanes, could delay emergency vehicle response times or otherwise disrupt delivery of emergency response services. By closing off one or more lanes of a roadway during project construction, emergency routes could be impaired. The closure of these lanes could potentially cause traffic delays and ultimately prevent access to calls for service. **Section 3.20 Wildfire**, discusses the county general plans and specific policies or goals within each to minimize the potential for personal risk and property damage from natural or manmade disasters. For example, the Ventura County General Plan includes a policy that requires "new residential subdivisions to provide not less than two means of access for emergency vehicles and resident evacuation."[98]

Goals, objectives, and policies of the Safety Elements of local general plans and other plans such as the Los Angeles County Operational Area Emergency Response Plan (ERP)[99] provide guidance during unique situations requiring an unusual or extraordinary emergency response. In Los Angeles County, the most populous county in the SCAG region, implementation of the ERP would incorporate and coordinate all the facilities and personnel of County government, along with the jurisdictional resources of the cities and special districts within the County, into an efficient Operational Area organization capable of responding to any emergency using a Standard Emergency Management System,[100] mutual aid and other appropriate response procedures.

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98 Ventura County. 2019. *Ventura County 2040 General Plan Preliminary Public Review Draft*. Available online at: https://vc2040.org/images/2040_General_Plan_Files_-_May_2019/PPRD_2040_General_Plan_COMPLETE-compressed.pdf, accessed September 16, 2019.

99 County of Los Angeles. 1998. *Los Angeles County Operational Area Emergency Response Plan*. Available online at: https://www.caloes.ca.gov/AccessFunctionalNeedsSite/Documents/LA%20County%20OA%20Emergency%20Response%20Plan.pdf, accessed October 24, 2019.

100 California Office of Emergency Services. 2019. *Standardized Emergency Management System*. Available online at: https://www.caloes.ca.gov/cal-oes-divisions/planning-preparedness/standardized-emergency-management-system, accessed October 24, 2019.

Cities generally provide procedures for coordination among neighboring City agencies and other jurisdictions to provide mutual assistance in the event of an emergency or natural disaster and establishment of disaster recovery programs. Compliance with these policies and plans would minimize potential interference with the City and County emergency response plans from construction and operational activities resulting from implementing the Plan.

Larger cities (such as the City of Los Angeles, the largest city in the SCAG region) have an Emergency Operations Organization (EOO).[101] The City of Los Angeles EOO implements the goals and policies of the City's Safety Element. The Safety Element outlines the scope of the EOO's on-going efforts to use experiences and new information to improve the City's hazard program. The City of Los Angeles EOO Master Plan and individual agency Emergency Response Plans set forth procedures for City personnel to follow in the event of an emergency situation stemming from natural disasters, technological incidents and nuclear defense operations, and other unforeseeable disasters or crises. The City of Los Angeles Department of Transportation and LAFD are responsible for ensuring that future development does not impair or physically interfere with an adopted emergency response or evacuation plan.

The Plan's land use strategies generally aim to focus new growth in areas well-served by transit, and HQTAs including livable corridors, that allow residents to be closer to jobs and recreational and active transportation amenities and opportunities, to increase mobility and accessibility, and to shift growth away from high value habitat areas. Thus, if the Plan's land use strategies are implemented, population density in urbanized areas would increase which may improve emergency response by eliminating the need to travel to more rural and dispersed locations in the region. Alternatively, large concentrations of people could also cause adverse effects related to implementation of emergency plans because the increased population may overburden adopted evacuation routes and other emergency response resources during emergency conditions.

The proposed transportation projects would generally increase mobility and circulation capacity and may therefore have the potential to improve response times for police, fire and emergency service providers. However, despite the efforts of the land use strategies and transportation projects included in the Plan, congestion would likely increase in existing and new urban development, like HQTAs, and existing communities in cities and counties in the SCAG region, which could adversely affect emergency access.

As part of standard development procedures in most cities, plans are submitted for review and approval to ensure all new development has adequate emergency access and escape routes (clearly marked and delineated) in compliance with existing regulations. The Plan would not introduce any features that

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101 City of Los Angeles. *Emergency Operations Organization*. Available online at: https://emergency.lacity.org/eoo, accessed October 24, 2019.

would preclude implementation of or alter these policies or procedures in any way, or impair implementation of, or physically interfere with the SEP or the ERP (and similar county-wide plans).

While the Plan would increase hours of delay at the regional level, there is no direct relationship between increased travel delay and emergency response times as California State law requires that drivers yield the right-of-way to emergency vehicles and remain stopped until the emergency vehicles have passed. The impact on response times and overall fire service is not proportional to increasing traffic (see **Section 3.17, Transportation, Traffic and Safety,** of this PEIR, for additional discussion about how the Plan would affect traffic). Generally, multi-lane arterial roadways allow emergency vehicles to travel at higher speeds and permit other traffic to maneuver out of the path of the emergency vehicle. On congested roadways, multi-lane arterial roadways with continuous center left-turn lanes facilitate emergency access when the thru lanes experience delays. Nonetheless, the potential exists for the Plan to interfere with emergency response plans, mitigation is required.

Mitigation Measures

SCAG Mitigation Measures

See **SMM HAZ-1** through **SMM HAZ-5 and SMM TRA-5.**

Project Level Mitigation Measures

See **PMM HAZ-1** through **PMM HAZ-4 and PMM TRA-5**.

PMM HAZ-5: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects which may impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

a) Continue to coordinate locally and regionally based on ongoing review and integration of projected transportation and circulation conditions.

b) Develop new methods of conveying projected and real time information to citizens using emerging electronic communication tools including social media and cellular networks;

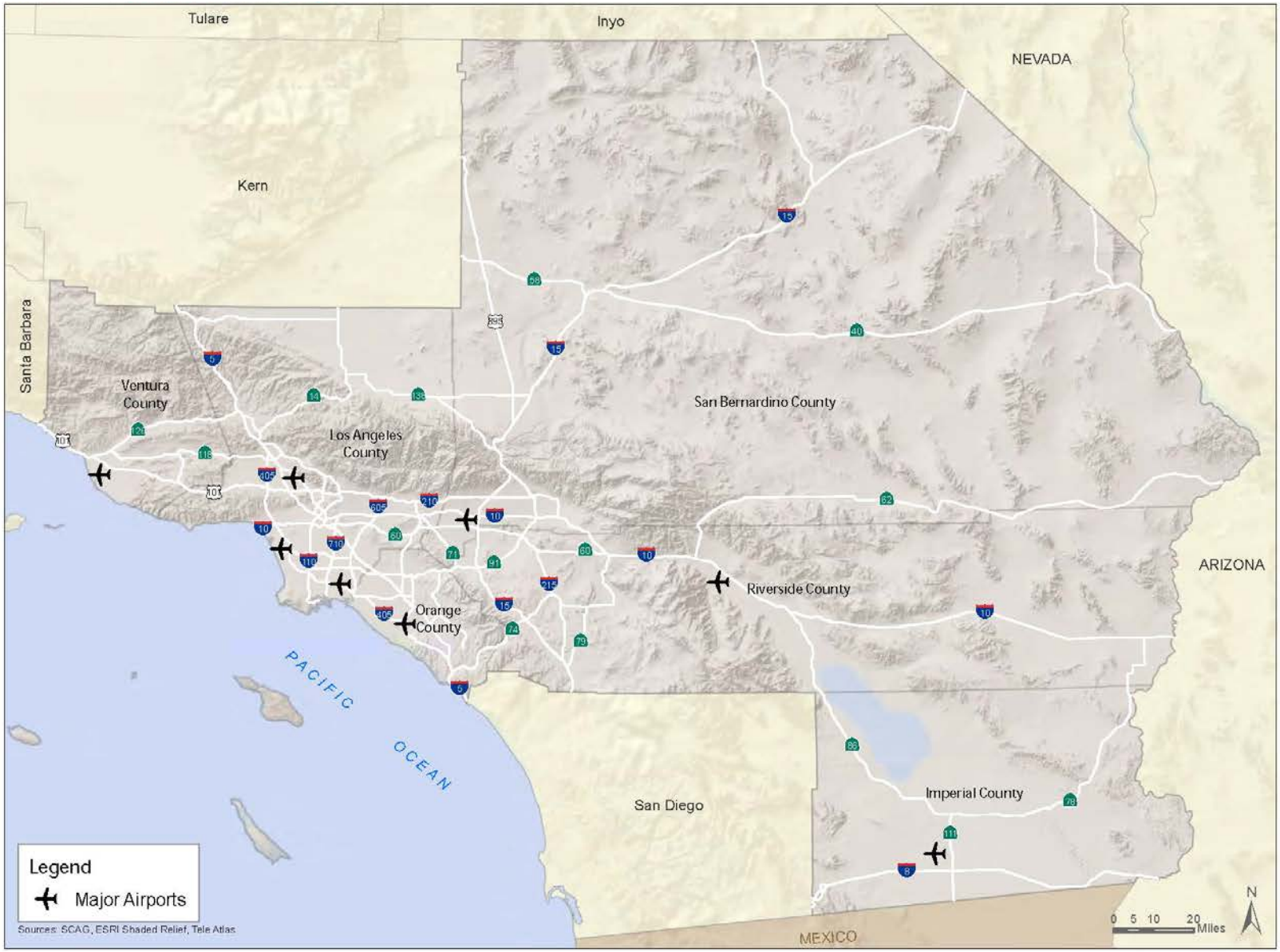
c) Continue to evaluate lifeline routes for movement of emergency supplies and evacuation.

Level of Significance after Mitigation

As discussed above, regulations and policies would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this EIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis, the Plan's potential to result in increased congestion, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts related to emergency response to be significant and unavoidable.

Impact HAZ-7 **Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.**

This question is addressed in **Section 3.20, Wildfire**, **Impact WF-2**.



SOURCE: SCAG, ESRI Shaded Relief, Tele Atlas, 2012

FIGURE **3.9-1**

Major Airports in SCAG Region

IMPACT SCIENCES

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3.9.4 SOURCES

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3.10 HYDROLOGY AND WATER QUALITY

This section of the Program Environmental Impact Report (PEIR) describes the existing hydrology and water quality conditions within the SCAG region, identifies the regulatory framework with respect to laws and regulations that affect hydrology and water quality, and analyzes the potential impacts of the Connect SoCal Plan (Connect SoCal"; "Plan") to affect water quality, result in substantial siltation or erosion or flooding due to the alteration of drainage patterns, and deplete groundwater supplies or interfere with groundwater recharge. In addition, this PEIR provides regional-scale mitigation measures, as well as project-level mitigation measures for subsequent, site-specific environmental review to reduce identified impacts as appropriate and feasible.

3.10.1 ENVIRONMENTAL SETTING

3.10.1.1 Definitions

Definitions of terms used in the regulatory framework, characterization of baseline conditions, and impact analysis for hydrology and water quality are provided.

Best Management Practices (BMPs): For purposes of this PEIR, A BMP is any program, technology, process, siting criteria, operating method, measure, or device that controls, prevents, removes, or reduces storm water pollution. Generally, BMPs focus on water quality problems caused by increased impervious surfaces from land development. BMPs are designed to reduce stormwater volume, peak flows, and/or nonpoint source pollution through evapotranspiration, infiltration, detention, and filtration or biological and chemical actions.

Ephemeral Drainages: An ephemeral stream or drainage has flowing water only during, and for a short duration after, precipitation events in a typical year. Ephemeral stream beds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.

Hydrologic Unit Code (HUC): The United States is divided and sub-divided into successively smaller hydrologic units which are classified into four levels: regions, sub-regions, accounting units, and cataloging units. The hydrologic units are arranged or nested within each other, from the largest geographic area (regions) to the smallest geographic area (cataloging units). Each hydrologic unit is identified by a unique hydrologic unit code (HUC) consisting of two to eight digits based on the four levels of classification in the hydrologic unit system.

1. The first level of classification divides the United States into 21 major geographic areas, or regions. These geographic areas contain either the drainage area of a major river, such as the Missouri region, or the combined drainage areas of a series of rivers, such as the California region.

2. The second level of classification divides the 21 regions into 221 subregions. A subregion includes the area drained by a river system, a reach of a river and its tributaries in that reach, a closed basin(s), or a group of streams forming a coastal drainage area.

3. The third level of classification subdivides many of the subregions into accounting units. These 378 hydrologic accounting units are nested within, or can be equivalent to the subregions.

4. The fourth level of classification is the cataloging unit, the smallest element in the hierarchy of hydrologic units. A cataloging unit is a geographic area representing part or all of a surface drainage basin, a combination of drainage basins, or a distinct hydrologic feature. There are 2,264 Cataloging Units in the country.

Impaired Waters: Under section 303(d) of the Clean Water Act, states, territories, and authorized tribes are required to develop lists of impaired waters. These are waters that are too polluted or otherwise degraded to meet the water quality standards of the jurisdiction. The law requires that these jurisdictions establish priority rankings for waters on the lists and develop Total Maximum Daily Loads (TMDLs) for these waters.

Mudflow: Mudflows result from the downslope movement of soil and/or rock under the influence of gravity.

National Flood Insurance Program (NFIP): The National Flood Insurance Program aims to reduce the impact of flooding on private and public structures. It does so by providing affordable insurance to property owners, renters and businesses and by encouraging communities to adopt and enforce floodplain management regulations.

Non-Point Source Runoff: Runoff that occurs on surfaces before reaching a channel is also called a nonpoint source. If a nonpoint source contains man-made contaminants, the runoff is called nonpoint source pollution. A land area which produces runoff that drains to a common point is called a drainage basin. When runoff flows along the ground, it can pick up soil contaminants including, but not limited to, petroleum, pesticides, or fertilizers that become discharge or nonpoint source pollution.

Perennial Stream: A perennial stream has flowing water year-round during a typical year. The water table is located above the stream bed for most of the year. Groundwater is the primary source of water for stream flow. Runoff from rainfall is a supplemental source of water for stream flow.

Runoff: Runoff is the water flow that occurs when the soil is infiltrated to full capacity and excess water from rain, meltwater, or other sources flows over the land. This is a major component of the water cycle, and the primary agent in water erosion. In addition to causing water erosion and pollution, surface runoff in urban areas is a primary cause of urban flooding, which can result in property damage, damp and mold in basements, and street flooding.

Regional Water Quality Control Board: As a result of the Porter-Cologne Act, nine RWQCBs were established that exercise rulemaking and regulatory activities by basin. Each RWQCB conducts a broad range of activities to protect ground and surface water resources within their respective jurisdictions. Six of the nine RWQCBs (either wholly or in part) have jurisdiction that includes portions of the SCAG region as shown in **Figure 3.10-1, Regional Water Quality Control Boards:**

- *Region 3—Central Coast RWQCB.* The Central Coast RWQCB jurisdiction includes Santa Clara (south of Morgan Hill), San Mateo (southern portion), Santa Cruz, San Benito, Monterey, Kern (small portions), San Luis Obispo, Santa Barbara, Ventura (northern portion) counties.
- *Region 4—Los Angeles RWQCB.* The Los Angeles RWQCB jurisdiction includes the coastal watersheds of Los Angeles and Ventura Counties, along with very small portions of Kern and Santa Barbara Counties.
- *Region 6—Lahontan RWQCB.* The jurisdiction of the Lahontan RWQCB extends from the Oregon border to the northern Mojave Desert and includes all of California east of the Sierra Nevada crest, including San Bernardino County and northeastern Los Angeles County.
- *Region 7—Colorado River RWQCB.* The Colorado River RWQCB jurisdiction includes Imperial, San Bernardino, Riverside, and San Diego counties.
- *Region 8—Santa Ana RWQCB.* The Santa Ana RWQCB jurisdiction includes Orange, Riverside, and San Bernardino counties.
- *Region 9—San Diego RWQCB.* The San Diego RWQCB includes San Diego, Imperial, and Riverside counties.

Seiche: A seiche is an oscillation of a body of water in an enclosed or semi-enclosed basin, such as a reservoir, harbor, lake, or storage tank.

Storm Water Pollution Prevention Plan (SWPPP): A plan created by constructors to show their plans for sediment and erosion control. Typically, these plans are part of an overall design that details procedures to be followed during various phases of construction. This is required by a federal regulation governing stormwater runoff from active construction sites that are more than one acre in area.

Total Maximum Daily Loads (TMDL): A TMDL is a calculation of the maximum amount of a pollutant that a water body can receive and still safely meet water quality standards.

Tsunami: A tsunami is a great sea wave produced by a significant undersea disturbance.

Waters of the United States: the definition of "waters of the United States" are regulatory definitions of "waters of the United States" are those portions of 33 CFR part 328 and 40 CFR parts 110, 112, 116, 117, 122, 230, 232, 300, 302, and 401 as they existed immediately prior to the 2015 Rule's amendments (see discussion below in Regulatory Background). For example, pursuant to 40 CFR 230.3(s), the term "waters of the United States" means:

1. All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

2. All interstate waters including interstate wetlands;

3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:

    a. Which are or could be used by interstate or foreign travelers for recreational or other purposes; or

    b. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or

    c. Which are used or could be used for industrial purposes by industries in interstate commerce;

4. All impoundments of waters otherwise defined as waters of the United States under this definition;

5. Tributaries of waters identified in paragraphs (s)(1) through (4) of this section;

6. The territorial sea;

7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (s)(1) through (6) of this section; waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 423.11(m) which also meet the criteria of this definition) are not waters of the United States.

3.10.1.2 Hydrologic Regions

The Department of Water Resources (DWR) has divided the state into ten hydrologic regions, corresponding to the state's major water drainage basins. The SCAG region is divided into four hydrologic regions: Central Coast, Colorado River, South Coast, and South Lahotan. The hydrologic regions are described below.[1]

Central Coast

The Central Coast Hydrologic Region runs along California's central coast, stretching from Santa Cruz County down to Santa Barbara County and the northwest corner of Ventura County. Due to the thriving agriculture and viticulture business in the area, the region is the most groundwater-dependent hydrologic region in California. Approximately 80 percent of water demands in the region are met via groundwater extraction. Additional water is supplemented from the State Water Project (SWP) and the Central Valley Project. Due to the extent of groundwater extraction, the Central Coast faces challenges such as groundwater basin overdraft, seawater intrusion, and water quality degradation.[2]

Colorado River

The Colorado River Hydrologic Region covers approximately 13 million acres of southeast California. Imperial County, and large parts of Riverside and San Bernardino counties are within this hydrologic region. It is the most arid hydrologic region in California, with less than an average of six inches of precipitation falling annually. Groundwater aquifers are a vital water resource for communities in the area, as is the Colorado River, which serves as the main tributary of the region. Overdraft and leaking underground storage tanks pose legitimate issues to water availability and quality in the region.[3]

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1 Public Policy Institute of California. *California Hydrologic Regions and Counties*. Available online at: https://www.ppic.org/map/california-hydrologic-regions-and-counties/, accessed August 27, 2019.

2 Department of Water Resources. *California Water Update 2018: Central Coast Hydrologic Region Report*. October. Available online at: cwpcom@water.ca.gov, accessed August 27, 2019.

3 Ibid

South Coast

The South Coast Hydrologic Region is comprised of approximately 6.8 million acres in the southwestern portion of the state. The region is bounded to the south by Mexico and the Pacific Ocean to the west. Most of the region falls within SCAG's jurisdiction, including parts of Ventura, Orange, Los Angeles, Riverside, and San Bernardino counties. Approximately 50 percent of the population of California lives within this region and as such, it maintains the highest population density of any hydrologic region. Groundwater provides about 25 percent of water demand in the region, which contains 56 delineated groundwater basins.[4]

South Lahontan

The South Lahontan Hydrologic Region covers over 21 million acres of eastern California. The region contains the highest (Mount Whitney) and lowest (Death Valley) surface elevations of the state and the contiguous U.S. Annual precipitation is approximately eight inches and a significant amount of water rights in the region belong to the Los Angeles Department of Water and Power (LADWP). SCAG counties within the South Lahontan Hydrologic Region include San Bernardino and Los Angeles. The 223-mile long Los Angeles Aqueduct is the region's major water development feature. The aqueduct system provides large quantities of power and water to the region, though 41 percent of water supply is provided by groundwater.[5]

3.10.1.3 Regional Water Quality Control Boards

The four hydrologic regions in the SCAG region are managed by six Regional Water Quality Control Boards (RWQCBs): The Central Coast, Los Angeles, Lahontan, Colorado River, Santa Ana and the San Diego RWQCB. The purpose of the RWQCBs is to manage and improve water supplies within the region, by addressing groundwater pumping, water quality protection and restoration, and sharing information between water boards across the state. Each board has seven part-time board members, appointed by the Governor, who make critical decisions including setting water quality standards, issuing permits, and determining and enforcing compliance. Furthermore, each RWQCB completes, reviews, and updates a Basin Plan, designed specifically to each region's climate and topography. Basin Plans are designed to preserve and enhance water quality, as well as protect the beneficial uses of all regional waters. Each Basin Plan designates beneficial uses, sets protection goals to comply with the state's anti-degradation policy, and describes protection programs. By incorporating all applicable water rules and regulations, the Basin Plans serve as a resource for agencies involved with water, wastewater, discharge,

4 Ibid

5 Ibid

environmental permitting, and resource management, as well as the public interested in local water quality issues.

3.10.1.4 Surface Hydrology

Surface water hydrology refers to surface water systems, including watersheds, floodplains, rivers, streams, lakes, and reservoirs.

Watersheds

Watersheds refer to areas of land, or a basin, in which all waterways drain to one specific outlet, or body of water, such as a river, lake, ocean, or wetland. Watersheds have topographical divisions such as ridges, hills, or mountains. All precipitation that falls within a given watershed, or basin, eventually drains into the same body of water. As shown in **Figure 3.10-2, Watersheds in the SCAG Region**, there are 19 watersheds in the SCAG region: the Aliso-San Onofre Watershed, Antelope-Fremont Valleys Watershed, Ballona Creek Watershed, Calleguas Creek Watershed, Imperial Reservoir Watershed, Los Angeles River Watershed, Lower Colorado Watershed, Malibu Creek Watershed, Mojave Watershed, Newport Bay Watershed, Salton Sea Watershed, Santa Ana River Watershed, Santa Clara River Watershed, San Gabriel River Watershed, San Jacinto Watershed, Santa Monica Bay Watershed, Seal Beach-Westminster Watershed, Southern Mojave Watershed, Ventura River Watershed.[6]

Watersheds are an essential part of the landscape, ecological composition, economy, and life, especially in Southern California and the SCAG region where arid conditions place great emphasis on the necessity of water. Unfortunately, water resources in the SCAG region have been degraded by a multitude of factors. Agricultural run-off, mining operations, loss of habitat, illegal dumping, and eutrophication are just some of the causes of impaired water quality. As climate change affects precipitation patterns and drought conditions become more severe, water resources must be carefully managed to ensure their protection. In particular, groundwater pumping must be performed with caution so as to prevent saltwater intrusion or permanent aquifer subsidence.

Drainages

Despite its primarily arid climate, the SCAG region has a variety of surface water resources, such as creeks, rivers, lakes, and reservoirs. Due to the dry climate of the region, many rivers and creeks are intermittent or ephemeral, drying up in the summer or flowing only in reaction to precipitation. Annual

6 USGS. 2018. *Watershed Boundary Dataset.* Available online at: https://www.usgs.gov/core-science-systems/ngp/national-hydrography/watershed-boundary-dataset?qt-science_support_page_related_con=4#qt-science_support_page_related_con, accessed January 10, 2019.

rainfall amounts vary depending on elevation and proximity to the coast. Some waterways in the region, like the Los Angeles River, maintain a perennial flow due to agricultural irrigation and urban landscape watering.

Most waterways in California have been diverted for agricultural and economic purposes. Within the SCAG region, surface waters such as Los Angeles River, San Gabriel River, and the San Jacinto River have been dammed, redirected, and paved for human uses and as flood control measures. The Salton Seas is a man-made inland sea that resulted from the diversion of the Colorado River around 1905. The drainage reservoir serves Imperial County and would dry up without agricultural runoff flows.[7] Other major natural surface waters like the Ventura River, Santa Clara River, Santa Ana River, and portions of the Santa Margarita River maintain more natural conditions and flows and support aquatic species and natural habitats. All surface water drainages suffer from water quality impacts such as overuse, erosion, and illegal dumping.

Lakes and Reservoirs

Most lakes in southern California have been generated by humans, through manual digging and/or the damming of rivers across the state. Lakes and reservoirs serve as important habitat as well as recreational purposes; however, the most vital uses include agricultural irrigation, flood control, and drinking water, all of which are imperative to life in the semi-arid climate. Major lakes in the SCAG region include Big Bear Lake, Lake Arrowhead, Lake Casitas, Diamond Valley Lake, and the Salton Sea.

Big Bear Lake and Lake Arrowhead are located in San Bernardino County and were created via the damming of rivers. Big Bear Lake was created in 1884 and has no tributary inflow, replenishing itself solely by snowmelt. The dam at Lake Arrowhead was completed in 1922 and the lake is still used for recreation and potable water. Damming also created Lake Casitas in Ventura County[8] and the Salton Sea, which is one of the saltiest bodies of water on earth due to evaporation and agricultural runoff.[9] Diamond Valley Lake is the newest and largest reservoir in Southern California, holding 800,000 acre-feet (af) of water. While the lake is situated in Riverside County, it is connected to the State Water Project

7 The Salton Sea Authority. *Timeline of Salton Sea*. Available online at: http://saltonseaauthority.org/get-informed/history/, accessed August 27, 2019.

8 U.S. Bureau of Reclamation. *Casitas Dam*. Available online at: https://www.usbr.gov/projects/index.php?id=276, accessed August 27, 2019.

9 The Salton Sea Authority. *Timeline of Salton Sea*. Available online at: http://saltonseaauthority.org/get-informed/history/, accessed August 27, 2019.

(SWP) and serves as an important resource for potable water and hydroelectric power throughout the SCAG region.[10]

Coastal Waters

Three counties in the SCAG region border the Pacific Ocean and contain coastal waters such as bays, estuaries, beaches, and open ocean. Santa Monica Bay comprises a large portion of the region's open coastal waters and important harbors include the Los Angeles/Long Beach Harbor complex and Port Hueneme. Important estuaries, providing unique and critical habitat for wildlife, include coastal lagoons and wetlands. Unfortunately, coastal wetlands are negatively impacted by run-off, discharges, oil spills, dredging, illegal dumping, and natural oil seeps.[11]

Federally Protected Wetlands and Waterways

Under Section 404 of the Clean Water Act (CWA)[12] and Section 10 of the Rivers and Harbors Act,[13] some wetlands and waterways are federally protected by the U.S. Army Corps of Engineers (USACE). Parties must obtain special permits for discharging dredged or fill materials or pollutants into designated waters, intensifying protections for such wetlands and waterways. Designated wetlands and waterways in the SCAG region are identified in **Table 3.10-1, Federally Protected Wetlands and Waterways within the SCAG Region**, below.

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10 Diamond Valley Lake. *How Deep is the Lake*. Available online at: http://www.dvlake.com/general_info02.html, accessed August 27, 2019.

11 State Water Resources Control Board. 2014. *Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties Chapter 1: Introduction*. Available at: https://www.waterboards.ca.gov/losangeles/water_issues/programs/basin_plan/electronics_documents/FinalRevisedChapter1Text.pdf, accessed September 10, 2019.

12 U.S. Environmental Protection Agency. *Overview of Clean Water Act Section 404*. Available online at: https://www.epa.gov/cwa-404/overview-clean-water-act-section-404, accessed August 27, 2019.

13 U.S. Environmental Protection Agency. *Section 10 of the Rivers and Harbors Appropriation Act of 1899*. Available online at: https://www.epa.gov/cwa-404/section-10-rivers-and-harbors-appropriation-act-1899, accessed September 3, 2019.

Table 3.10-1
Federally Protected Wetlands and Waterways within the SCAG Region

Major River or Lake	Acres	Linear Miles
Imperial County		
Salton Sea	190,391.60	—
Los Angeles County		
Castaic Lake	2,230.82	—
Morris Reservoir	283.42	—
Puddingstone Reservoir	243.77	—
Pyramid Lake	1,177.31	—
San Gabriel Reservoir	524.85	—
Los Angeles River	—	50.73
San Gabriel River	—	59.19
Santa Clara River	—	43.86
Orange County		
Irvine Lake	445.54	—
San Gabriel River	—	0.35
Santa Ana River	—	27.18
Riverside County		
Diamond Valley Lake	4,057.69	—
Lake Elsinore	3,308.69	—
Lake Matthews	2,666.79	—
Perris Reservoir	1,920.63	—
Salton Sea	42,537.27	—
Skinner Reservoir	790.46	—
Vail Lake	257.23	—
Santa Ana River	—	24.43
Santa Margarita River	—	5.14
San Bernardino County		
Big Bear Lake	2,692.69	—
Lake Arrowhead	735.62	—
Silverwood Lake	905.09	—
Santa Ana River	—	43.86
Ventura County		
Lake Casitas	2,446.81	—
Lake Piru	1,220.91	—
Santa Clara River	—	39.27
TOTAL	258,837.19	294.00

Source:
U.S. Geological Survey (USGS). 2018. National Hydrology Dataset. Available online at: http://nhd.usgs.gov/data.html, accessed January 10, 2019.

3.10.1.5 Groundwater Hydrology

Groundwater accounts for most of the local fresh water within the SCAG region. The Central Coast and South Lahontan watersheds most heavily rely on groundwater for urban and agricultural use, although all four watersheds are dependent upon it. Drought conditions in recent years have led to groundwater overdraft and associated subsidence, in which the groundwater basin collapses with dirt and renders it unusable. Improved groundwater management and water reduction measures, as well as wet weather conditions, have assisted in lessening groundwater overdraft, however, it is still a major concern within the SCAG region and across the state, as climate change leads to more severe and volatile weather patterns and the population of the area continues to expand.[14]

3.10.1.6 Water Quality

Point and non-point source pollution are different forms of pollution which can damage surface water and are regulated at the federal and local level. Point source pollution refers to contaminants that enter a watershed, usually through a specific location such as a pipe. The source must be documented and the flow from the source is subject to a discharge permits issued by a Regional Water Quality Control Board. Examples of point source pollution are discharges from sewage treatment plants and industrial facilities. Because point sources are much easier to regulate than non-point sources, they were the initial focus of the 1972 CWA. Regulation of point sources since then has dramatically improved the water quality of rivers and streams throughout the country.

In contrast to point source pollution, non-point source pollution, also known as "pollution runoff," is diffuse. Non-point pollution comes from areas (such as contaminated runoff from urban areas) and is significantly influenced by land uses. A driveway or the road in front of a house may be a source of pollution if spilled oil, leaves, pet waste, or other contaminants are washed into a storm drain. Non-point source pollution is now considered a major water quality problem in the United States.

The problem of non-point source pollution, specifically runoff pollution is especially acute in urbanized areas where a combination of impermeable surfaces, landscape irrigation, highway runoff, and illicit dumping increase the pollutant loads in stormwater. The California State Water Quality Control Board (SWQCB) has identified the following pollutants found in urban runoff as being of concern:

- **Sediment.** Excessive sediment loads in streams can interfere with photosynthesis, aquatic life respiration, growth, and reproduction.

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14 United States Geological Survey. (USGS). 2018. California Water Data. Available online at: https://ca.water.usgs.gov/data/, accessed January 8, 2019.

- **Nutrients.** Nitrogen and phosphorus can result in eutrophication of receiving waters (excessive or accelerated growth of vegetation or algae), reducing oxygen levels available for other species.
- **Bacteria and viruses.** Pathogens introduced to receiving waters from animal excrement in the watershed and by septic systems can restrict water contact activities.
- **Oxygen demanding substances.** Substances such as lawn clippings, animal excrement, and litter can reduce dissolved oxygen levels as they decompose.
- **Oil and grease.** Hydrocarbons from automobiles are toxic to some aquatic life.
- **Metals.** Lead, zinc, cadmium, and copper are heavy metals commonly found in stormwater. Other metals introduced by automobiles include chromium, iron, nickel, and manganese. These metals can enter waterways through storm drains along with sediment, or as atmospheric deposition.
- **Toxic pollutants.** Pesticides, phenols, and polynuclear aromatic hydrocarbons (PAHs) are toxic organic chemicals found in stormwater.
- **Floatables.** Trash in waterways increases metals and toxic pollutant loads in addition to undesirable aesthetic impacts.

EPA lists impaired and threatened waters under CWA Section 303(d).[15] The state then identifies the pollutant causing the impairment and develops rules and guidelines towards its improvement. There are more than 200 impacted waterways and water bodies within the SCAG region (**Table 3.10-2, Impaired Surface Water Bodies in the SCAG Region**).[16] Poor water management and overuse in Southern California has led to problems with salinity, Polychlorinated biphenyls (PCBs), pathogens and bacteria, overwhelming nutrients, lead, sulfates, uranium, and disinfection biproducts (DBPs).

15 U.S. Environmental Protection Agency. 2018. *Clean Water Act Section 303(d): Impaired Waters and Total Maximum Daily Loads (TMDLs)*. Available online at: https://www.epa.gov/tmdl, accessed August 27, 2019.

16 U.S. Environmental Protection Agency (EPA). 2016. *California Water Quality Assessment Reports*. Available online at: https://ofmpub.epa.gov/waters10/attains_state.control?p_state=CA, accessed January 8, 2019.

Table 3.10-2
Impaired Surface Water Bodies in the SCAG Region

Pollutant	Impaired Water Body
Central Coast	
Boron	Cuyama River (above Twitchell Reservoir)
	Rincon Creek
Colorado River Basin	
Chlordane	Alamo River
	Imperial Valley Drains
DDT (Dichlorodiphenyltrichloroethane)	Coachella Valley Storm Water Channel
	Palo Verde Outfall Drain and Lagoon
Selenium	Colorado River (Imperial Reservoir to California-Mexico Border)
Toxaphene	New River (Imperial County)
Lahontan	
Arsenic	Amargosa River (Upper Canyon to Willow Creek confluence)
Fluoride	Mojave River (Mojave Forks Reservoir outlet to Upper Narrows)
	Mojave River (Upper Narrows to Lower Narrows)
Nitrate	Sheep Creek
Total Dissolved Solids	Crab Creek
	Holcomb Creek
Los Angeles	
Algae	Lindero Creek Reach 1
	Lindero Creek Reach 2 (Above Lake)
	Medea Creek Reach 1 (Lake to Confl. with Lindero)
	Medea Creek Reach 2 (Abv Confl. with Lindero)
	Ventura River Estuary
	Ventura River Reach 1 and 2 (Estuary to Weldon Canyon)
Ammonia	Calleguas Creek Reach 2 (estuary to Potrero Rd- was Calleguas Creek Reaches 1 and 2 on 1998 303d list)
	Calleguas Creek Reach 3 (Potrero Road upstream to confluence with Conejo Creek on 1998 303d list)
	Calleguas Creek Reach 6 (was Arroyo Las Posas Reaches 1 and 2 on 1998 303d list)
	Calleguas Creek Reach 7 (was Arroyo Simi Reaches 1 and 2 on 1998 303d list)
	Calleguas Creek Reach 9B (was part of Conejo Creek Reaches 1 and 2 on 1998 303d list)
	Calleguas Creek Reach 10 (Conejo Creek (Hill Canyon)-was part of Conejo Crk Reaches 2 & 3, and lower Conejo Crk/Arroyo Conejo N Fk on 1998 303d list)
	Calleguas Creek Reach 11 (Arroyo Santa Rosa, was part of Conejo Creek Reach 3 on 1998 303d list)
	Calleguas Creek Reach 12 (was Conejo Creek/Arroyo Conejo North Fork on 1998 303d list)
	Calleguas Creek Reach 13 (Conejo Creek South Fork, was Conejo Cr Reach 4 and part of Reach 3 on 1998 303d list)
	Coyote Creek
	Dominguez Channel (lined portion above Vermont Ave)

Pollutant	Impaired Water Body
	Los Angeles River Reach 1 (Estuary to Carson Street)
	Los Angeles River Reach 2 (Carson to Figueroa Street)
	Los Angeles River Reach 3 (Figueroa St. to Riverside Dr.)
	Los Angeles River Reach 4 (Sepulveda Dr. to Sepulveda Dam)
	Los Angeles River Reach 5 (within Sepulveda Basin)
	San Jose Creek Reach 1 (SG Confluence to Temple St.)
	Santa Clara River Reach 3 (Freeman Diversion to A Street)
	Sepulveda Canyon
	Tujunga Wash (LA River to Hansen Dam)
Beach Closures	Robert H. Meyer Memorial Beach
Benthic-Macroinvertebrate Bioassessments	Arroyo Seco Reach 1 (LA River to West Holly Ave.)
	Compton Creek
	Las Virgenes Creek
	Malibu Creek
	Triunfo Canyon Creek Reach 2
	Walnut Creek Wash (Drains from Puddingstone Res)
Bis(2ethylhexyl)phthalate (DEHP)	Sawpit Creek
Boron	Calleguas Creek Reach 8 (was Tapo Canyon Reach 1)
	Fox Barranca (tributary to Calleguas Creek Reach 6)
	Santa Clara River Reach 11 (Piru Creek, from confluence with Santa Clara River Reach 4 to gaging station below Santa Felicia Dam)
Cadmium	Ballona Creek Estuary
Cadmium (sediment)	Ballona Creek
ChemA (tissue)	Calleguas Creek Reach 5 (was Beardsley Channel on 1998 303d list)
	Calleguas Creek Reach 9A (was lower part of Conejo Creek Reach 1 on 1998 303d list)
	Duck Pond Agricultural Drains/Mugu Drain/Oxnard Drain No 2
	Rio De Santa Clara/Oxnard Drain No. 3
Chloride	Piru Creek (from gaging station below Santa Felicia Dam to headwaters)
	Santa Clara River Reach 5 (Blue Cut gaging station to West Pier Hwy 99 Bridge) (was named Santa Clara River Reach 7 on 2002 303(d) list)
	Santa Clara River Reach 6 (W Pier Hwy 99 to Bouquet Cyn Rd) (was named Santa Clara River Reach 8 on 2002 303(d) list)
	Sespe Creek (from 500 ft below confluence with Little Sespe Cr to headwaters)
Chlorpyrifos (tissue)	Calleguas Creek Reach 4 (was Revolon Slough Main Branch: Mugu Lagoon to Central Avenue on 1998 303d list)
Coliform Bacteria	Arroyo Seco Reach 2 (West Holly Ave to Devils Gate Dam)
	Bell Creek
	Big Rock Beach
	Dan Blocker Memorial (Coral) Beach
	Las Flores Beach
	Leo Carillo Beach (South of County Line)
	Long Point Beach
	Los Angeles River Reach 6 (Above Sepulveda Flood Control Basin)
	Malibu Lagoon Beach (Surfrider)
	Palo Comado Creek

Pollutant	Impaired Water Body
	Redondo Beach
	Rio Hondo Reach 1 (Confl. LA River to Snt Ana Fwy)
	Rio Hondo Reach 2 (At Spreading Grounds)
	San Gabriel River Reach 1 (Estuary to Firestone)
	San Gabriel River Reach 2 (Firestone to Whittier Narrows Dam
	San Jose Creek Reach 2 (Temple to I-10 at White Ave.)
	Santa Clara River Reach 7 (Bouquet Canyon Rd to above Lang Gaging Station) (was named Santa Clara River Reach 9 on 2002 303(d) list)
	Stokes Creek
	Topanga Beach
	Torrance Beach
	Torrance Carson Channel
	Verdugo Wash Reach 1 (LA River to Verdugo Rd.)
	Wilmington Drain
Copper	Aliso Canyon Wash
	Burbank Western Channel
	San Gabriel River Estuary
DDT (Dichlorodiphenyltrichloroethane)	Amarillo Beach
	Bluff Cove Beach
	Cabrillo Beach (Outer)
	Carbon Beach
	Castlerock Beach
	Escondido Beach
	Flat Rock Point Beach Area
	Inspiration Point Beach
	La Costa Beach
	Las Tunas Beach
	Malaga Cove Beach
	Malibu Beach
	Nicholas Canyon Beach
	Paradise Cove Beach
	Point Dume Beach
	Point Fermin Park Beach
	Portuguese Bend Beach
	Puerco Beach
	Royal Palms Beach
	Sea Level Beach
	Trancas Beach (Broad Beach)
	Ventura Marina Jetties
	Whites Point Beach
	Zuma Beach (Westward Beach)
DDT (sediment)	Abalone Cove Beach
Fecal Coliform	Canada Larga (Ventura River Watershed)
	Dry Canyon Creek

Pollutant	Impaired Water Body
	McCoy Canyon Creek
Fish Barriers (Fish Passage)	Matilija Creek Reach 1 (Jct. With N. Fork to Reservoir)
	Matilija Creek Reach 2 (Above Reservoir)
Indicator Bacteria	Artesia-Norwalk Drain
	Avalon Beach
	Bull Creek
	Channel Islands Harbor Beach
	Coyote Creek, North Fork
	Dockweiler Beach
	Hermosa Beach
	Hobie Beach (Channel Islands Harbor)
	Long Beach City Beach
	Lunada Bay Beach
	Manhattan Beach
	Marina del Rey Harbor Beach
	Ormond Beach
	Peninsula Beach
	Point Vicente Beach
	Promenade Park Beach
	Puente Creek
	Resort Point Beach
	Rincon Beach
	San Antonio Creek (Tributary to Ventura River Reach 4)
	San Buenaventura Beach
	San Gabriel River Reach 3 (Whittier Narrows to Ramona)
	Santa Monica Beach
	Santa Monica Canyon
	Surfers Point at Seaside
	Venice Beach
	Ventura River Reach 3 (Weldon Canyon to Confl. w/ Coyote Cr)
	Will Rogers Beach
Invasive Species	Solstice Canyon Creek
Lead	Monrovia Canyon Creek
	Topanga Canyon Creek
	Triunfo Canyon Creek Reach 1
Nitrate and Nitrite	Brown Barranca/Long Canyon
	Mint Canyon Creek Reach 1 (Confl to Rowler Cyn)
	Torrey Canyon Creek
	Wheeler Canyon/Todd Barranca
Pathogens	Palo Verde Shoreline Park Beach
Pumping	Ventura River Reach 4 (Coyote Creek to Camino Cielo Rd)
Sulfates	Hopper Creek
	Pole Creek (trib to Santa Clara River Reach 3)

Pollutant	Impaired Water Body
Toxicity	Santa Clara River Reach 1 (Estuary to Hwy 101 Bridge)
Trash	San Gabriel River, East Fork
	Verdugo Wash Reach 2 (Above Verdugo Road)
San Diego	
Benzo[b]fluoranthene	English Canyon
Cadmium	Prima Deshecha Creek
Chloride	Oso Creek (at Mission Viejo Golf Course)
Chlorpyrifos	Long Canyon Creek (tributary to Murrieta Creek)
	Murrieta Creek
	Redhawk Channel
	Santa Gertrudis Creek Temecula Creek
	Warm Springs Creek (Riverside County) Long Canyon Creek (tributary to Murrieta Creek)
	Murrieta Creek
DDE (Dichlorodiphenyldichloroethylene)	San Juan Creek
Diazinon	Arroyo Trabuco Creek
Enterococcus	Pacific Ocean Shoreline, Aliso HSA, at Aliso Beach - middle
	Pacific Ocean Shoreline, Aliso HSA, at Aliso Creek mouth
	Pacific Ocean Shoreline, Lower San Juan HSA, at North Beach Creek
	Pacific Ocean Shoreline, Lower San Juan HSA, at South Doheny State Park Campground
	Pacific Ocean Shoreline, San Clemente HA, at San Clemente City Beach at Pier
	Pacific Ocean Shoreline, San Clemente HA, at South Capistrano County Beach
Indicator Bacteria	Aliso Creek
	Pacific Ocean Shoreline, Dana Point HSA, at Aliso Beach at West Street
Iron	De Luz Creek
Phosphorus	Santa Margarita River (Upper)
	Segunda Deshecha Creek
Sediment Toxicity	Laguna Canyon Channel
Selenium	Moro Canyon Creek
	Oso Creek (lower)
Total Coliform	Pacific Ocean Shoreline, Dana Point HSA, at Salt Creek outlet at Monarch Beach
	Pacific Ocean Shoreline, Laguna Beach HSA, at Main Beach
Santa Ana	
Ammonia (Unionized)	Bolsa Chica Channel
	Borrego Creek (from Irvine Blvd to San Diego Creek Reach 2)
	East Garden Grove Wintersburg Channel
	Serrano Creek
Cadmium	Cucamonga Creek Reach 1 (Valley Reach)
	Rathbone (Rathbun) Creek
	Santa Ana River Reach 6
Chemical oxygen demand (COD)	Chino Creek Reach 1B (Mill Creek confl to start of concrete lined channel)
Coliform Bacteria	Chino Creek Reach 2 (Beginning of concrete channel to confl w San Antonio Creek)

Pollutant	Impaired Water Body
Copper	Bolsa Chica State Beach
	Santa Ana River, Reach 3
DDT (Dichlorodiphenyltrichloroethane)	Balboa Beach
	Peters Canyon Channel
Enterococcus	Newport Slough
	Seal Beach
Fecal Coliform	Buck Gully Creek
	Los Trancos Creek (Crystal Cove Creek)
	San Diego Creek Reach 1
Indicator Bacteria	Goldenstar Creek
	Morning Canyon Creek
	San Diego Creek Reach 2
	Santa Ana Delhi Channel
	Santa Ana River, Reach 2
	Temescal Creek, Reach 6 (Elsinore Groundwater sub basin boundary to Lake Elsinore Outlet)
Nutrients	Chino Creek Reach 1A (Santa Ana River R5 confl to just downstream of confl with Mill Creek)
	Grout Creek
	Mill Creek (Prado Area)
	Summit Creek
Pathogens	Knickerbocker Creek
	Lytle Creek
	Mill Creek Reach 1
	Mill Creek Reach 2
	Mountain Home Creek
	Mountain Home Creek, East Fork
	Santa Ana River, Reach 4
	Silverado Creek
PCBs (Polychlorinated biphenyls)	Huntington Beach State Park
pH	Cucamonga Creek Reach 2 (Mountain Reach)
	San Antonio Creek
	Temescal Creek, Reach 1
Salinity/TDS/Chlorides	Santiago Creek, Reach 4

Source: State Water Resources Control Board. 2016. 2016 303(d) List of Impaired Waterbodies. Available at: http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml, accessed September 3, 2019.

Land Use and Water Quality

Buildings, roads, sidewalks, parking lots, and other impervious surfaces define the urban landscape. Impervious surfaces also alter the natural hydrology and prevent the infiltration of water into the ground. Impervious surfaces change the flow of stormwater over the landscape. In underdeveloped

areas, vegetation holds down soil, slows the flow of stormwater over land, and filters out some pollutants by both slowing the flow of the water and trapping some pollutants in the root system. Additionally, some stormwater filters through the soil, replenishing underground aquifers. As land is converted to other uses such as commercial or residential development, many of these natural processes are eliminated as vegetation is cleared and soil is paved over. As more impervious surface coverage is added to the landscape, more stormwater flows faster off the land. The greater volume of stormwater increases the possibility of flooding, and the high flow rates of stormwater do not allow for pollutants to settle out, meaning that more pollution gets concentrated in the stormwater runoff. Research on urban stream protection has found that stream degradation occurs when a watershed reaches relatively low levels of imperviousness—in the range of 10 to 20 percent. Water quality degradation can occur when impervious surface coverage in a watershed surpasses 10 percent.[17] Fish habitat, spawning, and diversity suffer when imperviousness is greater than 10 to 12 percent. Wetland plants and amphibian populations diminish when impervious surfaces are greater than 10 percent. Generally, the higher the percentage of impervious surface, the greater the degradation in stream water quality.[18] Based on this research, streams can be considered stressed in watersheds when the impervious coverage exceeds 10 to 15 percent. The link between impervious surfaces and degraded water quality points to the need for careful comparisons between dispersed and compact development strategies. On a regional or watershed level, greater overall water quality protection is achieved through more concentrated or clustered development. Concentrated development protects the watershed by leaving a larger percentage of it in its natural condition.

Waste Discharge Requirements

If the operation or discharges from a property or business affects California's surface, coastal, or groundwater, it would normally be required to obtain a permit to discharge waste from the appropriate RWQCB. Discharges of pollutants into surface waters require a federal NPDES permit application with the appropriate RWQCB.[19] For other types of discharges, such as those affecting groundwater or in a diffused manner (e.g., erosion from soil disturbance or waste discharges to land) a report of waste

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17 Hakkam, Kim, et al. The Impact of Impervious Surface on Water Quality and Its Threshold in Korea. *Water*. 2016. Available online at: https://pdfs.semanticscholar.org/5c51/42d64aabcd1fbedf3c73313836dad5aead48.pdf, accessed August 27, 2019.

18 Brabec, Elizabeth, et al. 2002. Imperious Surfaces and Water Quality: A Review of Current Literature and Its Implications on Watershed Planning. *Journal of Planning Literature*. Available online at: https://pdfs.semanticscholar.org/e62b/8c92c2547bab312fa7ed173ce12ce31d5724.pdf?_ga=2.79098964.1532995814.1568152933-155264741.1568152933, accessed September 10, 2019.

19 U.S. Environmental Protection Act. *NPDES Permit Basics*. Available online at: https://www.epa.gov/npdes/npdes-permit-basics, accessed August 27, 2019.

discharge must be filed with the appropriate RWQCB in order to obtain Waste Discharge Requirements (WDRs).

For specific situations, the RWQCB may waive the requirement to obtain a WDR for discharges to land or may determine that a proposed discharge can be permitted more effectively through enrollment in a general NPDES permit or general WDR.

RWQCBs in the SCAG region have identified a typical list of activities that affect water, but the list is by no means inclusive of all situations:

- Discharge of process wastewater not discharging to a sewer (factories, cooling water, etc.)
- Confined Animal facilities (dairies, feedlots, etc.)
- Waste containments (landfills, waste ponds, etc.)
- Construction sites
- Boatyards and shipyards
- Discharges of pumped groundwater and cleanups (underground tank cleanups, dewatering, spills)
- Material handling areas draining to storm drains
- Sewage treatment facilities
- Filling of wetlands
- Dredging, filling, and disposal of dredge wastes
- Commercial activities not discharging to a sewer (e.g., factory wastewater, storm drain)
- Waste discharges to land

3.10.1.7 Hazards

Floodplains and Flooding

Flooding generally occurs when soil and vegetation cannot absorb excess rainwater or snowmelt, and water runs off the land in quantities that cannot be carried in stream channels or kept in natural ponds or man-made reservoirs. Periodic floods occur naturally on many rivers, forming areas known as floodplains. These river floods usually result from heavy rain, sometimes combined with melting snow, which causes the rivers to overflow their banks. A flood that rises and falls rapidly with little or no

advance warning is called a flash flood. Flash floods usually result from intense rainfall over a relatively small area.

Flooding occurs occasionally on streets and roads in urbanized areas where storm waters are diverted into manmade or artificial drainage systems. In urbanized areas with significant area of impervious surfaces, storm water is not able to permeate and percolate into the soil, and is diverted into a storm drainage system. In some areas, these drainage systems are occasionally overloaded with storm water drainage, or the drains become clogged with leaves and other debris, thereby impeding storm water drainage onto transportation facilities (i.e., roadways). The ability of the storm drainage system to accommodate water flows is also largely based on ground permeability and infrastructure capacity. In metropolitan areas, agencies responsible for maintaining and upgrading drainage facilities to accommodate volume are local cities and the counties.

Principal impacts of flooding include damage to permanent structures, relocation of non-stationary objects, loss of human life, and damage to infrastructure and soil conditions. After the initial damage from floodwaters, standing water often creates a secondary level of destruction, by ruining crops, further undermining and damaging infrastructure, and contaminating water wells. Debris flows are another hazard associated with flooding, when heavy soils and rocks slide down into a valley, threatening the infrastructure below.

100-Year Floodplain

The 100-Year floodplain denotes an area that has a one percent chance of being inundated during any particular 12-month period. The risk of this area being flooded in any century is one percent but statistically the risk is almost 40 percent in any 50-year period. Floodplain zones are determined FEMA and used to create Flood Insurance Rate Maps (FIRMs).[20] These tools assist communities in mitigating flood hazards through land use planning. FEMA also outlines specific regulations for any construction located within a 100-year floodplain, whether residential, commercial, or industrial. Each watershed in the SCAG region has associated 100-year flood plain, with Imperial County containing the most land designated as being in the floodplain.

Seiche

A seiche is an oscillation of a body of water in an enclosed or semi enclosed basin, such as a reservoir, harbor, lake, or storage tank. Many examples of seiches can be found in Southern California, where water

20 FEMA. *Flood Insurance Rate Map (FIRM)*. Available online at: https://www.fema.gov/flood-insurance-rate-map-firm, accessed August 27, 2019.

reservoirs have been constructed or developed by damming rivers. The seiches serve as a means of flood control and a holding tank for drinking and agricultural water. Examples of enclosed water bodies in the SCAG region include Big Bear Lake, Pyramid Lake, and the Salton Sea.

Tsunami

Tsunamis are massive waves triggered by large earthquakes along fault lines near the ocean. Tsunamis have potential to crash and flood areas much further inland than regular ocean waves. Such inundation can cause severe damage to local infrastructure and even loss of life. The three coastal counties of Los Angeles, Orange, and Ventura contain more than 25,000 acres that are susceptible to tsunamis within the SCAG region.[21]

Mudflow

Mudflows and landslides are also generated by ground-shaking seismic events. In areas with steep slopes or hillsides, mud and other debris can be triggered by an earthquake miles away and cause significant damage to infrastructure and life below. Many areas of the SCAG region are susceptible to landslides and mudflows due the abundance of active faults and existing mudflow hazards. Landslides are discussed in further detail in **Section 3.7, Geology and Soils.**

Coastal Flooding and Sea Level Rise

During the winter months (generally November to February), offshore storms occurring over the Pacific Ocean, combined with high tides and strong winds, have the potential to result in wave run-up. In addition, as discussed above, seismically-induced waves (i.e. as the result of a tsunami event) may occur on occasion, having the potential to cause coastal flooding. Further, a short- or long-duration increase in sea level during a period of extreme precipitation and runoff may result in the potential for coastal flooding. Wave run-up along the coastal areas may also contribute to coastal flooding and erosion.

Rising sea levels will increase the potential for coastal flooding, and the issue of sea-level rise is important in land use planning and hazard analysis in coastal areas. California Executive Order S-13-08, signed by the governor on November 14, 2008, specifies that all state agencies planning construction projects in areas that are vulnerable to future sea-level rise must consider a range of scenarios for 2050 and 2100 to assess project vulnerability, and, to the extent feasible, must reduce expected risks and increase resiliency with respect to sea-level rise. Before 2050, differences in sea-level rise projections under different emissions scenarios are minor but they diverge significantly past midcentury. After 2050, sea-level rise

21 California Department of Conservation (DOC). 2018. *California Official Tsunami Inundation Maps*. Available online at: https://www.conservation.ca.gov/cgs/geohazards/tsunami/maps#County, accessed January 8, 2019.

projections increasingly depend on the trajectory of greenhouse gas emissions. For example, under certain scenarios, rapid ice sheet loss on Antarctica could drive rates of sea-level rise in California above 50 mm/year (2 inches/year) by the end of the century, leading to potential sea-level rise exceeding 10 feet. This rate of sea-level rise would be about 30-40 times faster than the sea-level rise experienced over the last century.[22]

The Intergovernmental Panel on Climate Change (IPCC) has indicated that globally, sea level rose at an average annual rate of approximately 1.5 millimeters from 1901 to 1990 and at an average annual rate of approximately 3.2 millimeters from 1993 to 2010 (IPCC 2013). By year 2100, sea levels may rise up to 55 inches (1.4-meter), causing a 45 percent increase in land in Los Angeles County to become more vulnerable to the 100-year flood event. Based on mapping completed by the Pacific Institute, much of the Pacific Coast could be subject to flooding associated with a 100-year flood event with a sea-level rise of 55 inches.

3.10.2 REGULATORY FRAMEWORK

3.10.2.1 Federal Regulations

Rivers and Harbors Appropriation Act of 1899, Section 10

Authorization from the USACOE must be obtained for construction of a structure in or over any navigable water of the U.S., pursuant to Section 10 of the Rivers and Harbors Appropriation Act of 1899 (33 U.S. Code [USC] 403). Authorization is also needed for structures built near navigable water if they would affect the course, location, condition, or capacity of the water body, as through re-channelization, disposal of fill, and so forth.[23]

Wild and Scenic Rivers Act of 1968 (WSRA)

The objective of the WSRA (Public Law 90–542), dated October 2, 1968, is the preservation of certain rivers with outstanding natural, cultural, and recreational values in a free-flowing condition. The WSRA provides permanent protection for some of the country's most outstanding free flowing rivers and

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22 California Ocean Protection Council. 2017. *Rising Seas in California: An Update of Sea-Level Rise Science*. Available at: http://www.opc.ca.gov/webmaster/ftp/pdf/docs/rising-seas-in-california-an-update-on-sea-level-rise-science.pdf, accessed October 30, 2019.

23 U.S. Environmental Protection Agency. 2019. *Section 10 of the Rivers and Harbors Appropriation Act of 1899.* Available online at: https://www.epa.gov/cwa-404/section-10-rivers-and-harbors-appropriation-act-1899, accessed August 27, 2019.

prohibits federal support for actions such as the construction of dams or other harmful instream activities.[24]

Clean Water Act of 1972, as amended (CWA)

Congress enacted the Clean Water Act (CWA), originally enacted as the Federal Water Pollution Control Act (FWPCA; Public Law 92–500) in 1948, but took on its modern form when completely rewritten in 1972 in an act entitled the Federal Water Pollution Control Act Amendments of 1972, now commonly known as the Clean Water Act.[25] Major changes have subsequently been introduced via amendatory legislation including the Clean Water Act of 1977 and the Water Quality Act of 1987.

The CWA is the primary federal law governing water pollution. Its objective is to restore and maintain the chemical, physical, and biological integrity of the nation's waters by preventing point and nonpoint pollution sources, providing assistance to publicly owned treatment works for the improvement of wastewater treatment, and maintaining the integrity of wetlands. It is one of the first and most influential modern environmental laws in the U.S. As with many other major federal environmental statutes, it is administered by EPA, in coordination with state governments. Its implementing regulations are codified at 40 C.F.R. Subchapters D, N, and O (Parts 100-140, 401-471, and 501-503).

Section 303(d)

Section 303(d) of the Federal CWA requires the SWRCB to list impaired water bodies and determine TMDLs of pollutants, sediments, or other stressors that are contributing excessively to these impaired waters.[26]

Section 401 – Water Quality Certification

Section 401 establishes the basic structure for regulating discharges of pollutants into the waters of the U.S. and regulating quality standards for surface waters. Under the CWA, EPA has implemented pollution control programs such as setting wastewater standards for industries and surface waters.[27]

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24 National Park Service. 2000. *Wild and Scenic Rivers Act, 1968*. Available online at: https://www.nps.gov/parkhistory/online_books/anps/anps_6f.htm, accessed August 27, 2019.

25 U.S. Environmental Protection Agency. *Summary of the Clean Water Act*. Available online at: https://www.epa.gov/laws-regulations/summary-clean-water-act, accessed August 27, 2019.

26 U.S. Environmental Protection Agency. *Clean Water Act Section 303(d): Impaired Water and Total Maximum Daily Loads (TMDLs)*. Available online at: https://www.epa.gov/tmdl, accessed August 27, 2019.

27 U.S. Environmental Protection Agency. *Clean Water Act Section 401: State Certification of Water Quality*. Available online at: https://www.epa.gov/cwa-401/clean-water-act-section-401-state-certification-water-quality, accessed August 27, 2019.

Section 402

Section 402 establishes the National Pollutant Discharge Elimination System (NPDES) permit process. In California, NPDES permitting authority is delegated to, and administered by the nine RWQCBs. Pursuant to Section 402, a discharge of any pollutant from a point source into navigable waters, are prohibited unless an NPDES permit is obtained. Point sources are discrete conveyances such as pipes or manmade ditches. Individual homes that are connected to a municipal system, use a septic system, or do not have a surface discharge do not need an NPDES permit; however, industrial, municipal, and other facilities must obtain permits if their discharges go directly to surface waters.[28]

Section 402(p) establishes that, stormwater permits are required for stormwater discharges from a municipal separate storm sewer system (MS4) serving a population of 100,000 or more. Municipal separate storm sewer means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutter, ditch, man-made channels or storm drain) owned or operated by a state, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to state law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under state law such as a sewer district, flood control district or drainage district, or similar entity, or a tribe or an authorized tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States (40 CFR 122.26(b)(8)).

Section 404 – Discharge of Dredge or Fill Material

Section 404 of the federal CWA is administered and enforced by the U.S. Army Corps of Engineers (USACOE). Section 404 of the CWA established a program to regulate the discharge of dredged and fill material into waters of the United States, including wetlands. USACOE administers the day-to-day program, including the determination of eligibility of projects for use of Categorical Exclusions and Nationwide Permits, and review and consideration of individual permit decisions and jurisdictional determinations. USACOE also develops policy and guidance; and enforces Section 404 provisions.[29]

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28 U.S. Environmental Protection Agency. *Clean Water Act, Section 402: National Pollutant Discharge Elimination System.* Available online at: https://www.epa.gov/cwa-404/clean-water-act-section-402-national-pollutant-discharge-elimination-system, accessed August 27, 2019.

29 U.S. Environmental Protection Agency. *Overview of Clean Water Act Section 404.* Available online at: https://www.epa.gov/cwa-404/overview-clean-water-act-section-404, accessed August 27, 2019.

Executive Order 11990 - Protection of Wetlands

This executive order is an overall wetlands policy for all agencies managing federal lands, sponsoring federal projects, or providing federal funds to state or local projects. This executive order requires that when a construction project involves wetlands, a finding must be made by the federal agency that there is no practicable alternative to such construction, and that the proposed action includes all practicable measures to minimize impacts to wetlands resulting from such use.[30]

Pollution Prevention Act of 1990

The Pollution Prevention Act (42 USC §13101 et seq.) focused on reducing the amount of pollution through cost-effective changes in production, operation, and raw materials. The Act focuses on source reduction which reduces the release of hazardous substances through practices that increase efficiency in energy, water, or other natural resources.[31]

Antidegradation Policy

The Antidegradation Policy under U.S. EPA's Water Quality Standards Regulations (48 F.R. 51400, 40 CFR 131.12, November 8, 1983), requires states and tribes to establish a three-tiered antidegradation program to prevent a decrease in water quality standards.

- Tier 1—Maintains and protects existing uses and water quality conditions that support such uses. Tier 1 is applicable to all surface waters.
- Tier 2—Maintains and protects "high quality" waters where existing conditions are better than necessary to support "fishable/swimmable" waters. Water quality can be lowered in such waters but not to the point at which it would interfere with existing or designed uses.
- Tier 3—Maintains and protects water quality in outstanding national resource waters (ONRWs). Water quality cannot be lowered in such waters except for certain temporary changes.

30 U.S. Environmental Protection Agency. 2019. *Protection of Wetlands (Executive Order 11990).* Available online at: https://www.epa.gov/cwa-404/protection-wetlands-executive-order-11990, accessed August 27, 2019.

31 U.S. Environmental Protection Agency. 2017. *Pollution Prevention Act of 1990*. Available online at: https://www.epa.gov/p2/pollution-prevention-act-1990, accessed August 27, 2019.

Antidegradation was explicitly incorporated into the federal CWA through 1987 amendments, codified in section 303(d)(4)(B), requiring satisfaction of antidegradation requirements before making certain changes in NPDES permits.[32]

Definition of Waters of the United States (WOTUS)

On June 29, 2015, EPA and USACOE jointly published a final WOTUS Rule (40 CFR Parts 110, 112, 116, et al. and 33 CFR Part 328) for determining the extent to which wetlands and other water features are protected under the CWA.

Following publication of the 2015 WOTUS Rule, 31 states, and 53 non-state parties, including environmental groups and groups representing farming, recreational, forestry, and other interests, filed complaints and petitions for review in multiple federal district and appellate courts challenging the 2015 Rule. On February 28, 2017, the President of the United States issued Executive Order 13778 directing EPA and the Department of the Army to review and rescind or revise the 2015 Clean Water Rule. On October 22, 2019, EPA and the Department of the Army published a final rule to repeal the 2015 Rule and recodify the regulation that was in place prior to issuance of the 2015 Rule. This final rule will become effective on December 23, 2019.[33]

National Flood Insurance Act

The U.S. Congress passed the National Flood Insurance Act in 1968 and the Flood Disaster Protection Act in 1973 to restrict certain types of development on floodplains and to provide for a NFIP. The purpose of these acts is to reduce the need for large, publicly funded flood control structures and disaster relief. The NFIP is a federal program administered by the Flood Insurance Administration of FEMA. It enables individuals who have property (a building or its contents) within the 100-year floodplain to purchase insurance against flood losses. FEMA works with the states and local communities to identify flood hazard areas and publishes a flood hazard boundary map of those areas. Floodplain mapping is an ongoing process and flood maps must be regularly updated for both major rivers and tributaries as land uses and development patterns change.[34]

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32 U.S. Environmental Protection Agency. 2012. *Water Quality Standards Handbook, Chapter 4: Antidegradation*. Available online at: https://www.epa.gov/sites/production/files/2014-10/documents/handbook-chapter4.pdf, accessed August 27, 2019.

33 U.S. Environmental Protection Agency. 2019. *Waters of the United States (WOTUS) Rulemaking*. Available at: https://www.epa.gov/wotus-rule/rulemaking-process, accessed October 30, 2019; see also 84 Fed. Reg. 56626 (October 22, 2019)..

34 FEMA. *National Flood Insurance Act of 1968 and Flood Disaster Protection Act of 1973*. Available online at: https://www.fema.gov/media-library/assets/documents/7277, accessed August 27, 2019.

Executive Order 11988, Flood Plain Management

The objective of Presidential Executive Order 11988, dated May 24, 1977, is the avoidance of, to the extent possible, long- and short-term adverse impacts associated with the occupancy and modification of the base floodplain (100-year floodplain) and the avoidance of direct and indirect support of development in the base floodplain wherever there is a practicable alternative. Under the Executive Order, the USACOE must provide leadership and take action to:[35]

- Avoid development in the base floodplain unless it is the only practicable alternative
- Reduce the hazard and risk associated with floods
- Minimize the impact of floods to human safety, health, and welfare
- Restore and preserve the natural and beneficial values of the base floodplain

California Toxics Rule

On May 18, 2000, USEPA promulgated numeric water quality criteria for priority toxic pollutants and other provisions for water quality standards to be applied to waters within California. USEPA promulgated this rule based on the USEPA Administrator's determination that the numeric criteria are necessary in California to protect human health and the environment. The rule fills a gap in California water quality standards that was created in 1994 when a state court overturned the state's water quality control plans containing water quality criteria for priority toxic pollutants. Thus, the state of California has been without numeric water quality criteria (which is required by the CWA) for many priority toxic pollutants, necessitating this action by USEPA. These federal criteria are legally applicable in the state of California for inland surface waters, enclosed bays, and estuaries for all purposes and programs under the CWA. USEPA and the SWRCB have the authority to enforce these standards, which are incorporated into the NPDES permits that regulate existing discharges in California.

3.10.2.2 State

Porter Cologne Water Quality Control Act

The Porter-Cologne Act is the principal law governing water quality regulation in California. It establishes a comprehensive program to protect water quality and the beneficial uses of water. The Porter-Cologne Act applies to surface waters, wetlands, and ground water and to both point and

[35] U.S. Fish and Wildlife Service. *Executive Order 11988 Flood plain Management*. Available online at: https://www.fws.gov/r9esnepa/NEPA_Handbook/EO_11988.pdf, accessed August 27, 2019.

nonpoint sources of pollution. Pursuant to the Porter-Cologne Act (California Water Code section 13000 et seq.), the policy of the State is as follows:

- That the quality of all the waters of the State shall be protected;
- That all activities and factors affecting the quality of water shall be regulated to attain the highest water quality within reason; and
- That the State must be prepared to exercise its full power and jurisdiction to protect the quality of water in the State from degradation.

The Porter-Cologne Act established nine Regional Water Boards (based on hydrogeologic barriers) and the State Water Board, which are charged with implementing its provisions and which have primary responsibility for protecting water quality in California. The State Water Board provides program guidance and oversight, allocates funds, and reviews Regional Water Boards decisions. In addition, the State Water Board allocates rights to the use of surface water. The Regional Water Boards have primary responsibility for individual permitting, inspection, and enforcement actions within each of nine hydrologic regions. The State Water Board and Regional Water Boards have numerous NPS-related responsibilities, including monitoring and assessment, planning, financial assistance, and management.

The Regional Water Boards regulate discharges under the Porter-Cologne Act primarily through issuance of NPDES permits and waste discharge requirements (WDRs for point and nonpoint source discharges. Anyone discharging or proposing to discharge materials that could affect water quality (other than to a community sanitary sewer system regulated by an NPDES permit) must file a report of waste discharge.

The Porter-Cologne Act also implements many provisions of the Clean Water Act, such as NPDES permitting program. Section 401 of the Clean Water Act gives the State Water Board the authority to review any proposed federally permitted or federally licensed activity that may impact water quality and to certify, condition, or deny the activity if it does not comply with State water quality standards.

The Porter-Cologne Act also requires adoption of water quality control plans (Basin plans) that contain the guiding policies of water pollution management in California. A number of statewide water quality control plans have been adopted by the State Water Board. In addition, regional water quality control plans (basin plans) have been adopted by each of the Regional Water Boards and get updated as necessary and practical. These plans identify the existing and potential beneficial uses of waters of the State and establish water quality objectives to protect these uses. The basin plans also contain implementation, surveillance, and monitoring plans. Statewide and regional water quality control plans include enforceable prohibitions against certain types of discharges, including those that may pertain to nonpoint sources. Portions of water quality control plans, the water quality objectives and beneficial use

designations, are subject to review by U.S.EPA, when approved they become water quality standards under the Clean Water Act.

Sustainable Groundwater Management Act (SGMA)

On September 16, 2014 Governor Edmund G. Brown Jr. signed a three-bill package known as the Sustainable Groundwater Management Act. The legislation allows local agencies to customize groundwater sustainability plans to their regional economic and environmental needs. SGMA creates a framework for sustainable, local groundwater management for the first time in California history.

The three bills that make up SGMA are Assembly Bill (AB) 1739 by Assembly Member Roger Dickinson, Senate Bill (SB) 1319, and SB 1168 by Senator Fran Pavley. [36]

In September 2015, Governor Brown signed SB 13, by Senator Fran Pavley. The Bill makes various technical, clarifying changes to SGMA including requirements for groundwater sustainability agency formation, the process for State Water Board intervention if no responsible agency is specified for a basin, guidelines for high- and medium-priority basins, and participation of mutual water companies in a groundwater sustainability agency. [37]

Cobey-Alquist Floodplain Management Act

The Cobey-Alquist Floodplain Management Act (California Water Code 8400-8415) and Executive Order B-39-77 support the NFIP. The Act encourages local governments to plan, adopt, and enforce land use regulations for floodplain management, to protect people and property from flooding hazards. The Act also identifies requirements that jurisdictions must meet to receive State financial assistance for flood control.[38] Executive Order B-39-77 requires state agency compliance with good floodplain management practices.[39]

California Coastal Act

The California Coastal Act (Public Resources Code § 30000 et seq.), dealing with coastal development and its impacts to public access, is the primary law that governs decisions of the California Coastal

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36 California Department of Water Resources. 2019. *SGMA Groundwater Management*. Available online at: https://water.ca.gov/Programs/Groundwater-Management/SGMA-Groundwater-Management, accessed August 27, 2019.

37 California Legislative Information. 2015. *Senate Bill No. 35*.

38 California Legislative Information. *Chapter 4. Cobey-Alquist Flood Management Program 8400-8415*.

39 California Department of Water Resources. *Flood Map Modernization State Business Plan*. Available online at: https://www.floods.org/PDF/SBP_CA_04.pdf, accessed August 27, 2019.

Commission (CCC). Chapter 3 of the California Coastal Act contains Coastal Resources Planning and Management Policies. Policies include protection of certain water oriented recreational activities (Section 30220); minimizing the adverse effects of wastewater discharge, controlling runoff and preventing depletion of ground water supplies (Section 30231); and water supply and flood control through channelization, dams, or other substantial alternations (Section 30236).[40]

State Water Resources Control Board Water Rights (SWRCB) Program

The SWRCB is responsible for administering water rights in California. It has several water rights programs including a compliance monitoring program, drought year information resources, water availability analysis, water use reports program and water quality certification. The water availability analysis program is required by the California Water Code which requires sufficient information for applications submitted to the SWRCB to demonstrate a reasonable likelihood that appropriated water is available for appropriation. The water use reports program is responsible for water use reports for water right holders and sets measurement methods for the reports.[41]

Lake or Streambed Alteration Program

The California Department of Fish and Wildlife (CDFW) is responsible for conserving, protecting, and managing California's fish, wildlife, and native plant resources. To meet this responsibility, Section 1600 of the California Fish and Game Code requires an entity to notify CDFW of any proposed activity that may substantially modify a river, stream, or lake. Notification is required by any person, business, state, or local government agency or public utility that proposes an activity that will:[42]

- Substantially divert or obstruct the natural flow of any river, stream or lake;
- Substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake; or
- Deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

The notification requirement applies to any work undertaken in or near a river, stream, or lake that flows at least intermittently through a bed or channel. This includes ephemeral streams, desert washes, and

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40 California Coastal Act. *Laws and Regulations. The Coastal Act.* Available online at https://www.coastal.ca.gov/laws/. Accessed September 3,2019

41 California Water Boards. 2019. *Programs* Available online at: https://www.waterboards.ca.gov/water_issues.programs accessed August 27, 2019.

42 California Legislative Information. *Chapter 6. Fish and Wildlife Protection and Conservation [1600-1617].*

watercourses with a subsurface flow. It may also apply to work undertaken within the flood plain of a body of water. If CDFW determines that the activity may substantially adversely affect fish and wildlife resources, a Lake or Streambed Alteration Agreement will be prepared. In August 2005, the California Fish and Game Commission policy regarding wetlands resources stated that "it is the policy of the Fish and Game Commission to seek to provide for the protection, preservation, restoration, enhancement and expansion of wetland habitat in California" and to "strongly discourage development in or conversion of wetlands."[43] As a result, although the Commission has no independent statutory permitting authority related to wetlands, the policy underscores that the Commission does not support wetland development proposals unless "project mitigation assures there will be 'no net loss' of either wetland habitat values or acreage" and "prefers mitigation which would achieve expansion of wetland acreage and enhancement of wetland habitat values." The Agreement includes reasonable conditions necessary to protect those resources and must comply with CEQA.

Statement of Policy with Respect to Maintaining High Quality Waters in California

California's antidegradation policy, formally known as the Statement of Policy with Respect to Maintaining High Quality Waters in California (SWRCB Resolution No. 68-16), restricts degradation of surface and ground waters. It protects waters where existing quality is higher than necessary for the protection of beneficial uses. Any actions with the potential to adversely affect water quality must 1) be consistent with maximum benefit to the people of the state, 2) not unreasonably affect present and anticipated beneficial use of the water, and 3) not result in water quality less than that prescribed in water quality plans and policies.[44] Any actions that can adversely affect surface waters are also subject to the federal antidegradation policy (40 CFR Section 131.12) developed under the CWA.

NPDES General Permits

Construction General Permit

The California Construction Stormwater Permit (Construction General Permit) 1 (also, known as Industrial General Permit), adopted by the SWRCB, regulates construction activities that include clearing, grading, and excavation resulting in soil disturbance of at least one acre of total land area. The Construction General Permit authorizes the discharge of stormwater to surface waters from construction activities. It prohibits the discharge of materials other than stormwater and authorized non-stormwater

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43 California Fish and Game Commission. *Miscellaneous Policies: Wetlands Resources*.

44 State Water Resources Control Board. *Resolution No. 68-16 Statement of Policy with Respect to Maintaining High Quality of Waters in California*. Available online at: https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/1968/rs68_016.pdf, accessed August 27, 2019.

discharges and all discharges that contain a hazardous substance in excess of reportable quantities established in Title 40, Sections 117.3 or 302.4 of the CFR, unless a separate NPDES permit has been issued to regulate those discharges. The Construction General Permit requires that all developers of land where construction activities will occur over more than 1 acre do the following:

- Complete a risk assessment to determine pollution prevention requirements pursuant to the three risk levels established in the General Permit;
- Eliminate or reduce non-stormwater discharges to storm sewer systems and other waters of the US;
- Develop and implement a SWPPP, which specifies BMPs that will reduce pollution in stormwater discharges to the Best Available Technology Economically Achievable/ Best Conventional Pollutant Control Technology standards; and
- Perform inspections and maintenance of all BMPs.

To obtain coverage under the NPDES Construction General Permit, the Legally Responsible Person must electronically file all permit registration documents with the SWRCB before the start of construction. Permit registration documents must include:

- Notice of Intent,
- Risk Assessment,
- Site Map,
- SWPPP,
- Annual Fee, and
- Signed Certification Statement.

Typical BMPs contained in SWPPPs are designed to minimize erosion during construction, stabilize construction areas, control sediment, control pollutants from construction materials, and address post construction runoff quantity (volume) and quality (treatment). The SWPPP must also include a discussion of the program to inspect and maintain all BMPs.[45]

[45] State Water Resources Control Board. *Construction General Permit Fact Sheet*. Available online at: https://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/constpermits/wqo_2009_0009_complete.pdf, accessed August 27, 2019.

Industrial General Permit

The Statewide General Permit for Storm Water Discharges Associated with Industrial Activities, Order 2014-0057-DWQ (Industrial General Permit or IGP) implements the federally required storm water regulations in California for storm water associated with industrial activities discharging to waters of the United States.[46]

Municipal Stormwater Program

The Municipal Storm Water Program regulates storm water discharges from municipal separate storm sewer systems (MS4s) throughout California. Pursuant to the Federal Water Pollution Control Act (Clean Water Act) section 402(p), storm water permits are required for discharges from an MS4 serving a population of 100,000 or more. The Municipal Storm Water Program manages the Phase I Permit Program (serving municipalities over 100,000 people), the Phase II Permit Program (for municipalities less than 100,000), and the Statewide Storm Water Permit for the State of California Department of Transportation (Caltrans).[47]

Caltrans is responsible for the design, construction, management, and maintenance of the State highway system, including freeways, bridges, tunnels, Caltrans' facilities, and related properties, and is subject to the permitting requirements of CWA Section 402(p). Caltrans' discharges consist of storm water and non-storm water discharges from state-owned rights-of-way.

Before July 1999, discharges from Caltrans' MS4 were regulated by individual NPDES permits issued by the RWQCBs. On July 15, 1999, the SWRCB issued a statewide permit (Order No. 99-06-DWQ) that regulated all discharges from Caltrans MS4s, maintenance facilities, and construction activities.[48] On September 19, 2012, Caltrans' permit was reissued (Order No. 2012-0011-DWQ), and it became effective on July 1, 2013.[49]

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46 State Water Resources Control Board. *Industrial Stormwater Program*. See https://www.waterboards.ca.gov/water_issues/programs/stormwater/industrial.html, accessed August 27, 2019.

47 State Water Resources Control Board. *Municipal Stormwater Program*. Available at: https://www.waterboards.ca.gov/water_issues/programs/stormwater/municipal.html, accessed October 31, 2019.

48 Caltrans. *Stormwater & Water Pollution Control*. Available online at: https://dot.ca.gov/programs/traffic-operations/ep/stormwater, accessed August 27, 2019.

49 California State Water Resources Control Board. *Order No. 2012-0011-DWQ NPDES No. CAS000003 National Pollutant Discharge Elimination System (NPDES) Statewide Storm Water Permit Waste Discharge Requirements (WDRS) for State of California Department of Transportation*. Available online at: https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2012/wqo2012_0011_dwq.pdf, accessed August 27, 2019.

The Caltrans permit requires development of a program for communication with local agencies, and coordination with other MS4 programs where those programs overlap geographically with Caltrans facilities. As part of the permit, Caltrans is required to create and annually update a Stormwater Management Plan (SWMP) that is used to outline the regulation of pollutant discharge caused by current and future construction and maintenance activities. SWMP requirements apply to discharges from Caltrans stormwater conveyances, including catch basins and drain inlets, curbs, gutters, ditches, channels, and storm drains. The SWMP applies to discharges consisting of stormwater and non-stormwater resulting from the following:

- maintenance and operation of state-owned highways, freeways, and roads;
- maintenance facilities;
- other facilities with activities that have the potential for discharging pollutants;
- permanent discharges from subsurface dewatering;
- temporary dewatering; and
- construction activities.

Caltrans' Storm Water Management Plan (SWMP) describes the procedures and practices used to reduce or eliminate the discharge of pollutants to storm drainage systems and receiving waters. The SWMP was most recently updated in July of 2016.[50]

California Green Building Standards Code

Chapters 4 and 5 of the California Green Building Standards Code (CalGreen) include mandatory measures for residential and nonresidential development, respectively. Section 4.106.2 requires residential projects that disturb less than 1 acre and are not part of a larger common plan of development, manage stormwater drainage during construction through use of on-site retention basins, filtration systems where stormwater is conveyed to a public drainage system, and/or compliance with a stormwater management ordinance. Section 5.106.1 requires newly constructed nonresidential projects and additions of less than one acre to prevent the pollution of stormwater runoff because of construction

50 Caltrans. 2016. *Statewide Stormwater Management Plan*. Available online at: https://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/caltrans/swmp/swmp_approved.pdf, accessed August 27, 2019.

through compliance with a local ordinance or implementing BMPs that address soil loss and good housekeeping to manage equipment, materials, and wastes.[51]

California Fish and Game Code

The California Department of Fish and Wildlife (CDFW) is responsible for conserving, protecting, and managing California's fish, wildlife, and native plant resources. To meet this responsibility, the Fish and Game Code (Section 1602) requires an entity to notify CDFW of any proposed activity that may substantially modify a river, stream, or lake. Notification is required by any person, business, state or local government agency, or public utility that proposes an activity that will:

- substantially divert or obstruct the natural flow of any river, stream or lake;
- substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake; or
- deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

The notification requirement applies to any work undertaken in or near a river, stream, or lake that flows at least intermittently through a bed or channel. This includes ephemeral streams, desert washes, and watercourses with a subsurface flow. It may also apply to work undertaken within the flood plain of a body of water.[52]

California Ocean Plan

The California Ocean Plan establishes water quality objectives for California's ocean waters and provides the basis for regulation of wastes discharged into the state's coastal waters. The plan applies to point and nonpoint source discharges. Both the SWRCB and the six coastal RWQCBs implement and interpret the California Ocean Plan. The California Ocean Plan identifies the applicable beneficial uses of marine waters. These beneficial uses include preservation and enhancement of designated Areas of Special Biological Significance (ASBS), rare and endangered species, marine habitat, fish migration, fish spawning, shellfish harvesting, recreation, commercial and sport fishing, mariculture, industrial water supply, aesthetic enjoyment, and navigation.

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51 California Building Standards Commission. 2017. *2016 California Green Building Standards Code*. Available online at: https://ladbs.org/docs/default-source/publications/code-amendments/2016-calgreen_complete.pdf?sfvrsn=6, accessed August 27, 2019.

52 California Legislative Information. *Chapter 6. Fish and Wildlife Protection and Conservation [1600-1617], Section 1602*.

The California Ocean Plan establishes a set of narrative and numerical water quality objectives to protect beneficial uses. These objectives are based on bacterial, physical, chemical, and biological characteristics as well as radioactivity. The water quality objectives in Table 1 (formerly Table B) of the California Ocean Plan apply to all receiving waters under the jurisdiction of the plan and are established for the protection of aquatic life and for the protection of human health from both carcinogens and noncarcinogens. Within Table 1 there are 21 objectives for protecting aquatic life, 20 for protecting human health from noncarcinogens, and 42 for protecting human health from exposure to carcinogens. The Ocean Plan also includes an implementation program for achieving water quality objectives. Effluent limitations are established for the protection of marine waters.[53]

Urban Water Management Planning Act

In 1983, the California Legislature enacted the Urban Water Management Planning Act (Water Code, Section 10610 et seq.), which requires urban water suppliers to develop water management plans to actively pursue the efficient use of available supplies. Every five years, water suppliers are required to develop Urban Water Management Plans (UWMPs) to identify short-term and long term water demand management measures to meet growing water demands.[54]

Conservation Requirements

Executive Order B-37-16 established a new water use efficiency framework for California. The order bolstered the state's drought resilience and preparedness by establishing longer-term water conservation measures that include permanent monthly water use reporting, new urban water use targets, reducing system leaks and eliminating clearly wasteful practices, strengthening urban drought contingency plans and improving agricultural water management and drought plans. Based on monthly water use reporting, most urban water suppliers reported sufficient supplies to meet demand in three additional dry years and are not subject to state conservation mandates. On February 8, 2017, SWRCB adopted an emergency water conservation regulation to amend and extend the May 2016 regulation. The amended regulation allows certain suppliers the opportunity to submit or resubmit their water supply reliability assessments.[55]

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53 California Water Boards. 2015. *California Ocean Plan*. Available online at: https://www.waterboards.ca.gov/water_issues/programs/ocean/docs/cop2015.pdf, accessed August 27, 2019.

54 California Water Code Division 6.

55 California Water Boards. 2019. *Governor's Conservation Executive Orders and Proclamations* Available online at: https://www.waterboards.ca.gov/water_issues/programs/conservation_portal/executive_orders.htmlaAccessed September 3, 2019.

California State Lands Commission

The California State Lands Commission (SLC) provides stewardship of California's public trust lands, waterways, and resources through economic development, protection, preservation, and restoration. The SLC is tasked with public land management and resource protection to ensure the future quality of the environment and balanced use of the lands and resources entrusted to its care. The State's public trust lands include tidelands, navigable waterways, and submerged coastal lands extending to a distance of three nautical miles, as well as the waters and underlying beds of more than 120 rivers, lakes, streams, and sloughs.

The California SLC regulates the use of tidelands and submerged lands under its jurisdiction to ensure that proposed uses of these lands are consistent with the Public Trust Doctrine principle that certain resources are preserved for public use. Generally, the SLC has jurisdiction over land below mean high tide (MHT). Public and private entities may apply to the SLC for land leases or permits on State lands for many purposes including dredging among others. CGC Section 65940 describes the degree of specificity and contents required for a surface land lease application.

California Geological Survey Tsunami Inundation Maps

The California Geological Survey provides geologic and seismic expertise to the public, other State government offices, and local government agencies (cities and counties). The California Geological Survey is working closely with the California Emergency Management Agency (Cal EMA) and the University of Southern California Tsunami Research Center to produce statewide tsunami inundation maps for California. These maps are used by coastal communities to produce emergency evacuation plans. The Cal EMA provides generalized maps for projected tsunami inundation to coastal government agencies for emergency planning purposes. These maps are used as a basic guideline for what areas are prone to tsunami inundation.

California Coastal Commission Sea-Level Rise Policy Guidance

The CCC has developed Sea-Level Rise Policy Guidance intended to help local governments, permit applicants, and other interested parties address the challenges presented by sea-level rise in California's coastal zone. The CCC's adopted Sea-Level Rise Policy Guidance outlines the types of information, analysis, and design considerations that the agency's staff requires to determine whether shoreline projects conform to the above-listed Coastal Act policies. Specifically, the Sea-Level Rise Policy Guidance provides step-by-step guidance on how to address sea-level rise in new and updated Local Coastal Programs (LCPs) and Coastal Development Permits (CDPs) according to the policies of the California Coastal Act. LCPs and the CDP processes are the fundamental land use planning and regulatory

governing mechanisms in the coastal zone. While it is advisory, the data requirements, resource considerations, projections for sea-level rise, alternatives analyses, and monitoring requirements outlined in detail in the CCC's Sea-Level Rise Policy Guidance represent information that would likely be required to produce as part of the CCC's evaluation of coastal projects in conformance with Sections 30235 and 30253 of the Coastal Act. Specifically, the Sea-Level Rise Policy Guidance outlines that projects will need to be planned, located, designed, and engineered for the changing water levels and associated impacts that might occur over the life of the development. In addition, project planning should anticipate the migration and natural adaptation of coastal resources (beaches, access, etc.) due to future sea-level rise conditions in order to avoid future impacts to those resources from the new development.

The most recent update in 2018 of the Sea-Level Rise Guidance document aims to respond to the needs for guidance that can help cities, counties and the State prepare for, and adapt to, sea-level rise. The 2018 update provides a science-based methodology for state and local governments to analyze and assess the risks associated with sea-level rise, and to incorporate sea-level rise into their planning, permitting, and investment decisions. The Guidance expands the preferred coastal adaptation planning approaches, incorporating existing law, expressed policy preferences by the Governor and Legislature, and the goal of fostering consistency across coastal and ocean government agencies. Some recommendations include protection of coastal habitats and public access, adaptation strategies that prioritize protection of vulnerable communities, and adaptive capacity should be built in to design and planning.[56]

California Stormwater Quality Association BMP Handbooks

The California Stormwater Quality Association (CASQA) is a professional member association dedicated to the advancement of stormwater quality management through collaboration, education, implementation guidance, regulatory review, and scientific assessment. CASQA's membership is comprised of a diverse range of stormwater quality management organizations and individuals, including cities, counties, special districts, industries, and consulting firms throughout the state. CASQA develops and publishes four BMP Handbooks. The New Development and Redevelopment Handbook provides guidance on developing project specific SWMPs, including selection and implementation of BMPs, for a particular development or redevelopment project.[57]

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56 California Natural Resources Agency. 2018. State of California Sea-Level Rise Guidance. Available at: http://www.opc.ca.gov/webmaster/ftp/pdf/agenda_items/20180314/Item3_Exhibit-A_OPC_SLR_Guidance-rd3.pdf, accessed September 17, 2019.

57 CASQA. *New Development & Redevelopment BMP Handbook*. Available online at: https://www.casqa.org/resources/bmp-handbooks/new-development-redevelopment-bmp-handbook, accessed August 27, 2019.

3.10.2.3 Regional

Water Quality Control Plan for the Central Coastal Basin

The Water Quality Control Plan for the Central Coastal Basin, or basin plan, identifies how the quality of the surface and ground waters in the Central Coast Region should be managed to provide the highest water quality reasonably possible. This basin plan lists the various water uses. Second, it describes the water quality which must be maintained to allow those uses. It then describes the programs, projects, and other actions which are necessary to achieve the standards established in this plan. It summarizes SWRCB and RWQCB plans and policies to protect water quality, and describes statewide surveillance and monitoring programs as well as regional surveillance and monitoring programs. The Regional Board implements the basin plan by issuing and enforcing waste discharge requirements to individuals, communities, or businesses whose waste discharges can affect water quality. These requirements can be either state waste discharge requirements for discharges to land, or federally delegated NPDES permits for discharges to surface water. Methods of treatment are not specified. When such discharges are managed so that: (1) they meet these requirements, (2) water quality objectives are met, and (3) beneficial uses are protected and water quality is controlled. The basin plan is also implemented by encouraging water users to improve the quality of their water supplies, particularly where the wastewater they discharge is likely to be reused. Public works or other projects which can affect water quality are reviewed and their impacts identified. Proposals which implement or help achieve the goals of the basin plan are supported; the Regional Board makes water quality control recommendations for other projects.[58]

Water Quality Control Plan for the Los Angeles Region

The RWQCB has prepared a Water Quality Control Plan for the Los Angeles Region. This basin plan encompasses all coastal drainages flowing to the Pacific Ocean between Rincon Point (on the coast of western Ventura County) and the eastern Los Angeles County line, as well as the drainages of five coastal islands (Anacapa, San Nicolas, Santa Barbara, Santa Catalina, and San Clemente). In addition, the Los Angeles region includes all coastal waters within three miles of the continental and island coastlines. As the eastern boundary, formed by the Los Angeles County line, departs somewhat from the hydrologic divide, the Los Angeles and Santa Ana regions share jurisdiction over watersheds along their common border.

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58 California Water Boards. 2019. *Water Quality Control Plan for the Central Coastal Basin*. Available online at: https://www.waterboards.ca.gov/centralcoast/publications_forms/publications/basin_plan/docs/2019_basin_plan_r3_complete.pdf, accessed August 27, 2019.

This basin plan assigned beneficial uses to surface and groundwater such as municipal water supply and water-contact recreation to all waters in the basin. It also set water quality objectives, subject to approval by the EPA, intended to protect designated beneficial uses. These objectives apply to specific parameters (numeric objectives) and general characteristics of the water body (narrative objectives). An example of a narrative objective is the requirement that all waters must remain free of toxic substances in concentrations producing detrimental effects upon aquatic organisms. Numeric objectives specify concentrations of pollutants that are not to be exceeded in ambient waters of the basin. The Los Angeles RWQCB is involved in the regulation of several activities that are relevant to the consideration of the basin plan:

- Prepares, monitors compliance with, and enforces Waste Discharge Requirements, including NPDES permits;
- Implements and enforces local stormwater control efforts;
- Enforces water quality laws, regulations, and waste discharge requirements; and
- General Construction Activity Stormwater Discharges

Stormwater discharges that are composed entirely of runoff from qualifying construction activities may require regulation under the General Construction Activity Storm Water Permit issued by the SWRCB. Construction activities that qualify include clearing, grading, excavation, reconstruction, and dredge-and-fill activities that result in the disturbance of at least one acre and less than five acres of total land area. The evaluation of the plan does not generate the need for compliance with the Construction General Permit. The development of single-family residences would require permit coverage if the development disturbs greater than one acre of land. Additionally, the plan would require the consideration of a Standard Urban Stormwater Management Plan (SUSMP) as part of compliance with the NPDES General Construction Activity Storm Water Permit to reduce water quality impacts to the maximum extent practicable. A SUSMP is a report that includes one or more site maps, an identification of construction activities that could cause pollutants to enter the stormwater, and a description of measures or BMPs to control these pollutants to the maximum extent practicable.[59]

59 California Water Boards. 2019. *Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties*. Available online at: https://www.waterboards.ca.gov/losangeles/water_issues/programs/basin_plan/basin_plan_documentation.html , accessed August 27, 2019.

Water Control Plan for the Lahontan Region

This basin plan for the Lahontan Region sets forth water quality standards for the surface and ground waters which include both designated beneficial uses of water and the narrative and numerical objectives which must be maintained or attained to protect those uses. It identifies general types of water quality problems, which can threaten beneficial uses. It then identifies required or recommended control measures for these problems. The plan also summarizes past and present water quality monitoring programs, and identifies monitoring activities, which should be carried out to provide the basis for future basin plan updates and for waste discharge requirements or conditional waivers.

Additionally, the Lahontan basin plan implements a number of state and federal laws, the most important of which are the federal CWA and the State Porter-Cologne Water Quality Control Act. Other pertinent federal laws include the Safe Drinking Water Act, Toxic Substances Control Act, Resource Conservation and Recovery Act, and Endangered Species Act, and the Comprehensive Response, Compensation, and Liability Act (CERCLA or "Superfund") and Superfund Amendment and Reauthorization Act (SARA). Other applicable California laws include the Health and Safety, Fish and Game, and Food and Agriculture Codes.[60]

Water Control Plan for the Colorado River Basin

The intent of this basin plan is to provide definitive guidelines and give direction to the full scope of activities that serve to optimize the beneficial uses of the state waters within the Colorado River Basin by preserving and protecting the quality of these waters. Water uses and water benefits vary. Water quality is an important factor in determining use and benefit. For example, drinking water must be of higher quality than the water used to irrigate pastures. Both are beneficial water uses, but the quality requirements for irrigation water are different from those for drinking water. The basin plan recognizes the variations of water quality and water uses. The basin plan lists and defines the various beneficial water uses (Chapter 2). It describes the water quality which must be maintained to support such uses (Water Quality Objectives, Chapter 3). The section on implementation (Chapter 4) describes the programs, projects and other actions that are necessary to achieve the standards established in this basin plan. Plans, Policies and Issues (Chapter 5), summarize the various plans and policies which protect water quality. This chapter also describes water quality issues which require special attention.

60 California Environmental Protection Agency. *Water Quality Control Plan for the Lahontan Region (Basin Plan).* Available online at: https://www.waterboards.ca.gov/lahontan/water_issues/programs/basin_plan/references.shtml, accessed August 27, 2019.

Surveillance and Monitoring (Chapter 6), describes activities within the Colorado River Basin Region related to surveillance, monitoring, assessment, lab support, and quality assurance and quality control.[61]

Water Quality Control Plan for the Santa Ana River Basin

This basin plan establishes water quality standards for the ground and surface waters of the region. The term "water quality standards," as used in the federal CWA, includes both the beneficial uses of specific waterbodies and the levels of quality that must be met and maintained to protect those uses. The plan describes actions by the Regional Board and others that are necessary to achieve and maintain water quality standards. The Regional Board regulates waste discharges to minimize and control their effect on the quality of the region's ground and surface water. Permits are issued under several programs and authorities. The terms and conditions of these discharge permits are enforced through a variety of technical, administrative, and legal means. Water quality problems in the region are listed in the plan, along with the causes, where they are known. For waterbodies with quality below the levels necessary to allow all the beneficial uses of the water to be met, plans for improving water quality are included.[62]

Water Quality Control Plan for the San Diego Basin

The San Diego Regional Board's basin plan is designed to preserve and enhance water quality and protect the beneficial uses of all regional waters. Specifically, the plan: (1) designates beneficial uses for surface and ground waters, (2) sets narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to the state's antidegradation policy, (3) describes implementation programs to protect the beneficial uses of all waters in the region, and (4) describes surveillance and monitoring activities to evaluate the effectiveness of the plan (California Water Code sections 13240–13244, section 13050(j)). Additionally, the plan incorporates by reference all applicable state and regional board plans and policies.[63]

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61 California Water Boards. 2019. *Water Quality Control Plan for the Colorado River Basin Region*. Available online at: https://www.waterboards.ca.gov/coloradoriver/water_issues/programs/basin_planning/docs/bp032014/r7_bp2019fullbp.pdf, accessed August 27, 2019.

62 California Water Boards. 2019. *Santa Ana Region Basin Plan*. Available online at: https://www.waterboards.ca.gov/santaana/water_issues/programs/basin_plan/, accessed August 27, 2019.

63 California Water Boards. 2019. *San Diego Region – The Basin Plan*. Available online at: https://www.waterboards.ca.gov/sandiego/water_issues/programs/basin_plan/, accessed August 27, 2019.

3.10.2.4 Local

County of Los Angeles General Plan

As part of the Conservation and Natural Resources Element of the 2040 General Plan Update, the Board of Supervisors of the County of Los Angeles has adopted three goals for water quality initiatives related to hydrology and water quality and two goals related to watershed and river master plans:[64]

Water Quality Initiatives

- Support multi-benefit outcomes, such as water quality benefits arising from ecosystem restoration efforts, and identify, attract, and create funds and resources to implement this initiative.
- Participate in enhanced watershed management programs and watershed management programs in coordination with other agencies throughout Los Angeles County.
- Participate in coordinated integrated watershed monitoring plans in coordination with other agencies throughout Los Angeles County.

Watershed and Rivers Master Plans

- Participate with stakeholders in the preparation of watershed management plans in response to the NPDES MS4 Permit by promoting multi-benefit outcomes, including, but not limited to new public access to natural resources, new recreational opportunities, enhanced aquatic habitats, and restored natural features, where appropriate, while maintaining necessary levels of flood protection.
- Identify, attract, and create funds and resources to implement these plans.

County of Riverside General Plan

The County of Riverside General Plan specifically addresses hydrology and water quality in four categories: water resources, water quality (including groundwater quality), floodplain management, and wetlands.[65]

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64 Los Angeles Department of Regional Planning. *General Plan, Chapter 9: Conservation and Natural Resources Element*. Available online at: http://planning.lacounty.gov/generalplan/generalplan, accessed August 27, 2019.

65 Riverside County Planning Department. 2015. *General Plan Multipurpose Open Space Element*. Available online at: https://planning.rctlma.org/Portals/14/genplan/general_Plan_2017/elements/OCT17/Ch05_MOSE_120815.pdf?ver=2017-10-11-102103-833, accessed August 27, 2019.

Water Resources

The General Plan acknowledges that contamination from natural or manufactured sources has reduced groundwater quality such that its use requires treatment. Management of the amount of water available (local and imported) and its quality, is identified as an important response to the gap between supply and demand in Riverside County. The General Plan provides policies that seek to protect and enhance the water resources in the county. These policies address broad water planning issues, and the relationship of land use decisions to water issues.

Water Quality

The General Plan recognizes BMPs established by the three applicable RWQCBs, Regions 7, 8, and 9 to provide state-level water quality policy and NPDES as effective means of managing water quality problems that have occurred in Riverside County. Such problems are related to inadequate subsurface sewage disposal, waste disposal management of the Santa Ana River, agriculturally related problems such as citricultural runoff in the western county and increasing salinity of the desert groundwater basins, sediment buildup of water bodies from construction-related erosion, lake water quality problems, and pollution due to urban stormwater system runoff.

Floodplain and Riparian Area Management

The intent of the county is to sustain living riparian habitats to the maximum extent possible, recognizing that flooding is part of the dynamic nature of healthy rivers an ecosystems. High flows and flood waters are needed to cleanse the channels of accumulated debris, build stream banks, import gravels for aquatic life, thin riparian forests and create riparian habitat. The open space of floodplains adjacent to rivers and streams helps store and slowly release floodwaters, thus reducing flood flow and peaks and their subsequent impacts during small and frequent flood events. Further, riparian habitat within floodplains is of great value to resident and migratory animal species, as it provides corridors and linkages to and from the biotic regions of the county. The numerous essential habitat elements provided by the remaining riparian corridors of Riverside County make them a significant contributor to wildlife habitat throughout the county.

Wetlands

The General Plan provides specific policies for the protection of wetlands including the requirement to ensure compliance with the Section 404 of the federal CWA in terms of wetlands mitigation policies and policies concerning fill material in jurisdictional wetlands during development review and approval process; preservation of buffer zones around wetlands where feasible and biologically appropriate; and

consideration of wetlands for use as natural water treatment areas that will result in improvement of water quality.

San Bernardino County General Plan

San Bernardino County has established goal and policies to ensure coordination and cooperation with governmental agencies at all levels to ensure safe, reliable, and high-quality water supply for all residents and ensure prevention of surface and ground water pollution. The County General Plan provides specific policies for adherence to federal and state water quality standards for surface and groundwater and wastewater discharge requirements in the review of development proposals that relate to type, location and size of the project to safeguard public health. Similarly, the County General Plan specifies the need to work with the RWQCBs to establish uniform criteria for appropriate sewering options for new development. The County General Plan further directs cooperation with state, regional, and responsible authorities to expand water sampling programs to determine ambient groundwater quality conditions affecting public, agricultural, and private wells. Identify the sources, extent, and types of organic and inorganic groundwater contaminants, and evaluation of their impacts on groundwater resources. The County General Plan calls for the prevention of surface and groundwater pollution through continued cleanup of contaminated waters and watersheds.[66]

Imperial County General Plan

The Imperial County General Plan provides specific goals and policies related to maintaining the viability of the Salton Sea and other surface water resources in the county.[67]

- **Goal 2:** Long-term viability of the Salton Sea, Colorado River, and other surface waters in the County will be protected for sustaining wildlife and a broad range of ecological communities.
    - **Objective 2.1:** The continued viability of the agricultural sector as an important source of surface water for the maintenance of valuable wildlife and recreational resources in the County.
    - **Objective 2.2:** A balanced ecology associated with the riparian and ruderal biological communities important as breeding and foraging habitats for native and migratory birds and animals occurring within the County.

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66 San Bernardino County Land Use Services. 2007. *County of San Bernardino 2007 General Plan*. Available online at: http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGP.pdf, accessed August 27, 2019.

67 Imperial County Planning/Building Department. 1997. *Imperial County General Plan Water Element*. Available online at: http://www.icpds.com/CMS/Media/Water-Element.pdf, accessed August 27, 2019.

- **Objective 2.3:** Preservation of riparian and ruderal habitats as important biological filters as breeding and foraging habitats for native and migratory birds and animals.

Orange County General Plan

In the Orange County region, the protection of water quality is a major concern. The need to maintain safe water quality may constrain the development of energy resources, from methane (landfills) and geothermal sources. At a minimum, water quality concerns will need to be considered during the process of developing these resources and water intensive resources such as agriculture.

Development of land and the increase in population density has also created new sources of non-stormwater discharges and pollutants in stormwater discharges. The San Diego and Santa Ana RWQCBs require that water quality and watershed protection principles are considered as part of land use planning and development review.

Drainage Area Management Plan (DAMP)

The specific water pollutant control elements of the Orange County Stormwater Program are documented in the 2003 Drainage Area Management Plan (DAMP) which is the County of Orange, incorporated cities of Orange County, and Orange County Flood Control District's (collectively referred to as Permittees)primary policy, planning and implementation document for municipal NPDES Stormwater Permit compliance. The DAMP was prepared and is periodically updated using a consensus building process that involving public and private sector input and public review through the CEQA process.[68]

The DAMP describes the agreements, structures and programs that:

- Provide the framework for the program management activities and plan development (DAMP Section 2.0 and Section 3.0);
- Provide the legal authority for prohibiting unpermitted discharges into the storm drain system and for requiring BMPs in new development and significant redevelopment (DAMP Section 4.0);
- Improve existing municipal pollution prevention and removal best management practices (BMPs) to further reduce the amount of pollutants entering the storm drain system (DAMP Section 5.0);

68 Orange County Public Works. *2003 Drainage Area Management Plan (DAMP)*. Available online at: https://cms.ocgov.com/gov/pw/watersheds/documents/damp/mapplan.asp, accessed August 27, 2019.

- Educate the public about the issue of urban stormwater and non-stormwater pollution and obtain their support in implementing pollution prevention BMPs (DAMP Section 6.0);

- Ensure that all new development and significant redevelopment incorporates appropriate Site Design, Source Control and Treatment Control BMPs to address specific water quality issues (DAMP Section 7.0);

- Ensure that construction sites implement control practices that address control of construction related pollutants discharges including erosion and sediment control and on-site hazardous materials and waste management (DAMP Section 8.0);

- Ensure that existing development will address discharges from industrial facilities, selected commercial businesses, residential development and common interest areas/homeowner associations (Note: The San Diego permit explicitly outlines a residential component, but the Santa Ana permit is more general about residential requirements) (DAMP Section 9.0);

- Detect and eliminate illegal discharges/illicit connections to the municipal storm drain system (DAMP Section 10.0);

- Identify impacted receiving waters and produce environmental quality information to direct management activities, including prioritization of pollutants to support the development of specific controls to address these problems (DAMP Section 11.0); and

- Assess watersheds and manage urban runoff on a watershed basis (DAMP Section 12.0).

One of the major challenges for the Permittees in updating the programs was the reconciliation between the two Regional Board permits and the resulting program requirements that have significant differences for the first time. As a result of this separation, the 2003 DAMP now includes Local Implementation Plans (LIPs – also termed Jurisdictional Urban Runoff Management Programs – JURMP – in the San Diego Regional Board Third Term Permit). The LIPs were created to assist each Permittee in implementing an increasingly complex program within its jurisdiction while maintaining a single policy document that addresses two sets of permit requirements.[69] The LIPs were completed by the San Diego Permittees in February 2003 and by the Santa Ana Permittees in June 2003.

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69 Orange County Public Works. *Drainage Area Management Plan (DAMP), Appendix A – Stormwater Program Local Implementation Plan (LIP)*. Available online at: https://media.ocgov.com/gov/pw/watersheds/documents/damp/lip.asp, accessed August 27, 2019.

The requirement to overlay separate, but nonetheless, highly interrelated water quality protection and planning processes based on hydrologic rather than political boundaries was addressed through the creation of Watershed Action Plans (WAP). A WAP (see DAMP Appendix D) was created for each of the six watersheds under the jurisdiction of the San Diego Regional Board in August 2003. A model WAP was created for the Newport Bay watershed during 2005-06 and draft WAPs are being prepared for the other watersheds in the area of Orange County under the jurisdiction of the Santa Ana Regional Board.[70]

Ventura County General Plan

The Ventura County General Plan provides specific goals and policies related to the inventory and monitoring of water quantity and quality to facilitate effective management of the resources. The Ventura County General Plan has identified ten specific programs to support achievement of the goals and policies. The programs include:

- Support of the Seawater Intrusion Abatement Project;
- Enforcement of Chapter 70 (Excavation and Grading) of the Uniform Building Code, as incorporated by reference in and amended by the Ventura County Building Code, to ensure that any proposed grading in a waterway or wetland is adequately investigated and that any development incorporates appropriate design provisions to protect waterways or wetlands;
- Support the Fox Canyon Groundwater Management Agency Plan for both the Upper and Lower Aquifer Systems;
- Continued coordination with water districts and other appropriate agencies to establish a data base on actual available supply, projected use factors for types of land use and development, and threshold limits for development within available water resources;
- Planning Division will continue to promote of the efficient use of water through the Landscape Design Criteria Program;
- Cooperation between the Public Works Agency and the Environmental Health Division, to pursue the use of reclaimed water for agricultural irrigation;
- Continued monitoring, inspection and regulation of underground storage tanks;

70 Orange County Public Works. *Drainage Area Management Plan (DAMP)*. Available online at: https://cms.ocgov.com/gov/pw/watersheds/documents/damp/default.asp, accessed August 27, 2019.

- Identification of waste disposal sites and seek to mitigate impacts to water resources; and consideration of the Board of Supervisors of a Countywide water conservation retrofit program to fund the installation of water conservation fixtures) for businesses and residents located within Ventura County.[71]

City General Plan and Ordinances

In accordance with Sections 65560(g) of the California Government Code, all cities are required to have a conservation element as part of their General Plans.[72] The conservation element provides goals and policies related to conservation, development, and utilization of natural resources including water and its hydraulic force, forests, soils, rivers and other waters, harbors, fisheries, wildlife, minerals, and other natural resources. One of the six required aspects of the open space element is for planning, conservation and management of open space for the preservation of natural resources, including habitat for fish and wildlife species; areas required for ecologic and other scientific study purposes; rivers, streams, bays and estuaries; and coastal beaches, lakeshores, banks of rivers and streams, and watershed lands. In addition, many cities have ordinances related to protection, conservation and management of natural water resources consistent with the applicable beneficial uses stipulated in the applicable RWQCB basin plan.

Furthermore, some local jurisdictions have started to address climate change impacts such as sea level rise in policy documents. For example, the City of Long Beach developed a draft of its Climate Action and Adaptation Plan (CAAP) to help reduce greenhouse gas (GHG) emissions, prepare the community for the impacts of climate change, improve the quality of life, and enhance economic vitality. The CAAP provides a framework for creating or updating policies, programs, practices, and incentives to reduce the City's GHG footprint, and ensure the community and physical assets are better protected from the impacts of climate change.[73]

3.10.3 ENVIRONMENTAL IMPACTS

3.10.3.1 Thresholds of Significance

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

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71 City of Ventura. *Ventura General Plan*. Available online at: https://docs.vcrma.org/images/pdf/planning/plans/Goals-Policies-and-Programs.pdf, accessed August 27, 2019.

72 California Legislative Information. *Article 10.5. Open-Space Lands [65560-65570], Section 65560.*

73 City of Long Beach Development Services. Climate Action and Adaptation Plan. Available online at: http://www.longbeach.gov/lbds/planning/caap/, accessed September 17, 2019.

- Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality;
- Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin;
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:
  - Result in substantial erosion or siltation on- or off-site;
  - Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;
  - Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or
- In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation; or
- Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

3.10.3.2 Methodology

The analysis of water quality impacts identifies the types of pollutants potentially associated with future development as a result of implementation of the Plan and considers their effects on water quality. Consideration is given to BMPs, which would serve to minimize pollutants in stormwater runoff. Further, the Plan's consistency with relevant regulatory permits/requirements is evaluated to demonstrate how compliance would protect water quality.

As summarized in Regulatory Framework, independent of the CEQA process, there is a comprehensive set of regulations implemented at the State and jurisdictional level to impacts related to storm drainage, urban pollutants, and flood hazards. As such, the analysis presented herein assumes future projects would comply with these regulations.

This discussion of hydrology and water quality addresses impacts within the entire SCAG region. The impact analysis was based on several factors, including the policies and land uses of the Plan, the degree

to which existing land uses in the region would change, and the thresholds of significance for hydrology and water quality.

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

3.10.3.3 Impacts and Mitigation Measures

Impact HYD-1 **Potential to violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.**

Significant and Unavoidable Impact - Mitigation Required.

Hydrology and water quality resources of concern within the SCAG region are subject to extensive regulatory controls at the federal, state, and local level. Grading, excavation, and other construction activities associated with implementation of transportation projects and development projects anticipated to occur under the Plan, could impact water quality due to erosion resulting from exposed soils that may be transported in stormwater runoff. In addition, construction activities have the potential to generate short-term water pollutants, including sediment, trash, construction materials, and equipment fluids. However, all construction activities are subject to NPDES GCASP permit requirements in addition to any applicable local requirements. As shown in **Table 3.10-3, Pollutants Associated with Transportation**, there are several pollutants specific to transportation that could also impact water quality. Many urban runoff pollutants are attributable to landscape irrigation, highway runoff, and illicit dumping that flows into nearby water bodies during storm events. These pollutants could include, but are not limited to, oil, grease, auto emissions, and pesticides, urban runoff debris, and air pollution residue. Highway runoff is a component of urban runoff contributing oil and grease, sediment, nutrients, heavy metals, and toxic substances. If such contaminated runoff remains largely untreated, long-term degradation of water quality could occur.

The SWRCB has developed trash, metal, and bacteria TMDLs for many watersheds in the region, including Dominguez Channel, Santa Monica Bay, Los Angeles River, Santa Clara River, Ventura River, Malibu Creek, Calleguas Creek, and Ballona Creek. The TMDLs provide a numerical threshold for each pollutant within each watershed to be used for regulating both point and non-point source discharges and is implemented through the NPDES permit process. An NPDES storm water permit is required for any construction activity that would disturb greater than one acre. Acquisition of the General Construction permit is dependent on the preparation of a SWPPP that should contain specific BMPs to control the discharge of pollutants, including sediment, into the local surface water drainages. In addition, all state projects for which Caltrans is the sponsor agency would comply with the Caltrans Statewide NPDES permit that regulates all storm-water discharges from Caltrans owned conveyances, maintained facilities and construction activities. The inclusion of runoff control measures in the design of future roadway projects should improve water quality and result in fewer impacts to the environment.

Table 3.10-3
Pollutants Associated with Transportation

Pollutant	Source
Asbestos	Clutch plates, brake linings
Cadmium	Tire wear and insecticides
Copper	Thrust-bearing, bushing, brake linings, and fungicides and insecticides
Chromium	Pavement materials, metal plating, rocker arms, crankshafts, rings, and brake linings
Cyanide	Anti-caking compound in de-icing salt
Lead	Leaded gasoline, motor oil, transmission babbit metal bearings, tire wear
Iron	Auto-body rust, steel highway structures, moving engine parts
Manganese	Moving engine parts
Nickel	Diesel fuel and gasoline, pavement material, lubricating oil, metal plating, bushing wear, and brake linings
Nitrogen and Phosphorus	Motor oil additives, fertilizers
Sulphates	Roadway beds, fuel, and de-icing salt
Zinc	Motor oil and tires
Grease and Hydrocarbons	Spills and leaks of oil and n-paraffin lubricants, antifreeze, hydraulic fluids
Rubber	Tire wear
Sediment	Pavement wear, construction and maintenance activities

Source:
U.S. Environmental Protection Agency, Office of Water. 1995. Controlling Nonpoint Source Runoff Pollution from Roads, Highways, and Bridges. EPA-841-F-95-008a.

Construction of transportation projects and development projects anticipated to occur under the Plan would increase impervious surfaces throughout the SCAG region. The growth projections reflected in the

Plan would substantially increase the amount of urbanized land or densify existing urbanized areas in the SCAG region. Connect SoCal envisions more compact, infill development patterns which may result in higher levels of paved surfaces and pollution associated with water run-off from paved surfaces into urban waterways.

Increased impervious surfaces could add to storm water runoff volumes and peak flow rates which could result in increased pollutants loads. Future projects could also result in increased stormwater runoff, and thus increased pollutant loading, being captured in existing storm drain systems and conveyed to local or regional wastewater treatment facilities. The land use patterns included in the Plan would generate new sources of sanitary sewage, which would also be conveyed to wastewater treatment facilities in the region for secondary or tertiary treatment. Suspended sediments, oxygen demanding substances, and oil and grease would constitute a substantial part of these pollutant loads. Total nitrogen and total phosphorous would increase less than these other pollutants, but would have the potential for influencing algal growth, reducing dissolved oxygen, and affecting aquatic species abundance and composition. Contaminated urban runoff, if left untreated, would result in incremental degradation of water quality. This is of particular concern where projects are located on previously contaminated sites. Without effective erosion and storm water control, contaminated soils exposed during construction activities may result in surface water contamination.

Transportation and land use strategies in the Plan anticipate increased urbanization in high-quality transit areas (HQTAs). Additional impervious surfaces in these already developed areas could increase the potential for pollutants to enter impaired receiving waters. Project grading and construction of impervious surfaces for the Plan's transportation projects and anticipated development projects have the potential to alter existing drainage patterns by altering slope and reducing infiltration. Many jurisdictions in the region, such as the County and City of Los Angeles, have strict guidelines requiring no net increase in runoff during construction and operation. These low impact development standards help to reduce the potential for contaminated runoff.

For development projects where construction activities would disturb more than one acre of land, construction activities are also subject to NPDES GCASP requirements, which require the preparation and implementation of a SWPPP. However, since implementation of the Plan would add an additional 6,346 lane miles to the region and 41,546 acres of greenfield land is anticipated to become developed, there is potential for water quality standards and waste discharge requirements to be exceeded due to an expected increase in impervious surfaces. As such, implementation of the Plan may result in significant, unavoidable impacts to surface and groundwater quality requiring the consideration of mitigation measures.

Mitigation Measures

SCAG Mitigation Measure

SMM HYD-1: SCAG shall continue to work with local jurisdictions and water quality agencies to encourage regional-scale planning for improved water quality management and pollution prevention. Future impacts to water quality shall be avoided to the extent practical and feasible through cooperative planning, information sharing, and comprehensive pollution control measure development within the SCAG region. This cooperative planning shall occur as part of current and existing coordination, an integral part of SCAG's ongoing regional planning efforts.

Project Level Mitigation Measure

PMM HYD-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects from violation of any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

a) Complete, and have approved, a Stormwater Pollution Prevention Plan (SWPPP) prior to initiation of construction.

b) Implement Best Management Practices to reduce the peak stormwater runoff from the project site to the maximum extent practicable.

c) Comply with the Caltrans storm water discharge permit as applicable; and identify and implement Best Management Practices to manage site erosion, wash water runoff, and spill control.

d) Complete, and have approved, a Standard Urban Stormwater Management Plan, prior to occupancy of residential or commercial structures.

e) Ensure adequate capacity of the surrounding stormwater system to support stormwater runoff from new or rehabilitated structures or buildings.

f) Prior to construction within an area subject to Section 404 of the Clean Water Act, obtain all required permit approvals and certifications for construction within the vicinity of a watercourse:

g) Where feasible, restore or expand riparian areas such that there is no net loss of impervious surface as a result of the project.

h) Install structural water quality control features, such as drainage channels, detention basins, oil and grease traps, filter systems, and vegetated buffers to prevent pollution of adjacent water resources by polluted runoff where required by applicable urban storm water runoff discharge permits, on new facilities.

i) Provide operational best management practices for street cleaning, litter control, and catch basin cleaning are implemented to prevent water quality degradation in compliance with applicable storm water runoff discharge permits; and ensure treatment controls are in place as early as possible, such as during the acquisition process for rights-of-way, not just later during the facilities design and construction phase.

j) Comply with applicable municipal separate storm sewer system discharge permits as well as Caltrans' storm water discharge permit including long-term sediment control and drainage of roadway runoff.

k) Incorporate as appropriate treatment and control features such as detention basins, infiltration strips, and porous paving, other features to control surface runoff and facilitate groundwater recharge into the design of new transportation projects early on in the process to ensure that adequate acreage and elevation contours are provided during the right-of-way acquisition process.

l) Upgrade stormwater drainage facilities to accommodate any increased runoff volumes. These upgrades may include the construction of detention basins or structures that will delay peak flows and reduce flow velocities, including expansion and restoration of wetlands and riparian buffer areas. System designs shall be completed to eliminate increases in peak flow rates from current levels.

m) Encourage Low Impact Development (LID) and incorporation of natural spaces that reduce, treat, infiltrate and manage stormwater runoff flows in all new developments, where practical and feasible.

Level of Significance after Mitigation

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

Impact HYD-2 **Potential to substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.**

Significant and Unavoidable Impact - Mitigation Required.

Given that most of the groundwater basins in the Plan area are already in a state of overdraft, future development may result in a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of preexisting nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted). Population growth of 3.2 million people by 2045 would increase regional water demand and could substantially deplete groundwater supplies. Additionally, urbanization to accommodate future growth would potentially interfere with groundwater recharge due to increased impervious surfaces.

According to the Public Policy Institute of California, groundwater overdraft in some agricultural regions averages about 2 million af annually.[74] In contrast to surface water, groundwater use has largely been unregulated under California law until recently. Many basins have experienced long-term overdraft, and 21 of the state's 515 basins are now considered critically overdrafted, including Indian Wells Valley Basin which has portions within San Bernardino County and the Santa Clara River Valley – Oxnard Basin in Ventura County.[75,76]

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74 The Public Policy Institute. 2017. *Just the Facts. Groundwater in California.* May. Available online at: https://www.ppic.org/wp-content/uploads/JTF_GroundwaterJTF.pdf, accessed August 14, 2019.

75 The Public Policy Institute. 2017. *Just the Facts. Groundwater in California.* May. Available online at: https://www.ppic.org/wp-content/uploads/JTF_GroundwaterJTF.pdf, accessed August 14, 2019.

Most transportation projects involve the modification of existing facilities and do not themselves generate water supply impacts but could affect groundwater by increasing impervious surfaces and reducing opportunities for recharge. The Plan anticipates approximately 6,346 new lane miles would be added to the region in the form of new facilities, additional right-of-way on existing transportation facilities, extending roads to accommodate bike lanes on existing transportation facilities, and even associated landscaping and future plantings. Additionally, under the Plan, 41,546 acres of greenfield land is anticipated to urbanized as the region adds housing and jobs. Under natural conditions, vegetation intercepts and retains rainfall before infiltration or runoff occurs. Without hard-surfaced land areas, this hydrology cycle favors groundwater recharge. With a roadway or other hard surface this infiltration dynamic is significantly impeded. The magnitude of this effect is reported by studies indicating that the volume of storm water washed off one-acre of roadway is about sixteen times greater than that of a comparably sized meadow.

The increase in impervious surfaces due to additional lane miles and conversion of greenfields into developed land would potentially affect groundwater recharge rates. Reduction in groundwater recharge, either through a net deficit in aquifer volume or through a lowering of the local groundwater table level, presents a significant impact and requires the consideration of mitigation measures.

Mitigation Measures

SCAG Mitigation Measure

SMM HYD-2: SCAG shall build from existing efforts including those at the sub-regional and local level and shall continue to work with local jurisdictions and water agencies, to encourage regional-scale planning for improved stormwater management and groundwater recharge, including consideration of alternative recharge technologies and practices. Future adverse impacts may be avoided through cooperative planning, information sharing, and comprehensive implementation efforts within the SCAG region.

Project Level Mitigation Measures

PMM HYD-2: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation

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76 California Department of Water Resources. 2019. *Bulletin 118 Groundwater Basins Subject to Critical Conditions of Overdraft*. Available online at: https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Bulletin-118/Critically-Overdrafted-Basins/Files/2018CODBasins.pdf?la=en&hash=3014D2F2299AA503C469D41BBC0E8DCFCE0267F8, accessed September 17, 2019.

measures to reduce substantial adverse effects from violation of any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

a) Avoid designs that require continual dewatering where feasible.

For projects requiring continual dewatering facilities, implement monitoring systems and long-term administrative procedures to ensure proper water management that prevents degrading of surface water and minimizes adverse impacts on groundwater for the life of the project, Construction designs shall comply with appropriate building codes and standard practices including the Uniform Building Code.

b) Maximize, where practical and feasible, permeable surface area in existing urbanized areas to protect water quality, reduce flooding, allow for groundwater recharge, and preserve wildlife habitat. Minimize new impervious surfaces, including the use of in-lieu fees and off-site mitigation.

c) Avoid construction and siting on groundwater recharge areas, to prevent conversion of those areas to impervious surface.

d) Reduce hardscape to the extent feasible to facilitate groundwater recharge as appropriate.

Level of Significance after Mitigation

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

Impact HYD-3a **Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition**

of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site.

Significant and Unavoidable Impact - Mitigation Required.

Implementation of transportation projects as well as anticipated development under the Plan would occur within watersheds that have impaired water bodies. Many of the impaired water bodies are located near a freeway, transit, or rail projects included in the Plan. Several projects may impact water bodies by placing fill material within a stream channel. For example, several of the lane widening projects and new transportation facilities could cross existing creeks or be expanded into wetland areas. However, these potential intrusions would have to comply with existing State and local regulations and would be subject to permitting by the USACOE and a RWQCB pursuant to Sections 404 and 401 of the CWA.

Stormwater runoff is influenced by rainfall intensity, ground surface permeability, watershed size and shape, and physical barriers. The introduction of impermeable surfaces greatly reduces natural infiltration, allowing for a greater volume of runoff. In addition, paved surfaces and drainage conduits can accelerate the velocity of runoff, concentrating peak flows in downstream areas faster than under natural conditions. Significant increases to runoff and peak flow can overwhelm drainage systems and alter flood elevations in downstream locations.

Construction and earth-moving activities can be a major source of sediment loading in local waterways. There is significant potential for unprotected soil to erode as stormwater runoff as a result of construction activity. However, state regulation requires that prior to commencement of construction, a SWPPP must be submitted to the SWRCB. SWPPPs identify best management practices (BMPs) used during construction. Individual projects included or discussed in the Plan, are expected to adopt BMPs appropriate to local conditions and to the proposed construction techniques that will reduce stormwater runoff.

The Plan recognizes that as population continues to grow, there is increasing pressure on natural lands. One of the goals of the Plan (See **Section 2.0, Project Description**) is to promote conservation of natural lands and restoration of critical habitats which would have a positive effect on the region's hydrology. The land use mix for the Plan assumes that 60 percent of new housing and 73 percent of new jobs will be in Growth Priority Areas and therefore would be directed away from sensitive habitat or greenfields. However, the Plan would still result in an overall increase in impervious surface.

In addition, due to the anticipated demographic growth in the SCAG region reflected in the Plan, urbanization may also occur in areas that have the potential to result in changes to the drainage patterns. Examples include hillsides and ridgelines which can experience development pressure as urbanization

increases in nearby cities. While the Plan encourages denser, infill development in existing urban areas near HQTAs, many of which are located on relatively flat lands, construction on hillsides and other similar land areas greatly increases the potential for impacts to occur. Therefore, impacts related to altering the existing drainage patterns of a site or area is considered significant.

Mitigation Measures

SCAG Mitigation Measures

See **SMM HYD-1** and **SMM HYD-2.**

SMM HYD-3: SCAG shall build from existing efforts including those at the sub-regional and local level and shall continue to work with local jurisdictions to encourage regional-scale planning for maintaining and/or improving existing drainage patterns. Future adverse impacts may be avoided through cooperative planning, information sharing, and comprehensive implementation efforts within the SCAG region.

Project Level Mitigation Measures

See **PMM HYD-1.**

Level of Significance after Mitigation

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

Impact HYD-3b **Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would substantially increase the rate or amount of flooding on- or off-site.**

Significant and Unavoidable Impact - Mitigation Required.

As discussed in Impact HYD-3a, the Plan has the potential to change existing drainage patterns. Transportation projects such as lane widening projects, new highways, as well as bridges/tunnels, and transportation facilities projects that could cross existing creeks, water crossings, rivers or be expanded into wetland areas may impact water bodies by placing fill material within a stream channel. Such changes could result in increased flooding. In addition, implementation of the Plan's land use strategies, while mostly aimed at concentrating development in more compact urban areas, would result in more impervious surfaces including the consumption of 41,546 acres of greenfield lands. Impacts related to the substantial alteration of the existing drainage pattern of the site or area and/or the substantial increase in the rate or amount of surface runoff that would result in flooding on site or off site would be significant, requiring mitigation measures.

Mitigation Measures

SCAG Mitigation Measures

See **SMM HYD-1** through **SMM HYD-3.**

Project Level Mitigation Measures

See **PMM HYD-1** and **PMM HYD-2.**

Level of Significance after Mitigation

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

Impact HYD-3c **Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would create or contribute runoff**

water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

Significant and Unavoidable Impact - Mitigation Required.

As discussed in Impact HYD-3a, the Plan has the potential to alter existing drainage patterns. Implementation of the Plan's transportation projects as well as land use strategies may increase impervious surfaces, which in turn could increase urban runoff if not regulated, resulting in the transport of greater volumes of polluted water into storm drain systems. Storm water runoff is influenced by rainfall intensity, ground surface permeability, watershed size and shape, and physical barriers. The introduction of impermeable surfaces greatly reduces natural infiltration, allowing for a greater volume of runoff.

As stated previously, paved surfaces and drainage conduits can accelerate the velocity of runoff, concentrating peak flows in downstream areas faster than under natural conditions. Significant increases to runoff and peak flow can overwhelm drainage systems and alter flood elevations in downstream locations. Increased runoff velocity can also promote scouring of existing drainage facilities, reducing system reliability and safety (see **Table 3.10-3, Pollutants Associated with Transportation**). In addition, this increase in velocity has the potential to create or contribute runoff flows that would exceed the capacity of existing or planned storm water drainage systems. In addition, placing new structures within an existing floodplain can impede flood waters, altering the flood risks both upstream and downstream. As a result, there is a significant impact to substantially create and contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems and providing substantial additional sources of polluted runoff, requiring mitigation measures.

Mitigation Measures

SCAG Mitigation Measures

See **SMM HYD-1** through **SMM HYD-3.**

Project Level Mitigation Measures

See **PMM HYD-1** and **PMM HYD-2.**

Level of Significance after Mitigation

As discussed above, regulations and policies would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing

regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and the lack of project specific-detail, including project components and locations, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts related to drainage and stormwater facility capacity and potential for polluted runoff could be significant and unavoidable even with implementation of mitigation.

Impact HYD-4 **In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.**

Significant and Unavoidable Impact – Mitigation Required.

The entire SCAG region is susceptible to impacts from seismic activity including the occurrence of seiches in Big Bear Lake, Lake Arrowhead, Lake Casistas, Castaic Lake, Pyramid Lake, Lake Elsinore, Diamond Valley Lake, and the Salton Sea. With more than 150 miles of coastline, significant portions of the SCAG region are also at risk of tsunamis.

With regard to flooding, implementation of transportation projects and development projects anticipated to occur under the Plan built in low-lying areas or in proximity to waterways and/or dam inundation zones may be subject to flood hazards. Flooding risks are associated with projects that are located downstream of dams and retention basins or afforded protection by levee system. These areas may be subject to failure as a result seismic ground-shaking or other natural or anthropogenic actions that compromise the stability of such structures. Additional compact urban development, as well as possible expansion of existing urban areas in areas that are potentially subject to flooding as a result of failure of a levee or dam, could create a potential to expose people or structures to a significant risk of loss, injury, or death involving flooding. Furthermore, for the Plan's transportation projects and anticipated development projects that are near the coast in areas susceptible to tsunamis, there is a potentially significant risk of releasing pollutants due to project inundation (See **Figure 3.7-6, Areas Susceptible to Tsunamis**). However, compliance with existing regulatory requirements described above and in 3.10.2 Regulatory Framework would ensure that the land use changes and transportation network would not expose people or structures to a significant risk of loss, injury, or death from flooding, tsunami, or seiche.

The Plan encourages higher-density housing and commercial development in the region's HQTAs. HQTAs are generally located in areas that are subject to Flood Management Plans (FMPs) and major

flood control infrastructure that have been constructed to constrain the 100-year flood in to flood control systems.

Flood-prone areas in Imperial County are managed pursuant to an FMP, which includes a future-oriented approach to planning in flood risk areas. It is a pre-disaster planning approach that is required by FEMA for the County to continue to participate in the National Flood Insurance Program (NFIP). When a community chooses to join the NFIP, it must adopt and enforce minimum floodplain management standards for participation. The floodplain management requirements within the Special Flood Hazard Area (SFHA) are designed to prevent new developments from increasing the flood threat and to protect new and existing buildings from anticipated flood events. When a community chooses to join the NFIP, it must require permits for all development within the SFHA and ensure that construction materials and methods used will minimize future flood damage.

The Los Angeles Flood Control District includes the vast majority of drainage infrastructure within incorporated and unincorporated areas in every watershed in the County, including 500 miles of open channel, 2,800 miles of underground storm drain, and an estimated 120,000 catch basins.

The County of Orange maintains 350 miles of concrete, rock lined and earthen flood control facilities. Flood control facilities are designed to handle water flow from storm drains and other runoff and "channel" the water into the bay or ocean.

The Riverside County Flood Control District owns and operates over 600 miles of channels storm drains and levees along with 74 dams and detention basin that reduce flood risk throughout the District.

Similarly, the San Bernardino County Flood Control District has developed a very extensive system of facilities, including dams, conservation basins, channels, and storm drains to intercept and convey flood flows through and away from the major developed areas of the County.

The Ventura County Flood Control District provides for the control and conservation of flood and storm waters and for the protection of watercourses, watersheds, public highways, life and property in the district from damage or destruction from these waters.

The flood control districts in the SCAG region participate in the NFIP, which is based on a mutual agreement between the federal government and communities. Participating communities agree to regulate floodplain development according to specified criteria and standards. Specifically, communities must adopt and enforce minimum floodplain management regulations so that development, including buildings, is undertaken in ways that reduce exposure to flooding.

The Plan encourages development in HQTAs and other land use patterns of development in areas that are generally located in areas afforded flood protection by flood control facilities and are subject to specific land use planning regulations pursuant to the NFIP; therefore, the Plan would not be expected to result in development in flood hazard zones.

Rising sea levels will increase the potential for coastal flooding and flood hazards in the future (see **Section 3.10.1.7**, above), and the issue of sea-level rise is a critical component of land use planning and hazard analysis in coastal areas. Until the year 2050, most of the climate models predict a similar degree of sea-level rise; however, after 2050, projections of sea-level rise become less certain because of divergent modeling results and differences in various estimates of greenhouse gas emissions (California Climate Action Team 2010). In 2045 it is expected that an additional 1,301 persons and 151 dwelling units would be at risk due to sea level rise.[77] **Figure 3.10-3, Areas Vulnerable to Sea Level Rise,** shows areas vulnerable to sea level rise with the Plan.

The CCC's Sea-Level Rise Policy Guidance outlines the types of information, analysis, and design considerations the CCC's staff requires to determine whether shoreline projects conform to the Coastal Act policies. In order to be consist with the Coastal Act, projects must be designed to minimize conflicts with applicable requirements, including that new development: (1) be designed to eliminate or mitigate adverse effects on local shoreline sand supply; and (2) ensure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of a site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along the coast (California Coastal Act Sections 30235 and 30253).

Sea level rise and the risk of tsunamis are existing environmental conditions, and unless the Project will exacerbate these conditions, they are not considered potentially significant impacts under CEQA. As discussed in **Section 3.8, Greenhouse Gas Emissions**, the Plan could result in a significant impact with respect to greenhouse gas emissions (GHGs) and GHGs are considered a primary cause of global climate change and sea level rise. However, the relationship between development in any given region or country and measurable sea level rise is not possible to determine and is therefore considered too speculative to be analyzed any further in this environmental document.

Transportation and anticipated development projects are expected to be built in areas already subject to the flooding hazards discussed above, and existing planning and design standards and regulations would serve to address and minimize the associated potential impacts. In addition, project-specific technical studies would be required to reduce potential risks associated with the Plan to levels of

[77] SCAG SPM modeling 2019

insignificance. Based on the above analysis and compliance with the regulations outlined in Section 3.10.2, people or structures would not be exposed to a significant risk of inundation due to flooding, tsunamis, and seiches from development associated with the Plan. Therefore, the Plan would result in significant impacts with respect to risk of inundation by flooding, tsunami, or seiche. Consideration of the following mitigation measures is necessary.

Mitigation Measures

SCAG Mitigation Measure

SMM HYD-4: SCAG shall continue to work with local jurisdictions and water quality agencies to encourage flood protection and prevent development in flood hazard areas that do not have appropriate protections. This shall be accomplished through cooperation and information sharing regarding specific alignments and rights-of-way planning for RTP projects, and regional program development as part of SCAG's ongoing regional planning efforts. These include but are not limited to web-based data distribution planning tools and sustainability programs in conjunction with local governments. Such services would potentially consist of an inventory of areas located in or near a 100-year flood hazard zone or hazard areas that would potentially be affected by a failure of a levee or dam; or inundation by seiche, tsunami, or mudflow.

Project Level Mitigation Measure

PMM HYD-4: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures capable of avoiding or reducing the potential impacts of locating structures that would impede or redirect flood flows, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

a) Ensure that all roadbeds for new highway and rail facilities be elevated at least one foot above the 100-year base flood elevation. Since alluvial fan flooding is not often identified on FEMA flood maps, the risk of alluvial fan flooding should be evaluated and projects should be sited to avoid alluvial fan flooding. Delineation of floodplains and alluvial fan boundaries should attempt to account for future hydrologic changes caused by global climate change.

Level of Significance after Mitigation

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

Impact HYD-5 Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan

Significant and Unavoidable Impact - Mitigation Required.

As discussed in Section 3.10.1, there are six RWQCBs (either wholly or in part) that have jurisdiction within the SCAG region (**Figure 3.10-1, Regional Water Quality Control Boards)**. The RWQCB is responsible for the protection of the beneficial uses of waters within each county. In general, the RWQCB uses its planning, permitting, and enforcement authority to meet this responsibility and adopts a Water Quality Control Plan (basin plan) to implement plans, policies, and provisions for water quality management. The basin plan for each of the six SCAG counties is discussed in **Section 3.10.2.3**. In accordance with state policy for water quality control, the RWQCB employs a range of beneficial use definitions for surface waters, groundwater basins, marshes, and mudflats that serve as the basis for establishing water quality objectives and discharge conditions and prohibitions. The basin plan identifies existing and potential beneficial uses supported by the key surface water drainages throughout its jurisdiction. The basin plan also includes water quality objectives that are protective of the identified beneficial uses; the beneficial uses and water quality objectives collectively make up the water quality standards for a given region and basin plan.

As discussed under **Impact HYD-2**, implementation of Connect SoCal would increase impervious surfaces due to additional lane miles and conversion of greenfields to developed land. An increase in impervious surfaces would increase water runoff and potentially affect groundwater recharge rates and water quality in the basins. Therefore, the Plan may conflict with or obstruct the implementation of a water quality control plan or sustainable groundwater management plan and mitigation measures are required.

Mitigation Measures

SCAG Mitigation Measure

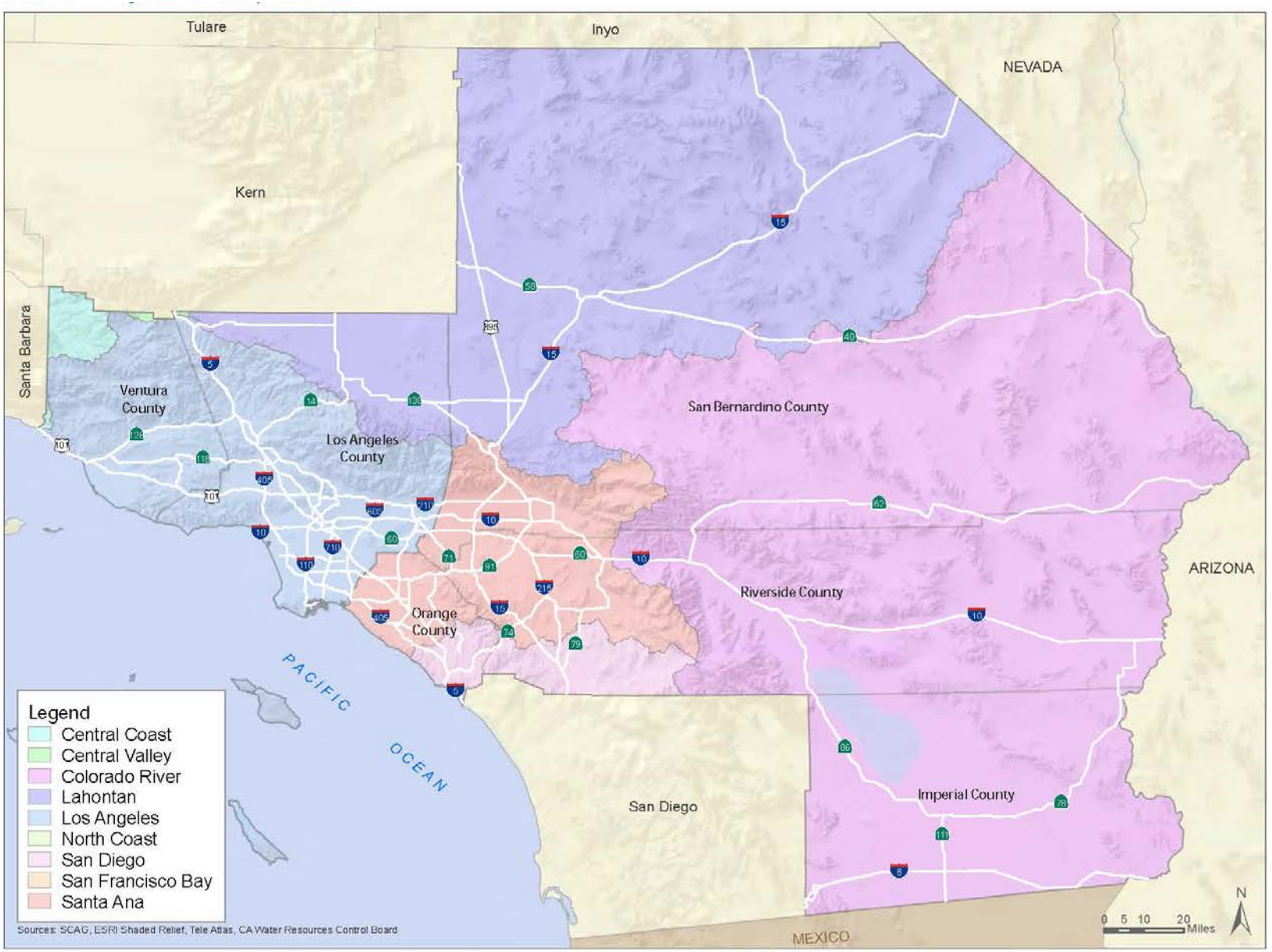
See **SMM HYD-2.**

Project Level Mitigation Measure

See **PMM HYD-2.**

Level of Significance after Mitigation

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



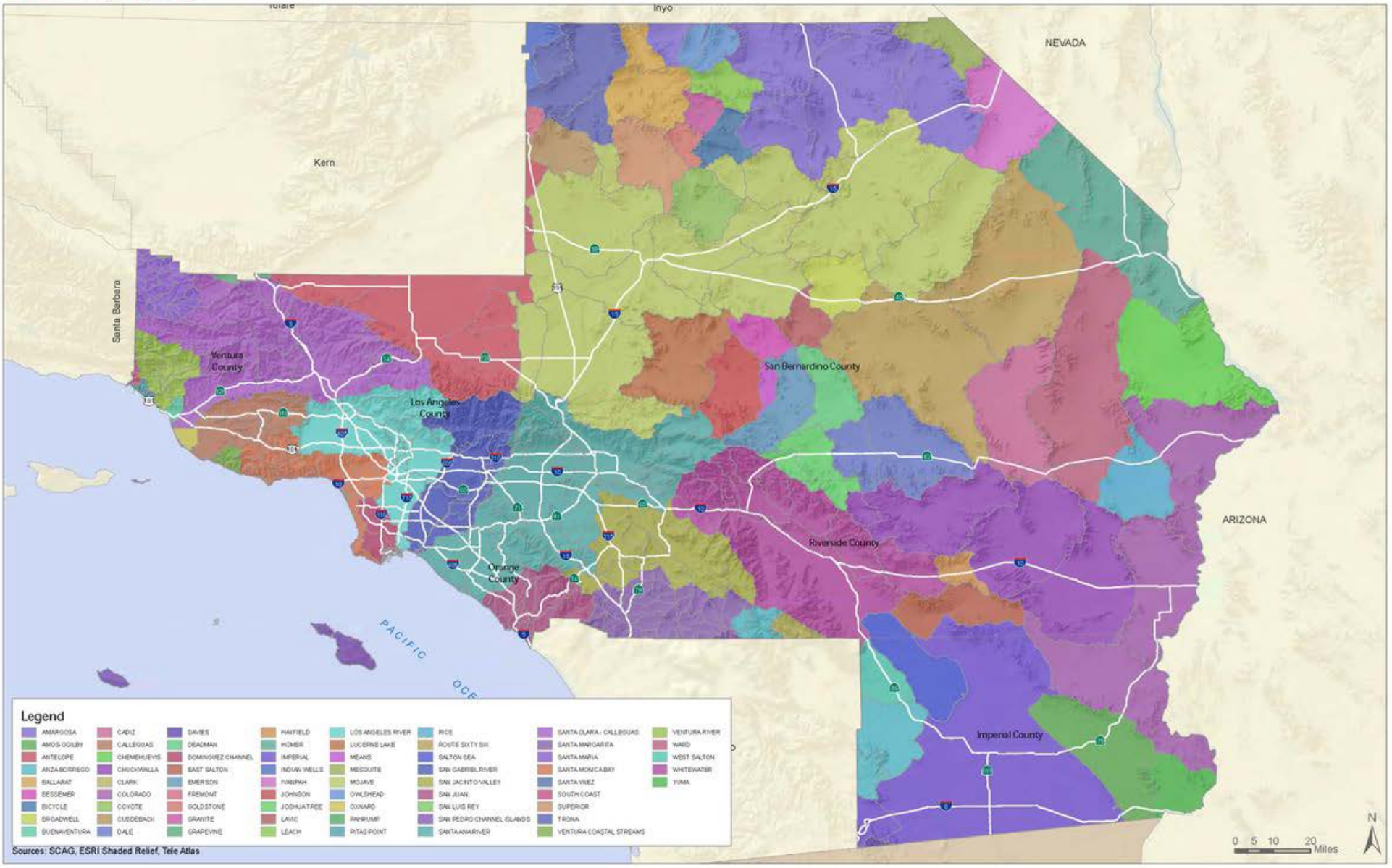
SOURCE: SCAG, ESRI Shaded Relief, TeleAtlas, CA Water Resources Control Board, 2012

FIGURE **3.10-1**

IMPACT SCIENCES

Regional Water Quality Control Boards

1329.001•11/19



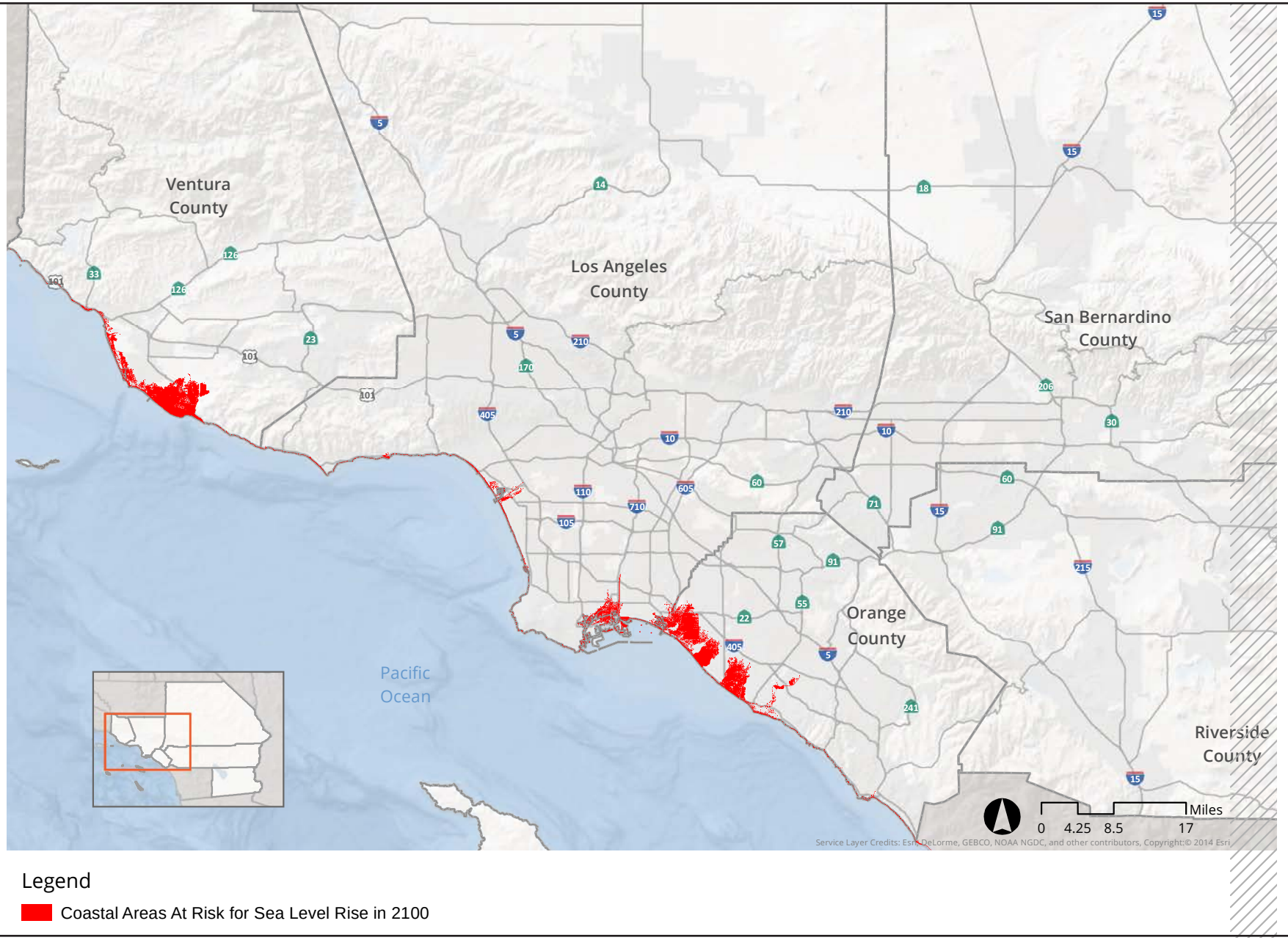
SOURCE: SCAG, ESRI Shaded Relief, TeleAtlas, 2015

FIGURE **3.10-2**

IMPACT SCIENCES

Watersheds in the SCAG Region

1329.001•11/19



SOURCE: SCAG, 2019

FIGURE **3.10-3**

IMPACT SCIENCES

Areas Vulnerable to Sea Level Rise

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3.11 LAND USE AND PLANNING

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

3.11.1 ENVIRONMENTAL SETTING

3.11.1.1 Definitions

Agricultural Lands Land designated for farming; specifically the production of crops and rearing of animals to provide food and other products.

Air Quality Management Plans: The Air Quality Management Plan (AQMP) is a plan prepared by local air districts and is a regional blueprint for achieving air quality standards and healthful air.

Carbon Sequestration The ability for natural elements such as forests, soils and oceans to store carbon instead of releasing it into the atmosphere, preventing GHG Emissions.

Complete Communities Suburban communities that provide a mix of land uses in strategic growth areas, wherein most daily needs can be met within a short distance of home. Complete communities provide residents with the opportunity to support their local area and run daily errands by walking or bicycling rather than traveling by automobile.

Established Community: Refers to a place where there are existing populations of people that have been living in that place for some period of time. The term is used in Appendix G of the *CEQA Guidelines* under the land use thresholds of significance

Farmland: §21060.1(a) of CEQA (Public Resources Code §§21000-21177) delineates the consideration of agricultural land to include "prime farmland, farmland of statewide importance, or unique farmland, as defined by the United States Department of Agriculture (USDA) land inventory and monitoring criteria,

as modified for California," and is herein collectively referred to as "Farmland." The following are categories mapped by the CDC:[1]

Federal Transportation Improvement Program: Federal Transportation Improvement Program – A six-year comprehensive listing of transportation projects proposed for federal funding, that require a federal action, or are regionally significant, and are within the planning area of an MPO, the last two years are for informational purposes only.

General Plan: California State Law requires every city and county to adopt a comprehensive General Plan to guide its future development. The General Plan essentially serves as a "constitution for development" - the document that serves as the foundation for all land use decisions. Every jurisdiction's General Plan includes seven required "Elements" that are mandated by State law; local governments may adopt additional optional Elements to address local priorities and planning goals.

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

Greenfield: Also known as "raw land," land that is privately owned, lacks urban services, has not been previously developed, and is located at the fringe of existing urban areas.

Land Use Designation: A land use classification with associated land use or management policies. Land use designations are applied to specific areas through the county land use planning processes and culminate in the adoption of a land use element to the General Plan. Some land use designations have been established through legislation (e.g., National Forest), while other designations, such as Significant Ecological Areas, have been established through policy or planning processes.

Land Use Element: The land use element is one of seven mandatory elements of the General Plan required pursuant to General Land Use Law in California.

Natural Lands Biologically diverse landscapes such as forested and mountainous areas, shrub lands, deserts and other ecosystems which contain habitat that supports wildlife and vegetation.

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

Open Space: Generally understood as any area of land or water which, for whatever reason, is not developed for urbanized uses and which therefore enhances residents' quality of life. Each county and city in California must adopt an open space element as part of its general plan. The element is a statement of local planning policies focusing on the use of unimproved land or water for: 1) the preservation or managed production of natural resources, 2) outdoor recreation, and 3) the promotion of public health and safety. Therefore, open space will be defined by each jurisdiction based on their own unique resources and environment.

Ordinance: A law set forth by a governmental authority; a municipal regulation.

Rangelands: Rangelands include any expanse of natural land that is not fertilized, irrigated, or cultivated and is predominately used for grazing by livestock and wildlife.

Recreation: Recreation areas may be composed of one large site or several sites located in proximity that together provide a recreation opportunity at the local and/or regional level. These parks may include areas of significant natural resources, as well as more developed activity sites.

Regional Housing Needs Assessment: Regional Housing Needs Assessment – Quantifies the need for housing within each jurisdiction of the SCAG region based on population growth projections. Communities then address this need through the process of completing the housing elements of their General Plans.

Regional Transportation Plan (RTP): A Regional Transportation Plan provides a vision for transportation investments throughout the region. SCAG updates its RTP every four years. Using growth forecasts and economic trends, the RTP considers the role of transportation in the broader context of economic, environmental, and quality-of-life goals for the future, identifying regional transportation strategies to address mobility needs.

Smart Growth: A term that covers a range of development and conservation strategies that help protect the natural environment and make communities more attractive, economically stronger, and more socially diverse. A balance is sought between economically prosperous, socially equitable, and environmentally sustainable community development.

Specific Plan: A specific plan is a tool for the systematic implementation of the general plan. It effectively establishes a link between implementing policies of the general plan and the individual development proposals in a defined area. A specific plan may be as general as setting forth broad policy concepts, or as detailed as providing direction to every facet of development from the type, location and intensity of uses

to the design and capacity of infrastructure; from the resources used to finance public improvements to the design guidelines of a subdivision.

Subregion: A total of 15 subregions represent portions of Southern California with shared interests, issues and geography. Subregions play an important role as a conduit between SCAG and the cities and counties of the region by participating and providing input on SCAG's planning activities. This involvement helps the Regional Council and its committees make better-informed decisions.

Urban Areas: Urban Areas in the SCAG region represent densely developed territory, and encompass residential, commercial and other nonresidential urban land uses where population is concentrated over 2,500 people in a given locale.

Vacant Land: Vacant land is generally referred to land with no buildings on it.

Zoning Designation: The regulation of the use of real property by local government, which restricts land use to residential, commercial, industrial, or other uses, is affected by the zoning designation allocated to each property. The local governing body considers the character of the property as well as its fitness for particular uses. It must enact the regulations in accordance with a well-considered and comprehensive plan intended to avoid arbitrary exercise of government power.

3.11.1.2 Existing Land Uses

The SCAG region serves as the nation's gateway for global trade. The SCAG region is comprised of six counties—Imperial, Orange, Los Angeles, Riverside, San Bernardino, and Ventura—and totals approximately 38,000 square miles in area (almost 25 million acres). The region stretches from the state borders with Nevada and Arizona to the Pacific Ocean and from the southernmost edge of the Central Valley to the Mexican border. The region includes the county with the largest area in the nation, San Bernardino County, as well as the county with the highest population in the nation, Los Angeles County. The SCAG region includes the second largest city in the nation, Los Angeles, and six additional cities that rank in the top 100 by population: Long Beach (36th), Anaheim (55th), Santa Ana (57th), Riverside (59th), Irvine (91st), and San Bernardino (98th). In addition to its numerous and diverse urban centers that serve as home for the approximately 19 million people, the vast area includes millions of acres of open space and recreational land as well as large amounts of farmland.

The SCAG region stretches from the state borders with Nevada and Arizona to the Pacific Ocean and from the southernmost edge of the Central Valley to the Mexican border. The region includes the county with the largest area in the nation, San Bernardino County, as well as the county with the highest population in the nation, Los Angeles County (**Figure 3.11-1, SCAG Region**). The SCAG region is

comprised of complex patterns of land uses including residential, commercial/office, industrial, institutional, agricultural, and open space land uses (**Figure 3.11-2, Existing Land Uses**). The four largest cities, which provide housing and employment for over half of the population in the SCAG region, are located in the coastal basins that are favored by moderate climate: Los Angeles, Long Beach, Santa Ana, and Anaheim.

While the SCAG region houses nearly half of the state's population, of the 38,000 square miles, nearly 61 percent of the land is open space, most of that is in public ownership, primarily federal. (**Figure 3.11-3, Protected Areas in the SCAG Region**).

As a whole, vacant lands account for more than 20 million of the total 25 million acres of overall land available in the SCAG region. Vacant lands include areas that have not been developed with man-made structures and contain no agricultural uses or water bodies. Generally, these areas are open, and contain natural or disturbed natural vegetation. Rangeland is included in this category. Undeveloped areas of parks are also included. Most vacant land is in an undeveloped state, containing native or non-native vegetation such as grasses, herbaceous plants, shrubs, and trees. Vacant lands outside of urban areas may also provide habitat for biological resources. No or few structures or improvements are present. Rangeland may be open land or fenced over large areas. Rangeland vegetation may be no different than open vacant land, or may contain grassland for grazing livestock. Additionally, vacant lands include abandoned orchards and vineyards, beaches, and vacant land with limited improvements.

Vacant lands with limited improvements include areas where streets have been laid in a subdivision pattern, but no further building or improvements have occurred over time. Lastly, vacant lands include open undeveloped land within urban areas that are not associated with a particular facility. Typically, these areas are vacant lots. They normally contain no structures but may have such improvements as curbs and sidewalks. The land may be in a graded condition with little or no vegetation, or may be in a successional vegetated state, with numerous shrubs and grasses, growing at different rates, in an unkempt condition. Examples of vacant lands in the SCAG region, include but are not limited to, the region's national forests, state parks, national parks and monuments, lands administered by the BLM, other public lands, and various private holdings. Some examples of the larger areas of vacant land in the SCAG region include the Los Padres National Forest, Angeles National Forest, Cleveland National Forest, San Bernardino National Forest, Joshua Tree National Park, Death Valley National Park, the East Mojave Preserve, and Anza Borrego Desert State Park. Military lands are included in a separate category and include, but are not limited to, Barstow Marine Corps Logistics Base, Edwards Air Force Base, El Centro Naval Air Facility, Fort Irwin, Los Angeles Air Force Base, March Air Reserve Base, Naval Warfare Assessment Station Corona, Naval Weapons Station Seal Beach, Point Mugu Naval Air Weapons Station,

Twentynine Palms Marine Corps Combat Center, and Chocolate Mountains Aerial Gunnery Range. With limited exceptions, the military lands are not open to the public.

Active farmlands account for slightly less than one million acres. Approximately 2.3 million acres in the region are developed with a highway network of 80,170 lane miles and transit network of 14,906 route miles.[2]

3.11.1.3 Established Communities

The SCAG region consists of six counties, 191 cities, and 16 tribal reservations. As shown in **Table 3.11-1, Summary of Established Communities in the SCAG Region**, the population in the unincorporated territories of the counties and the member cities varies widely by area. The table also shows the newest and oldest communities based on the date of incorporation, and current population for each county.

Table 3.11-1
Summary of Established Communities in the SCAG Region

	County					
	Imperial	**Los Angeles**	**Orange**	**Riverside**	**San Bernardino**	**Ventura**
Total county square miles	4,482	4,751	948	7,303	20,105	2,208
Total 2019 county population	190,266	10,253,716	3,222,498	2,440,124	2,192,203	856,598
Oldest city date of incorporation	City of Imperial – 1904	Los Angeles – 1850	Anaheim – 1876	Riverside – 1883	San Bernardino – 1869	San Buenaventura – 1866
Newest city date of incorporation	City of Westmorland – 1934	Malibu – 1991	Aliso Viejo – 2001	Jurupa Valley – 2011	Yucca Valley – 1991	Moorpark – 1983
Largest city by population (2019)	El Centro – 46,248	Los Angeles – 4,040,079	Anaheim – 359,339	Riverside – 328,101	San Bernardino – 219,233	Oxnard – 209,879
Smallest city by population (2019)	Westmorland – 2,461	Vernon – 301	Villa Park – 5,888	Indian Wells – 5,445	Needles – 5,085	Ojai – 7,769
Largest city by square miles	El Centro – 11	Los Angeles – 503	Irvine – 66	Palm Springs – 95	Hesperia – 73	Thousand Oaks – 55
Smallest city by square miles	Westmorland – 5.9	Hawaiian Gardens – 0.96	La Palma – 1.81	Canyon Lake – 5	Grand Terrace – 4	Filmore – 3.3

Source: SCAG. 2019. Local Profiles. May. Available online at: https://scag.ca.gov/DataAndTools/Pages/LocalProfiles.aspx, accessed September 5, 2019. California Department of Finance. E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2019 with 2010 Census Benchmark. Available online at: http://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-5/, accessed September 16, 2019.

2 SCAG. 2019. Scenario Planning Model Output.

3.11.1.4 Counties

The SCAG region is composed of six counties: Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. The Plan's land use policies and strategies encourage improvement in the jobs-housing balance by focusing new housing and employment in High Quality Transit Areas (HQTAs). A general discussion of the land use patterns is provided for each of the six SCAG counties below.

- **Imperial County:** The nature of land use within Imperial County is linked to its rural beginnings, beginning as an isolated farming community. Imperial County is predominantly an agricultural area.[3] However, pressure of growth from nearby San Diego and Riverside Counties have resulted in a significant population boom. Between 2000 and 2018, the County has seen a 33.9 percent population growth, higher than the SCAG region rate of 15.9 percent.[4] As such, a primary goal as stated in the Land Use Element of the Imperial County General Plan is to "diversify employment and economic opportunities in the County while preserving agricultural activity (Goal 2)."[5]

- **Los Angeles County:** One of the largest counties in the country, Los Angeles County encompasses approximately 4,083 square miles, consisting of 88 incorporated cities[6] and an unincorporated area that accounts for approximately 65 percent of the total land area of Los Angeles County.[7] Los Angeles County is further divided into nine SCAG subregions: North Los Angeles County; San Fernando Valley Council of Governments; Las Virgenes Malibu Conejo Council of Governments; Arroyo Verdugo; Westside Cities Council of Governments; South Bay Cities Council of Governments; City of Los Angeles; San Gabriel Valley Council of Governments; and Gateway Cities Council of Governments. Between 2000 and 2018, the total population of Los Angeles County increased by 8 percent, which was lower than the SCAG region increase of 15.9 percent. It is also important to note that 53.7 percent of the total 2018 population of SCAG region is in Los Angeles County.[8]

  The unincorporated areas in the northern portion of Los Angeles County are covered by large amounts of sparsely populated land, and include Angeles National Forest, part of Los Padres National Forest, and the Mojave Desert. The unincorporated areas in the southern portion of Los

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3 Imperial County. 2015. *Imperial County General Plan – Land Use Element*. October.

4 SCAG. 2019. Local Profiles. May. Available online at: https://scag.ca.gov/DataAndTools/Pages/LocalProfiles.aspx, accessed August 21, 2019.

5 Imperial County. 2015. *Imperial County General Plan – Land Use Element*. October.

6 County of Los Angeles. *Incorporated Cities.* Available online at: https://www.lacounty.gov/government/about-la-county/incorporated-cities/, accessed August 22, 2019.

7 County of Los Angeles Department of Regional Planning. 2015. *Los Angeles County General Plan – Land Use Element*. October 6.

8 SCAG. 2019. Local Profiles. May. Available online at: https://scag.ca.gov/DataAndTools/Pages/LocalProfiles.aspx, accessed August 21, 2019.

Angeles County consist of many non-contiguous land areas, which are often referred to as the County's unincorporated urban islands. More than half of the unincorporated area is designated for natural resources. The next largest designation is rural, which accounts for approximately 39 percent of the unincorporated areas, followed by residential, which accounts for approximately three percent of the unincorporated areas.[9]

The incorporated areas of Los Angeles represent diverse urban, suburban, and rural land use patterns. Generally, the Land Use Element for each incorporated city encourages the retention of the stable residential neighborhoods and promotes growth to locate in neighborhood districts, commercial and mixed-use centers, along boulevards, industrial districts, and in proximity to transportation corridors and transit stations. These are general characterizations, and do not capture all land use types or patterns associated with the 88 incorporated cities that make up Los Angeles County.

- **Orange County:** Between 2000 and 2018, the total population of Orange County increased by 13.2 percent which was lower than the SCAG region increase of 15.9 percent.[10] The General Plan assessed that Orange County would experience a "steady but declining amount of land available for development." The General Plan projected a significant level of new housing is anticipated to be constructed in the south and eastern portions of the County, while infill and redevelopment are anticipated to occur in the northern and central regions. Significant commercial and industrial development is anticipated to occur along major transportation arteries over the lifetime of the Plan.[11]

- **Riverside County:** Between 2000 and 2018, the total population of Riverside County increased by 56.3 percent; much higher than the SCAG region increase of 15.9 percent. Riverside County adopted the County General Plan that strives to create a high-quality, balanced, and sustainable environment for the citizens of Riverside County and to make Riverside County's communities great places to live, work, and play. Riverside County is the fourth largest county in the State, encompassing approximately 7,400 square miles and extending westward from the Colorado River to within 14 miles of the Pacific Ocean, a stretch of some 200 miles. Riverside County contains diverse geographical features, including deserts, snowcapped peaks, deep valleys, forests, and rich agricultural lands. Set among this rich landscape is a variety of established and/or growing urban,

9 Los Angeles County Department of Regional Planning. 2015. *Los Angeles County General Plan – Land Use Element*. October 6.

10 SCAG. 2019. Local Profiles. May. Available online at: https://scag.ca.gov/DataAndTools/Pages/LocalProfiles.aspx, accessed August 21, 2019.

11 Orange County. 2005. *Orange County General Plan – Ch. II Background for Planning (Demographics).* Available online at: http://www.ocpublicworks.com/ds/planning/generalplan, accessed August 22, 2019.

suburban and rural communities. The diversity of Riverside County offers a variety of living environments such as dense urban cities, suburban enclaves, resorts, rural communities, agricultural communities, equestrian communities and sparsely populated outposts.[12]

- **San Bernardino:** Between 2000 and 2018, the total county population increased by 27 percent; above the SCAG region increase of 15.9 percent.[13] Much of the development in San Bernardino has occurred on unincorporated county land. The General Plan focuses economic development along key corridors and in selected activity centers through the utilization of Strategic Area Overlay districts. The goal of these districts to achieve "greater private sector profit, public benefit, and sustainability over the long haul."[14]

- **Ventura County:** Between 2000 and 2018, Ventura County's population growth increase of 14.1 percent was lower than the SCAG region increase of 15.9 percent.[15] Ventura County and cities within the county have developed policies seeking to maintain a balance of protecting agricultural land while providing jobs and housing within a heavily used transportation network. The approach has been to provide urban growth boundaries as a way of channeling development and preserving farmland.

3.11.1.5 Cities

There are 191 cities in the six-county area, including the City of Los Angeles, which is the second largest city in the nation and the largest city in California, and the City of Long Beach, which is among the 50 largest cities in the nation and the seventh largest city in California. Urban centers in the SCAG region exist in the form of clusters, linked by freeways and commercial corridors interspersed with identifiable activity centers. Most existing urban development is found along the coastal plains of Los Angeles, Orange, and Ventura Counties, as well as in adjoining valleys that extend inland from the coastal areas. Urban development also has moved into the inland valleys such as the Antelope, San Bernardino, Yucca, Moreno, Hemet–San Jacinto, Coachella, and Imperial Valleys.

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12 County of Riverside. 2019. *County of Riverside General Plan Chapter 3: Land Use Element*. Available at: https://planning.rctlma.org/Portals/14/genplan/2019/elements/Ch03_Land%20Use_041619.pdf, accessed September 9, 2019.

13 SCAG. 2019. Local Profiles. May. Available online at: https://scag.ca.gov/DataAndTools/Pages/LocalProfiles.aspx, accessed September 17, 2019.

14 City of San Bernardino. November. City of San Bernardino General Plan. Available online at: http://www.sbcity.org/civicax/filebank/blobdload.aspx?blobid=26199, accessed August 21, 2019.

15 SCAG. 2019. Local Profiles. May. Available online at: https://scag.ca.gov/DataAndTools/Pages/LocalProfiles.aspx, accessed September 17, 2019.

Downtown Los Angeles is the largest urbanized center within the SCAG region. Other urbanized areas with substantial density in Los Angeles County include Long Beach, Burbank, Glendale, Pasadena, and Pomona. Office-core centers have emerged in Woodland Hills (Warner Center), Universal City, Westwood, around Los Angeles International Airport (LAX), and Century City. In the other five counties within the SCAG region, urban centers exist in the cities of Riverside, San Bernardino, Santa Ana, Anaheim, Irvine, Oxnard, and Ventura. Development centers in desert areas include the Lancaster-Palmdale corridor in the Antelope Valley (Los Angeles County); the Hesperia-Victorville corridor in Yucca Valley (San Bernardino County); and the Palm Springs–Palm Desert–Indio corridor in the Coachella Valley (Riverside County). El Centro is the county seat and focal point of activity in Imperial County. There is also substantial activity occurring in Imperial County at the three ports of entry along the border with Mexico.

3.11.1.6 Land Use Planning

Many of the key strategies for coping with climate change are linked to land use planning:

- Growth of vehicle-related GHG emissions are influenced by transportation infrastructure.
- Compact development protects ecologically valuable open space and requires less energy and materials to build and operate.
- Reducing GHG emissions from deforestation requires policies to protect woodlands and other valuable carbon sinks. Carbon sinks are natural or artificial reservoirs that remove and store carbon from the atmosphere, thereby offsetting carbon dioxide emissions. Examples include forests, soils, and oceans.
- Land use planning is critical in enabling communities to adapt to sea level rise, more frequent extreme weather conditions, and other climate-related hazards.[16]

"Smart growth" is a term that covers a range of development and conservation strategies that help protect the natural environment and make communities more attractive, economically stronger, and more socially diverse. Land use planning is an essential part of any smart growth strategy, and it is especially important when efforts to mitigate GHG emissions and adapt to climate change are needed.

16 Sofian, Sibarani & Li, Xin & Kusumawardhani, Putri & Widiyani, Wenes. (2015). *Sustainable Systems Integration Model-Metrics in Design Process*. Available online at: https://www.researchgate.net/publication/277478162_Sustainable_Systems_Integration_Model-Metrics_in_Design_Process, accessed September 17, 2019.

SCAG Roles and Responsibilities

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

SCAG serves as the regional forum for cooperative decision making by local government elected officials and its primary responsibilities in fulfillment of federal and state requirements includes the development of the Plan; the Federal Transportation Improvement Program (FTIP); and transportation-related portions of local air quality management plans. SCAG's other major functions include determining the regional transportation plans and ensuring programs are in conformity with state air quality plans; periodic preparation of a Regional Housing Need Allocation (RHNA); and intergovernmental review of regionally significant projects.

Regional Cooperation and Subregions

SCAGs role is to bring stakeholders together and participate in regional planning through collaboration and participation in regional programs and on-going dialogue. SCAG seeks feedback from local elected officials and their staff through 15 subregional organizations that have been recognized by the Regional Council as partners in the regional policy planning process. The subregional organizations represent various parts of the SCAG region that have identified themselves as having common interests and concerns. The subregions vary according to geographical size, number of local member jurisdictions, staffing, decision-making structure, and legal status.

Standing committees at SCAG include the Executive/Administration Committee, the Transportation Committee, the Community, Economic & Human Development Committee, the Energy & Environment Committee, and Legislative/Communications & Membership Committee. In addition to the standing committees, there are various subcommittees, technical advisory committees, working groups, and task forces that report to the standing committees, while other groups are established on an ad hoc basis to assist with specific projects or address specific regional policy. The Regional Council is SCAG's governing body. It consists of 86 elected officials, representing cities, counties, county transportation commissions, transportation corridor agencies, tribal governments, and air districts in the region. The Regional Council has general authority to conduct the affairs of SCAG and directs the actions of the agency throughout the year. Additionally, the Regional Council implements the policy direction provided at the annual General Assembly of the membership, acts upon policy recommendations from SCAG's standing policy committees and external agencies, and appoints subcommittees to study specific programs or issues.

County and City General Plans

Comprehensive land use planning for the SCAG region is provided by county and city general plans, which local governments are required by state law to prepare as a guide for future development. General plans contain goals and policies concerning topics that are mandated by state law or that the jurisdiction has chosen to include. Required topics are land use, circulation, housing, conservation, open space, noise, and safety. Other topics that local governments frequently choose to address include sustainability, public facilities, parks and recreation, community design, and growth management, among others. City and county general plans must be consistent with each other. Cities and counties implement their general plans through zoning ordinances. Zoning ordinances provide a much greater level of detail including the general plan land use designations and such information as permitted uses, yard setbacks, and uses that would require a conditional use permit (**Figure 3.11-4, General Plan Land Use Designations**, shows the general land use designations (consolidated for purposes of consistency and mapping) for the six SCAG member counties and 191 cities in the SCAG region).

Existing Land Uses by County

The land use elements of the county and city general plans within the SCAG region generally classify lands in to 20 land use categories (**Table 3.11-2, SCAG Region General Land Use Categories**).

The Plan would add an additional 41,546 urbanized acres to the region by 2045.[17] **Table 3.11-3, Existing Urban, Suburban, and Rural Land Use Patterns by County** displays the percent of each county in rural, urban and suburban land uses. The following paragraphs describe the existing land use categories found within the SCAG region.

17 SCAG SPM Model Output October 2019, Greenfield Land Consumed

Table 3.11-2
SCAG Region General Land Use Categories

General Land Use Category	Land Use Category
Residential	Single Family Residential
	Multi-Family Residential
	Mobile Homes and Trailer Parks
	Mixed Residential
	Rural Residential
Specific Plan	Specific Plan
Mixed Residential and Commercial	Mixed Residential and Commercial
Commercial	General Office
	Commercial and Services
Mixed Commercial and Industrial	Mixed Commercial and Industrial
Industrial	Industrial
Infrastructure and Institutional Land Uses	Facilities
	Education
	Military Installations
	Transportation, Communications, and Utilities
Open Space, Agriculture, and Vacant Land Uses	Open Space and Recreation
	Agriculture
	Vacant
	Water
	Undevelopable or Protected Land

Source: SCAG. 2019, Connect SoCal

Table 3.11-3
Existing Urban, Suburban, and Rural Land Use Patterns by County

County	Urban Land Use Pattern (Square Miles)	Percent Urban Land of Overall Area	Suburban Land Use Pattern (Square Miles)	Percent Suburban Land of Overall Area	Rural Land Use Pattern (Square Miles)	Percent Rural Land of Overall Area
Imperial	77.8	1.8%	34.6	0.8%	4327.0	97.5%
Los Angeles	465.6	12.3%	522.8	13.8%	2789.8	73.8%
Orange	144.9	20.6%	191.9	27.3%	366.0	52.1%
Riverside	82.2	4.5%	85.1	4.7%	1647.5	90.8%
San Bernardino	348.9	1.8%	234.5	1.2%	19348.1	97.1%
Ventura	233.2	3.3%	230.8	3.2%	6667.2	93.5%
SCAG region	**1352.5**	**3.6%**	**1299.8**	**3.4%**	**35145.8**	**93.0%**

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

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

Residential Land Uses

The residential pattern of the SCAG region is largely shaped by topography. Most residents live in southern parts of Ventura, Los Angeles, and San Bernardino Counties, with the urban form limited by national forests and mountains. In Orange County, residents live near the coast and west of the Cleveland National Forest. Residents also have moved inland to the high desert in northern Los Angeles and San Bernardino Counties and the low desert in the Coachella and Imperial Valleys.

The majority of medium- and high-density housing in the region is found in the urban core of the region, in Downtown Los Angeles, East Los Angeles, the South Bay, and the "West Side" of Los Angeles. Large cities, such as Long Beach, Santa Ana, Glendale, Oxnard, and Pasadena, also have concentrations of high-density development in their downtown areas. Several beach communities, such as the Cities of Santa Monica, Manhattan Beach, Hermosa Beach, Redondo Beach, Huntington Beach, and Newport Beach, have high density close to the ocean.

Surrounding suburbs are predominantly low-density housing tracts. Low-density housing expands west into Ventura County, east through southeast Los Angeles County, throughout much of Orange County, and through the western Inland Empire. The resort communities and cities of the Coachella Valley in Riverside County also are built primarily on a low-density scale.

The developing land on the urban fringe, such as the Antelope Valley of Los Angeles County and the Victorville-Hesperia area, Lucerne Valley, and Yucca Valley of San Bernardino County, also are primarily low-density residential. The Imperial Valley in Imperial County is primarily an agricultural region with a growing, yet still relatively small, population that lives in primarily low-density developments. The SCAG region also contains mixed residential and commercial land uses.

The following provides definitions of the types of residential land uses found in the SCAG region:

The residential category of land uses in the SCAG region includes areas of single family residences, multi-unit dwellings, and mobile homes. Also included is a mixed residential category that consists of two or more of the aforementioned groups.

Single Family Residential

These residential areas are typically made up of detached dwellings, where each structure houses a single family, located in an urban or suburban setting. (Single family residential units located in a rural setting are classified as code 1151 or code 1152 under Rural Residential.) These single family residences are usually served by all utilities, are on paved streets, and are

provided with or have access to all urban facilities such as schools, parks, police, and fire stations.

Single family residential neighborhoods are normally large contiguous areas of residential lots. Some areas have subdivisions or tracts of homes with similar size or architectural design. In these areas the roofs may be similar in shape or color when viewed on the aerial photo. Typically, single family lots contain landscaped front and back yards, one driveway, and one walkway either to the sidewalk or to the driveway. Some lots may have swimming pools in the back yards. High or low density is determined by the size of the lot on which the residence is located. If an area is under construction, and the residential lots or pads are easily identifiable, then the area can be properly mapped.

High-Density Single Family Residential. This category contains single family detached residential units with a unit density of >2 units/acre. These units are typically found in modern urban and suburban subdivisions.

Low-Density Single Family Residential. This category contains single family detached residential units with a unit density of <2 units/acre. These units may include areas of urban ranch homes or estates. Also included are urban areas where single family lots have been established but houses have not been built on all of them and are not likely to be built in the near future. The homes are spaced at a density of <2 units/acre. In some situations, a low-density area may be rural in appearance because it was once a rural area but is now within the urban setting or a transitional area.

Multi-Family Residential

Multi-family units are attached residences, apartments, condominiums, and townhouses. Multi-family residences are usually served by all utilities, are on paved streets, and are provided with or have access to all urban facilities such as schools, parks, police and fire stations. Senior citizen apartment buildings are included in these classes. Also included are off-campus university owned housing and off-campus fraternity/sorority houses.

Mixed Multi-Family Residential. This category is used when there is a mixture of multi-family uses (duplexes, triplexes, apartments, condominiums, and/or townhouses of any type), none of which is over 2.5 acres in size, and no one type dominates. This situation may occur in older neighborhoods.

Duplexes, Triplexes, and 2- or 3-Unit Condominiums and Townhouses. This category is composed of duplexes, triplexes, and 2- or 3-unit condominiums and townhouses that are attached multi-family structures.

Duplex and triplex residences may occur together or mixed with single family houses in some older neighborhoods (see code 1121 and 1140). Typically, the multi-unit structure is one story located on a lot approximately the same size as nearby single-family residential lots. There may be minimal landscaping or yard space. On the aerial photo, one may be able to count the driveways, sidewalks, entryway overhangs, chimneys, or air conditioning units corresponding to the number of units in the structure. Some newer duplexes and triplexes occur as 2- or 3-unit structures in complexes as condominiums and townhouses, with common grounds.

Low-Rise Apartments, Condominiums, and Townhouses. This category includes multi-family structures of one to two stories and approximately 10 to 18 units/acre. The area consists of either a large single structure or a group of structures, of four or more units each, in a complex with associated common grounds, facilities and parking areas.

Typically, low-rise apartments, condominiums, and townhouses occur together in large contiguous areas since land use is restricted to multi-family zoned areas. However, in some areas one to a few buildings may occur on individual lots in single family residential neighborhoods. In newer neighborhoods they may appear as a large complex composed of many structures of similar architecture with common grounds and facilities. Some older structures are U-shaped or O-shaped with a swimming pool in the middle. A parking level maybe located underneath the living area, in which case it is not counted as a story. Parking for larger complexes may include garages or carports along the periphery of the complex. Low-rise apartments and condominiums are the most common types of multi-family structures in the study area. Also included are off-campus fraternity/sorority houses and senior citizen apartments. Residential units located above first floor commercial in buildings along a commercial strip are considered commercial use (1223, 1224). An area mapped as Low-Rise Apartments, Condominiums, and Townhouses may contain an occasional Medium-Rise building.

Medium-Rise Apartments and Condominiums. This category includes multi-family structures of three to four stories and >18 units/acre. The area consists of a large single structure or a group of structures, of four or more units each, in a complex with associated common grounds, facilities and parking areas.

Many medium-rise apartments and condominiums occur in older areas as hotel/apartments. Several may be located next to each other in compact areas. Some may occur as large complexes, composed of many structures of similar architecture, with common grounds and facilities. Medium-rise apartments and condominiums are not as common as low-rise. Senior citizen apartments are included. If an area contains commercial use on the first floor and multi-family residential use on the upper floors, then the area is considered strip commercial (codes 1223, 1224). Some older urban core cities contain apartment and condominium buildings predominantly of three, four, or more stories. An area mapped as Medium-Rise

may contain occasional Low-Rise or High-Rise buildings. Use of stereoscopic viewing of aerial photos is essential in determining relative height in relation to other structures in the area.

High-Rise Apartments and Condominiums. This category includes multi-family structures of five stories or greater and >18 units/acre. The area consists of either a single large structure or a group of adjacent structures with common grounds, facilities and parking areas.

Many high-rise apartments and condominiums occur as single or groups of high residential towers. Parking may be underground or in an adjacent parking structure. Smaller high-rise structures may contain only residential units with no other uses. High-rise residential structures are configured to maximize availability of window access to each individual residential unit. Thus the building may be long and narrow, or contain narrow lateral wings that provide window access. Senior citizen apartments are included. If an area contains commercial use on the first floor and multi-family residential use on the upper floors, then it is considered High-Rise Apartments and Condominiums.[18]

Commercial Land Uses

Across the region, commercial development typically follows transportation corridors. Office development generally locates at the terminals of major transportation features, particularly airports and train stations, or at the intersection of major freeways. Downtown Los Angeles is the historical center of jobs in the region. Los Angeles International Airport (LAX) and John Wayne Airport have considerable office clusters around them. Office buildings tend to cluster around major intersections, including areas such as the "El Toro Y" (intersection of the I-5 and the I-405) and the "Orange Crush" (intersection of I-5, SR-22, and SR-57) in Orange County. The SCAG region also contains some mixed commercial and industrial land uses.

Infrastructure and Institutional Land Uses

Institutional land uses, which include large government and private operations, such as military bases, airports, and universities, encompass a considerable footprint in the region. Military operations consume a substantial quantity of land. The 10 active duty military facilities in the SCAG region are listed below:

- El Centro Naval Air Facility
- Los Angeles Air Force Base
- Joint Forces Training Base, Los Alamitos

18 Aerial Information Systems. 1990. *Southern California 1990 Aerial Land Use Study*. Available online at: http://egis3.lacounty.gov/dataportal/2012/04/10/countywide-zoning/, accessed August 28, 2019.

- Naval Weapons Station, Seal Beach
- Naval Warfare Assessment Station, Corona
- March Air Reserve Base
- Barstow Marine Corps Logistics Base
- Fort Irwin
- Twentynine Palms Marine Corps Combat Center
- Naval Base Ventura County

In addition, land controlled by Edwards Air Force Base, based in Kern County, extends into Los Angeles and San Bernardino Counties. The Chocolate Mountains Aerial Gunnery Range in Imperial and Riverside Counties is also an institutional use that is off-limits to the public.

A substantial quantity of land is dedicated to airports in Los Angeles County. In the Antelope Valley, a large portion of land is dedicated to airport uses at Palmdale Airport. LAX is another major institutional land use. Bob Hope Airport and Long Beach Airport are the other commercial airports in Los Angeles County. Airports in other parts of the region include Ontario International Airport, Southern California Logistics Airport, and San Bernardino International Airport in San Bernardino County, Palm Springs International Airport and March Inland Port in Riverside County, John Wayne Airport in Orange County, and numerous general aviation airports scattered across the SCAG region.

University and college campuses are located in every county of the SCAG region. The largest are universities in the University of California system (Irvine, Los Angeles, and Riverside) and the California State University system (Channel Islands, Dominguez Hills, Fullerton, Long Beach, Los Angeles, Northridge, San Bernardino, and San Diego-Imperial Valley Campus). California Polytechnic University at Pomona and the University of Southern California are the other large universities in the region. There are numerous smaller universities and colleges in the region, both public and private, as well as an extensive community college system that spans the SCAG region.

Industrial Land Uses

The main focal points of industrial activity in the region are the Ports of Los Angeles and Long Beach. Altogether, these adjacent ports handle approximately 20 percent of the volume imported into the

country.[19] The industrial activity spreads north from the ports along the Alameda Corridor (a 20 mile freight line connecting downtown Los Angeles to the Ports of Los Angeles and Long Beach), and extends east through the City of Industry and the City of Commerce toward San Bernardino County.

Many manufacturing industries, distribution centers, and warehouses have established businesses in Riverside and San Bernardino Counties (also known as the Inland Empire). This activity has made the Inland Empire a distribution center for the region, state, and nation. Adding to the goods coming by highway and rail through San Bernardino County are goods coming to the county by air through several airports that cater to air cargo, primarily Ontario International Airport. Industrial uses tend to cluster around cargo-handling airports to take advantage of transportation options.

Significant air cargo and associated industrial land uses also are located around LAX. A third port in the region, located in Port Hueneme in Ventura County, is also surrounded with industrial activity.

Along the Mexican border, the three ports of entry in Imperial County have large amounts of commerce going back and forth between the two countries.

Extraction activities in the region focus on oil and minerals. Ventura County has extensive extraction activities in the far southwestern part of the county and along Route 126. These activities extend into Los Angeles County to the area around the City of Santa Clarita. Oil wells and oil refineries remain across southern Los Angeles County. Oil drilling and refining also takes place in Orange County, near Huntington Beach, Newport Beach, and Brea. Significant mining operations take place in the eastern portion of Imperial County. Wind energy generation facilities are located in the San Gorgonio Pass between Banning and Palm Springs.

Open Space, Recreation, and Agricultural Land Uses

There are vast areas of open space, recreation, and agricultural land uses throughout the SCAG region (**Figure 3.11-6, SCAG Region Open Space, Recreation, and Agricultural Land Uses**). Open spaces vary in size and location and, generally include but are not limited to, public parks, recreational facilities, national forests, national parks, national monuments, military reservations, and other areas planned for such uses. Some open spaces are comprised of lands that have been acquired by public agencies or private institutions for long-term management as open space. Other open space is comprised of land

19 U.S. Department of Transportation, Bureau of Transportation Statistics. 2018. *Freight Facts and Figures 2017.* January. Available online at: http://aapa.files.cms-plus.com/Statistics/Freight%20Facts%20and%20Figures%202013.pdf, accessed March 21, 2019.

designated for passive and active recreation. In addition, there are undeveloped areas in the SCAG region that are natural lands, designated for land uses other than open space or recreation.

Agriculture may be included as open space depending on the location and use. Agriculture may range from open grasslands and rangelands used for livestock grazing to areas supporting row and tree crops. These lands although in agricultural use, may also provide some habitat value, particularly open grasslands grazing land and rangelands. In yet other instances, lands may be designated or zoned as open space but still allow for development of a single-family home. Lands evaluated as natural lands in the Plan are generally evaluated as wildlife habitat in **Section 3.4, Biological Resources** and not agricultural lands. In general, in this PEIR, agricultural lands are farmlands and natural lands provide valued habitat.

Farmlands and rangelands are agricultural lands that are part of the region's open landscape and entail various types and degrees of modifications to natural lands. Also discussed in **Section 3.2, Agricultural and Forestry Resources**, farmlands include irrigated and non-irrigated crop production. Rangelands include any expanse of natural land that is not fertilized, irrigated, or cultivated and is predominately used for grazing by livestock and wildlife.

The distribution of farmlands and rangelands in the SCAG region and vicinity is based primarily on data provided by the California Department of Conservation (CDC). It also provides a summary of existing plans and programs in the region to conserve agricultural lands, plus a summary of growth management plans in other states that include provisions for conserving agricultural lands.

Based on the most recent available data from the CDC in 2016 (verified by SCAG, and it's member jurisdictions), there are approximately 2,603,158 acres of agricultural lands in the SCAG region consisting of 1,482,826 acres of grazing land and 1,120,312 acres of farmland which includes, Farmland of Statewide Importance, Prime Farmland, Unique Farmland, and Farmland of Local Importance.[20]

There is substantially more farmland than rangeland in Riverside and Imperial Counties and the reverse in Los Angeles, Orange, San Bernardino, and Ventura Counties. By comparison, Kern County has more farmland than the six SCAG counties combined and also has more total acres of rangeland.

Historically, development patterns in the region have been tied as much to the conversion of agricultural lands as to the consumption of natural lands for urban uses. A key issue in the region today is whether the high rate of farmland conversion in recent years can be slowed to prevent irreversible losses. If the

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20 Department of Conservation. 2016. *Farmland Mitigation and Monitoring Program (FMMP).* Available at: http://www.conservation.ca.gov/dlrp/fmmp/Pages/Index.aspx, accessed March 21, 2019.

intense conversion of agricultural lands continues unabated, the existing inventory of agricultural lands could be reduced by 700,000 acres before 2030.[21]

Tribal Lands

Approximately 266,112 acres, or 416 square miles, of the SCAG region consist of tribal lands from 16 different tribal affiliations (**Table 3.11-4, Tribal Lands within the SCAG Region**, lists the name, county, and acreage of tribal lands within the SCAG region; and **Figure 3.11-7, Tribal Lands in SCAG Region**, shows where tribal lands are located within the SCAG region). Indian Trust Assets (ITAs) include land, natural resources, money, or other assets held by the federal government in trust or that are restricted against alienation for Indian tribes or individuals.[22] The Department of Interior Order No. 3175 requires all its bureaus and offices to explicitly address anticipated effects on ITAs in planning, decision, and operation documents.[23] The Bureau of Indian Affairs (BIA) develops inventories of ITAs for all Indian tribes. Tribes must conduct soil and range inventories, land evaluations and range utilization; collect data about soil productivity, erosion, stability problems, and other physical land factors for program development, conservation planning, and water rights claims settlements. In addition, tribes are required to develop land management plans.[24]

Table 3.11-4
Tribal Lands within the SCAG Region

Name	County	Acres
Agua Caliente	Riverside	31,521
Augustine	Riverside	645
Cabazon	Riverside	1,936
Cahuilla	Riverside	18,485
Chemehuevi	San Bernardino	30,823
Colorado River	Riverside	19,409
Colorado River	San Bernardino	28,598
Fort Mojave	San Bernardino	6,193
Fort Yuma	Imperial	42,737
Morongo	Riverside	31,439

21 SCAG. 2016. *2016 Regional Transportation Plan/ Sustainable Communities Strategy FEIR*. November.

22 U.S. Bureau of Reclamation. *5.0 Indian Trust Assets and Tribal Lands.* Available online at: https://www.usbr.gov/mp/ccao/newmelones/docs/5.0-Indian_Trust_Assets.pdf, accessed August 27, 2019.

23 Ibid.

24 Bureau of Indian Affairs, Branch of Agriculture and Rangeland Development. Accessed 24 July 2019. Available online at: http://www.bia.gov/WhoWeAre/BIA/OTS/NaturalResources/AgrRngeDev/index.htm, accessed August 27, 2019

Name	County	Acres
Pechanga	Riverside	4,454
Ramona	Riverside	548
San Manuel	San Bernardino	673
Santa Rosa	Riverside	10,916
Soboba	Riverside	5,818
Torres-Martinez	Imperial	10,243
Torres-Martinez	Riverside	21,286
Twenty-Nine Palms	Riverside	227
Twenty-Nine Palms	San Bernardino	161

Source:
SCAG. 2011. Tribal Reservations in the SCAG Region. Available online at: http://www.scag.ca.gov/Documents/scagTribalRegions.pdf, accessed March 22, 2019.

Sixteen tribal lands and their respective governments are in the SCAG region, including the Agua Caliente Band of Cahuilla Indians, Augustine Band of Mission Indians, Cabazon Band of Mission Indians, Cahuilla Band of Mission Indians, Chemehuevi Reservation, Colorado River Reservation, Fort Mojave Indian Tribe, Fort Yuma Reservation, Morongo Band of Mission Indians, Pechanga Band of Luiseno Indians, Ramona Band of Mission Indians, San Manuel Band of Mission Indians, Santa Rosa Band of Mission Indians, Soboba Band of Luiseno Indians, Torres-Martinez Desert Cahuilla Indians, and Twenty-Nine Palms Band of Mission Indians.

Coastal Programs

The Coastal Program in the SCAG region consists of approximately 350,956 acres, or 548 square miles, and includes the islands off of the Southern California coast. The Coastal Program affects Ventura, Los Angeles, and Orange Counties in addition to 28 incorporated cities (**Table 3.11-5, Cities in the SCAG Region with Coastal Zone Jurisdiction).** Each local jurisdictional authority (city or county) with lands within the coastal zone is required to develop, and comply with, a coastal management plan. The Coastal Act requires that any person or public agency proposing development within the Coastal Zone obtain a CDP from either the CCC or the city or county having the jurisdictional authority to issue a CDP. To comply with the Coastal Zone Management Act, localities develop Local Coastal Plans (LCPs).[25]

25 California Coastal Commission. 2019. *The Coastal Act*. Available online at: https://www.coastal.ca.gov/laws/, accessed August 28, 2019.

Table 3.11-5
Cities in the SCAG Region with Coastal Zone Jurisdiction

Name	County
Calabasas	Los Angeles
El Segundo	Los Angeles
Hermosa Beach	Los Angeles
Long Beach	Los Angeles
Los Angeles	Los Angeles
Malibu	Los Angeles
Manhattan Beach	Los Angeles
Palos Verdes Estates	Los Angeles
Rancho Palos Verdes	Los Angeles
Redondo Beach	Los Angeles
Santa Monica	Los Angeles
Torrance	Los Angeles
Aliso Viejo	Orange
Costa Mesa	Orange
Dana Point	Orange
Huntington Beach	Orange
Irvine	Orange
Laguna Beach	Orange
Laguna Niguel	Orange
Newport Beach	Orange
San Clemente	Orange
San Juan Capistrano	Orange
Seal Beach	Orange
Westminster	Orange
Oxnard	Ventura
Port Hueneme	Ventura
Ventura	Ventura

Source:
California Coastal Commission. South Coast Region. Available online: https://www.coastal.ca.gov/nps/Web/cca_socoast1.htm, accessed March 22, 2019.

Regional Habitat Conservation Plans and Multi-Species Habitat Conservation Plans

HCPs and NCCPs are discussed more fully in **Section 3.4, Biological Resources.** There are 13 HCPs and NCCPs within the SCAG region (See **Section 3.4, Biological Resources,** and **Table 3.4-12, HCP's and NCCP's in the SCAG Region**). As a group, these plans provide protection for multiple species by conserving habitats, identifying locations for future mitigation efforts, providing conservation guidance

and practices, and preserving important wildlife linkages. More than 20 million acres of open space within the SCAG region are currently protected under an HCP or NCCP, or will be protected by a future HCP or NCCP that is currently in its planning stages. Major conservation areas in the region are displayed on **Figure 3.11-8 Los Angeles County Significant Ecological Areas** and **Figure 3.11-9 Regional Conservation Plans in the SCAG Region**.

Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP)

Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) is part of a comprehensive planning effort to address species conservation, land use, and transportation. The integration of thoughtful conservation planning with urban development and transportation is providing a more efficient, streamlined, cost-effective way of planning for the future. Approximately $2.2 billion has been spent on 25 large transportation projects within the Western Riverside County MSHCP. Through the streamlined permitting process, it is estimated that federal and state agencies, and other non-federal landowners saved between $126 and $278 million on these important infrastructure projects.[26]

Lower Colorado River MSHCP

On April 4, 2005, the Secretary of the Interior and representatives from agencies within Arizona, California, and Nevada implemented the Lower Colorado River Multi-Species Conservation Program (LCR MSCP). The LCR MSCP was created to balance the use of the Colorado River water resources with the conservation of native species and their habitats. The program area extends over 400 miles of the lower Colorado River from Lake Mead in Nevada, through southern California, to the southernmost border with Mexico. The HCP calls for the creation of over 8,100 acres of habitat for fish and wildlife species and the production of over 1.2 million native fish to augment existing populations. The Bureau of Reclamation is the implementing agency for the LCR MSCP.[27]

Orange County Southern Subregion HCP

The Orange County Southern Subregion HCP was approved in 2007 for a 75-year permit. This HCP is a program that established a permanent habitat reserve and perpetual land management program. This regional HCP covers large tracts of land in the County of Orange and the family-held Rancho Mission

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26 Regional Conservation Authority. *Western Riverside County Multiple Species Habitat Conservation Plan*. Available online at: http://www.wrc-rca.org/about-rca/multiple-species-habitat-conservation-plan/, accessed August 27, 2019.

27 Lower Colorado River Multi-Species Conservation Program. 2005. Overview. Available online at: http://www.lcrmscp.gov/index.html, accessed March 22, 2019.

Viejo. Benefits provided by this HCP include the creation of a subregion habitat reserve program including conservation of coastal California gnatcatcher habitat.[28]

Orange County Central-Coastal HCP/NCCP

In the 18 years since the Orange County Central-Coastal HCP/NCCP was completed, numerous regional HCPs have been approved or are in development throughout California. The NCCP program has also expanded to address a broad range of important natural habitats throughout the state.[29]

Coachella Valley MSHCP

The Coachella Valley MSHCP was adopted in 2008 and preserves over 240,000 acres of natural habitat in the Coachella Valley. This MSHCP protects 27 sensitive plant and animal species. This plan is managed by the Coachella Valley Conservation Commission.[30]

Desert Renewable Energy Conservation Plan (DRECP)

The DRECP, a part of the Bureau of Land Management, was undertaken due to statewide and national concerns regarding habitat fragmentation and loss of habitat for listed and candidate species. The DRECP is a landscape-level plan that streamlines renewable energy development, conserves valuable desert ecosystems and provides outdoor recreation opportunities. The DRECP was developed by the BLM, the U.S. Fish and Wildlife Service, the California Energy Commission and the California Department of Fish and Wildlife, collectively known as the Renewable Energy Action Team (REAT). Revisions to the Final Environmental Impact Statement, released in November of 2015, were made as a result of internal reviews, protests, Areas of Critical Environmental Concern (ACEC) public comments and other public feedback.[31] The DRECP is a proposed multispecies HCP intended to conserve threatened and endangered species and natural communities in the Mojave and Colorado Desert regions of Southern California, while also facilitating the timely permitting of renewable energy projects to help meet the state's goal of providing at least 33 percent of electricity generation through renewable energy by 2020, 50

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28 U.S. Fish and Wildlife Service. *Habitat Conservation Plan Documents - Orange County Southern Subregion HCP*. Available online at: https://www.fws.gov/carlsbad/HCPs/SoOrangeCoSubRegionHCP.html, accessed August 27, 2019.

29 U.S. Fish and Wildlife Service. *Habitat Conservation Plan Documents - Orange County Central-Coastal HCP/NCCP.* Available online at: https://www.fws.gov/carlsbad/HCPs/documents/Central%20Coastal%20OC%20NCCP%20Parts%20I%20&%20II%20-%20Plan.pdf, accessed August 28, 2019.

30 Coachella Valley MSHCP. *Coachella Valley MSHCP,* Available online at: http://www.cvmshcp.org/, accessed August 28, 2019.

31 Bureau of Land Management. *Desert Renewable Energy Conservation Plan Frequently Asked Questions*. Available at: https://www.drecp.org/faqs/DRECP_FAQs.pdf, accessed September 9, 2019.

percent by 2026, and 100 percent by 2045, as well as the federal government's goal of increasing renewable energy generation on public land. As planned, the approved DRECP and associated permits would provide renewable energy developers and entities undertaking DRECP conservation efforts with authorization for the incidental take of certain endangered, threatened, and special-status plant and animal species for covered activities (as defined in the DRECP). Such authorizations would be granted by agencies that are formal participants in the DRECP.[32]

California Desert Conservation Area Plan

The California Desert Conservation Area Plan is used to manage BLM-controlled areas. The BLM also implements biological resource management policies through its designation of Areas of Critical Environmental Concern.[33]

West Mojave Plan. The West Mojave Plan is an amendment to the Bureau of Land Management's (BLM) California Desert Conservation Area Plan. The West Mojave Plan also has a proposed HCP component that, if and when finalized, would provide a program for complying with the federal ESA on private lands within the West Mojave Plan area. Together, the West Mojave Plan and the proposed HCP component would cover over 9 million acres north of the Los Angeles metropolitan area with a purpose of creating a comprehensive strategy to conserve and protect almost 100 sensitive desert species and natural communities.[34]

3.11.2 REGULATORY FRAMEWORK

3.11.2.1 Federal

United States Department of Transportation Act, Section 4(f) of 1966 (49 U.S.C. § 303)

The Department of Transportation Act was enacted to preserve the natural beauty of the countryside, public park and recreation lands, wildlife and waterfowl refuges, and historic sites. Section 4(f) requires a comprehensive evaluation of all environmental impacts resulting from federal-aid transportation projects

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32 California Energy Commission. 2011. Desert Renewable Energy Conservation Plan Environmental Impact Report. December. Available online at: http://www.energy.ca.gov/2011publications/DRECP-1000-2011-001/DRECP-1000-2011-001.pdf, accessed March 22, 2019.

33 U.S. Department of Interior, Bureau of Land Management. *California Desert Conservation Area Plan.* Available online at: https://eplanning.blm.gov/epl-front-office/projects/lup/66949/82080/96344/CDCA_Plan.pdf, accessed August 28, 2019.

34 U.S. Department of Interior, Bureau of Land Management. *California Desert Conservation Area Plan*. Available online at: https://www.blm.gov/ca/pdfs/cdd_pdfs/wemo_pdfs/plan/wemo/Vol-1-Chapter1_Bookmarks.pdf, accessed August 28, 2019.

administered by the Federal Highway Administration, Federal Transit Administration, and Federal Aviation Administration that involve the use – or interference with use – of the following types of land.

- Public park lands;
- Recreation areas;
- Wildlife and waterfowl refuges; and
- Publicly or privately-owned historic properties of federal, state, or local significance.

Endangered Species Act of 1973 (16 USC 1531 et seq.)

The Federal Endangered Species Act (FESA) was established by Congress in order to "provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved [and] to provide a program for the conservation of such … species." The US Fish and Wildlife Service (USFWS) administers the Federal Endangered Species Act (FESA), which designates critical habitat for Endangered species. This enables USFWS to carry out its mission to conserve, protect, and enhance the nation's fish and wildlife and their habitats for the continuing benefit of people. Critical habitat areas cannot be disturbed without permission from the USFWS and other federal agencies, depending on land ownership. The USFWS also manages a system of land and waters for the conservation of wildlife and associated ecosystems. These National Wildlife Refuges are primarily managed for the preservation and protection of unique or important resources and ecosystems. Habitat Conservation Plans (HCPs), established under Section 10(a)(1)(B) of the ESA, are planning documents that provide for partnerships with non-federal parties to conserve the ecosystems upon which listed (and candidate) species depend, ultimately contributing to their recovery. The USFWS requires HCPs as part of an application for an incidental take permit. HCPs describe the anticipated effects of the proposed taking, how those impacts will be minimized or mitigated, and how the HCP is to be funded. HCPs may be prepared on a project level when projects will require the acquisition of an Incidental Take Permit. Regional HCPs may also be prepared in an effort to protected threatened and endangered species during the land use planning process.

Department of Housing and Urban Development Act

The Department of Housing and Urban Development Act created the U.S. Department of Housing and Urban Development (HUD) as a Cabinet-level agency. HUD is responsible for national policy and programs that address housing needs in the U.S. HUD is responsible for enforcing fair housing laws. HUD plays a major role in supporting homeownership by underwriting homeownership for lower- and moderate-income families through its mortgage insurance programs.

Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970

The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (42 U.S. Code, § 4601 et seq.), passed in 1970 and amended in 1987, is intended to provide for uniform and equitable treatment for persons displaced through federally-funded or assisted transportation and redevelopment projects that require property acquisition. The act lays out rules for notification, relocation counseling, social services or assistance for disabled residents, and compensation for replacement housing and moving costs. The rules stipulate that replacement housing must be comparable to previous housing in terms of location, size, access to jobs and public facilities, and must be "decent, safe, and sanitary." The rules apply if federal funds are in any phase of the program or project, even if the property acquisition itself is not federally funded.

Federal Coastal Zone Management Act

The Federal Coastal Zone Management Act (CZMA; 16 USC 1451–1464, Chapter 33; Public Law 92-583, October 27, 1972; 86 Stat. 1280), administered by the National Oceanic and Atmospheric Administration (NOAA), provides for the management of the nation's coastal resources, including the Great Lakes. The goal is to "preserve, protect, develop, and where possible, to restore or enhance the resources of the nation's coastal zone." The CZMA outlines three national programs, the National Coastal Zone Management Program, the National Estuarine Research Reserve System, and the Coastal and Estuarine Land Conservation Program (CELCP). The National Coastal Zone Management Program aims to balance competing land and water issues through state and territorial coastal management programs, the reserves serve as field laboratories that provide a greater understanding of estuaries and how humans impact them, and CELCP provides matching funds to state and local governments to purchase threatened coastal and estuarine lands or obtain conservation easements.

Federal Land Policy and Management Act (FLPMA) of 1976, as Amended

The FLPMA (Public Law 94-579) governs how public lands administered by the Bureau of Land Management (BLM) are managed. FLPMA provides guiding principles for BLM land management including multiple use, sustained yield, and environmental protection. The intent of FLPMA is to ensure that the BLM manages public lands so that they are utilized in the combination that will best meet the present and future needs of the American people for renewable and non-renewable natural resources.

FLPMA addresses topics such as land use planning, land acquisition, fees and payments, administration of federal land, range management, and right-of-ways on federal land. FLPMA has specific objectives and time frames in which to accomplish these objectives, giving it more authority and eliminating the uncertainty surrounding the BLM's role in wilderness designation and management.

Code of Federal Regulations Title 25

Federally recognized Native American tribes are considered domestic dependent nations. Tribal sovereignty refers to tribes' right to govern themselves, define their own membership, manage tribal property, and regulate tribal business and domestic relations; it further recognizes the existence of a government-to-government relationship between such tribes and the federal government. In general, state and local governments do not have "civil regulatory" jurisdiction (i.e., land use) on Indian Land, which is land held in trust or restricted status for a tribe.

Federal Highway Administration (FHWA) National Scenic Byways Program

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

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

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

United States Forest Service (USFS) National Scenic Byways Program

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

3.11.2.2 State

California Coastal Act of 1976

The California Coastal Act constitutes the California Coastal Management Program for the purposes of the Federal Coastal Zone Management Act (California Coastal Act of 1976, Public Resources Code [PRC] §30000 et seq.). The act established the California Coastal Commission (CCC), identified a designated California Coastal Zone, and established the CCC's responsibility to include the preparation and ongoing

oversight of a Coastal Plan for the protection and management of the Coastal Zone. Each local jurisdictional authority (city or county) with lands within the coastal zone is required to develop, and comply with, a coastal management plan. The Coastal Act requires that any person or public agency proposing development within the Coastal Zone obtain a Coastal Development Permit (CDP) from either the CCC or the city or county having the jurisdictional authority to issue a CDP. New school construction in portions of the Central and South Los Angeles Unified School District (LAUSD) areas could require a CDP. Any construction within the Coastal Zone must conform to the requirements of the California Coastal Act generally, and Chapter 3, Section 6 (Development) specifically. On or near the shoreline, coastal-dependent developments have priority over those uses not dependent on a coastal location (PRC §30255). To comply with the Coastal Zone Management Act, localities develop Local Coastal Plans (LCPs).

Natural Community Conservation Planning Act of 1991, as Amended

The Natural Community Conservation Planning Act of 1991, as amended in 2003 (California Fish and Game Code Section 2800-2835) established the Natural Community Conservation Planning program for the protection and perpetuation of the state's biological diversity. The CDFW established the program in order to conserve natural communities at the ecosystem level while accommodating compatible land use. An NCCP identifies and provides for the regional or area-wide protection of plants, animals, and their habitats, while allowing compatible and appropriate economic activity. The CDFW provides support, direction, and guidance to participants in order to ensure that NCCPs are consistent with the state ESA.

Modernization of Transportation Analysis for Transit- Oriented Infill Projects Senate Bill 743 (SB 743)

On September 27, 2013, Governor Brown signed Senate Bill (SB) 743. To further the state's commitment to the goals of SB 375 and AB 32, SB 743 adds Chapter 2.7, Modernization of Transportation Analysis for Transit- Oriented Infill Projects, to Division 13 (Section 21099) of the Public Resources Code. Key provisions of SB 743 include reforming aesthetics and parking CEQA analyses for urban infill projects and eliminating the measurement of auto delay, including Level of Service (LOS), as a metric that can be used for measuring traffic impacts in transit priority areas. SB 743 provides that, "aesthetics and parking impacts of a residential, mixed-use residential, or employment center project on an infill site within a transit priority area shall not be considered significant impacts on the environment." This means that, effective January 1, 2014, aesthetics and parking will no longer be considered in determining if a project has the potential to result in significant environmental effects provided a project meets all of the following three criteria:

a) The project is in a transit priority area;

b) The project is on an infill site; and

c) The project is residential, mixed-use residential, or an employment center.

CEQA Streamlining for Infill Projects Senate Bill 226 (SB 226)

The CEQA Streamlining for Infill Projects (SB 226) sets forth a streamlined review process for infill projects and includes performance standards that will be used to determine an infill project's eligibility for streamlined review. The purpose of SB 226 and updated *CEQA Guidelines* Section 15183.3 is to streamline the environmental review process by "limiting the topics subject to review at the project level where the effects of infill development have been addressed in a planning level decision or by uniformly applicable development policies." Residential, commercial and retail, public office buildings, transit stations, and schools are eligible for this streamlining provided they meet the following requirements: (1) are located in an urban area on a site that has been previously developed or adjoins existing qualified urban uses on at least 75 percent of the site's perimeter; (2) satisfy the performance standards provided in Appendix M [of CEQA]; and, (3) are consistent with the general use designation, density, building intensity, and applicable policies specified for the project area in either a sustainable communities strategy or an alternative planning strategy, with some exceptions.

Under SB 226, some development and transportation projects assumed as a part of the proposed Plan may be eligible to use a streamlined version of the environmental review process.

Housing Element Law

Enacted in 1969, Housing element law (Government Code Section 65580-65589.8) mandates that local governments adequately plan to meet the existing and projected housing needs of all economic segments of the community. The law acknowledges that, in order for the private market to adequately address housing needs and demand, local governments must adopt land use plans and regulatory systems that provide opportunities for, and do not unduly constrain, housing development. As a result, housing policy in the State rests largely upon the effective implementation of local general plans and, in particular, local housing elements. Housing element law also requires HCD to review local housing elements for compliance with State law and to report its written findings to the local government.

Regional Housing Needs Assessment

The California Legislature developed the RHNA process (Govt. Code § 65580 *et seq.*) in 1977 to address the serious affordable housing shortage in California. The California Department of Housing and

Community Development (HCD) in consultation with each council of governments determines each region's existing and projected housing need.[35] HCD must meet and consult with each council of governments, including SCAG, regarding the assumptions and methodology to be used by HCD to determine the region's housing need.[36] HCD's determination is based on population projected produced by the Department of Finance and regional population forecasts used in preparing regional transportation plans.[37]

In consultation with HCD, each council of governments must develop and adopt a methodology for distributing the existing and projected regional housing need to cities, counties, and cities and counties within the region.[38] The council of government then adopts a final regional housing need plan that allocates a shore of the regional housing need to each city, county, or city and county.[39]

Local government must address their allocated share of housing needs of all economic segments of the community through their housing elements. [40] Local governments must adopt a housing element as part of their general plan. Unlike the rest of the general plan, where updates sometimes occur at intervals of 20 years or longer, under previous law the housing element was required to be updated as frequently as needed and no less than every five years. Under SB 375, this period has been lengthened to eight years and timed so that the housing element period begins no less than 18 months after adoption of the regional transportation plan, to encourage closer coordination between housing and transportation planning. SB 375 also changes the implementation schedule required in each housing element. Previous law required the housing element to contain a program which set forth a five-year schedule to implement the goals and objectives of the housing element. The new law instead requires this schedule of actions to occur during the eight-year housing element planning period, and requires each action have a timetable for implementation.[41]

The purpose of the housing element is to identify the community's housing needs, state the community's goals and objectives with regard to housing production, rehabilitation, and conservation to meet those needs. In addition, the housing element defines the related policies and programs that the community

35 Govt. Code § 65584(b).

36 Govt. Code § 65584.01(b).

37 Govt. Code § 65584.01(a).

38 Govt. Code § 65584.04.

39 Govt. Code § 65584(b).

40 California Legislative Information. *Article 10.6. Housing Elements [65580 – 65589.11].*

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

will implement in order to achieve the stated goals and objectives. This would be accomplished through the allocation of regional housing needs consistent with the Plan.[42]

In prior cycles, factors such as household growth and household income distribution were the primary factors considered in determining a jurisdiction's RHNA allocation. For the 6th RHNA cycle, SCAG plans to consider other factors in addition to household growth. These factors include transit accessibility, job accessibility, and indicators that influence a community's environmental, educational, and economic resource accessibility.

As discussed above in the discussion of SB 375, state law requires preparation of a RHNA allocation plan every eight years. SCAG's 6th Cycle RHNA quantifies the regional need for housing and then allocates the regional need to each jurisdiction for a planning period between October 2021 and October 2029. Local jurisdictions are required to plan and zone to accommodate their respective RHNA allocation (housing units) by income categories through the process of updating the Housing Elements of their General Plans. The RHNA does not necessarily encourage or promote growth, but rather allows communities to anticipate growth and address existing need, so that they can grow in ways that enhance quality of life, improve access to jobs, transportation and housing, and not adversely impact the environment.[43]

This region's 6th Cycle RHNA allocation plan consists of two measurements of housing need: (1) existing need and (2) future need for very-low income, low-income, moderate, and above-moderate income categories.

The existing need assessment is based on data from the most recent US Census to measure ways in which the housing market is not meeting the needs of current residents. These variables include the number of households paying more than 30 percent of their income for housing, as well as overcrowding.

The future need for housing is determined primarily by the forecasted growth in households in a community, based on historical growth patterns, job creation, household formation rates, and other factors to estimate how many households will be added to each community over the projection period. The housing need for new households is then adjusted to account for an ideal level of vacancy needed to promote housing choice, maintain price competition, and encourage acceptable levels of housing upkeep and repair. The RHNA also accounts for units expected to be lost due to demolition, natural disaster, or conversion to non-housing uses. The sum of these factors including household growth, vacancy need and replacement need form the "projected need" assigned to each community. Per SB 375, the projected

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42 California Legislative Information. *Article 10.6. Housing Elements [65580-65589.11], Section 65580.*

43 SCAG. *Regional Housing Needs Assessment (RHNA) & Housing*. Available online at: https://www.scag.ca.gov/programs/Pages/Housing.aspx, accessed August 29, 2019.

need's portion of the 6th Cycle RHNA will be consistent with the Connect SoCal for the comparable period.

SCAG's RHNA allocation plan considers how each jurisdiction might grow in ways that will decrease the over-concentration of low-income households. The need for new housing is distributed among income groups so that each community moves closer to the county income distribution.

Consistent with the state housing law, the primary objectives the 6th Cycle RHNA allocation plan are:

1. Increase the housing supply and mix of housing types, tenure and affordability within each region in an equitable manner

2. Promote infill development and socioeconomic equity, the projection of environmental and agricultural resources, and the encouragement of efficient development patterns

3. Promote an improved interregional relationship between jobs and housing

4. Allocating a lower proportion of housing need in income categories in jurisdictions that have a disproportionately high share in comparison to the county distribution

5. Affirmatively furthering fair housing

On October 15, 2019, SCAG received the Final Regional Determination from HCD. On November 7, 2019, SCAG Regional Council approved a Draft RHNA Allocation Methodology for HCD's review. The Regional Council is scheduled to approve the Final RHNA Methodology in March 2020 and release the Draft RHNA Allocation by jurisdiction prior to adopting Connect SoCal in April 2020.

Sustainable Communities and Climate Protection Act of 2008 (SB 375)

Senate Bill 375 focuses on aligning transportation, housing, and other land uses to achieve regional GHG emission reduction targets established under the California Global Warming Solutions Act, also known as Assembly Bill 32 (AB 32). SB 375 requires California Metropolitan Planning Organizations to develop an SCS as part of the Regional Transportation Plan (RTP), with the purposes of identifying policies and strategies to reduce per capita passenger vehicle-generated GHG emissions. The SCS must:

- identify the general location of land uses, residential densities, and building intensities within the region;

- identify areas within the region sufficient to house all the population of the region;

- identify areas within the region sufficient to house an eight-year projection of the regional housing need;
- identify a transportation network to service the regional transportation needs;
- gather and consider the best practically available scientific information regarding resources areas and farmland in the region;
- consider the state housing goals;
- set forth a forecasted development pattern for the region; and
- allow the regional transportation plan to comply with the federal Clean Air Act (CAA) of 1970 (42 USC § 7401 et seq.).

The development pattern in the SCS, when integrated with the transportation network and other transportation measures and policies, must reduce the GHG from automobiles and light duty trucks to achieve the GHG emission reduction targets approved by the California Air Resources Board (ARB). If the SCS does not achieve the GHG emission targets set by ARB, an Alternative Planning Strategy must be developed to demonstrate how the targets could be achieved. SB 375 also imposes a number of new requirements on the regional housing needs process. Before SB 375, the regional transportation plan and regional housing needs processes were not required to be coordinated.

SB 375 now synchronizes the schedules of the RHNA and regional transportation plan processes. The RHNA, which is developed after the regional transportation plan, must also allocate housing units within the region consistent with the development pattern included in the SCS. Previously, the RHNA determination was based on population projections produced by the Department of Finance. SB 375 requires the determination to be based upon population projections by the Department of Finance and regional population forecasts used in preparing the regional transportation plan. If the total regional population forecasted and used in the regional transportation plan is within a range of three percent of the regional population forecast completed by the Department of Finance for the same planning period, then the population forecast developed by the regional agency and used in the regional transportation plan shall be the basis for the determination. If the difference is greater than three percent, then the two agencies shall meet to discuss variances in methodology and seek agreement on a population projection for the region to use as the basis for the RHNA determination. If no agreement is reached, then the basis for the RHNA determination shall be the regional population projection created by the Department of Finance.

Existing law requires local governments to adopt a housing element as part of their general plan. Unlike the rest of the general plan, where updates sometimes occur at intervals of 20 years or longer, under previous law the housing element was required to be updated as frequently as needed and no less than every five years. Under SB 375, this period has been lengthened to eight years and timed so that the housing element period begins no less than 18 months after adoption of the regional transportation plan to encourage closer coordination between the housing and transportation planning done by local governments and MPOs. SB 375 also changes the implementation schedule required in each housing element. Previous law required the housing element to contain a program which set forth a 5-year schedule of to implement the goals and objectives of the housing element. The new law instead requires this schedule of actions to occur during the eight-year housing element planning period, and requires each action have a timetable for implementation.

Regional Conservation Investment Strategy Program

On September 22, 2016, the Governor signed Assembly Bill 2087 which created CDFW's Regional Conservation Investment Strategy pilot program, and was amended by Senate Bill 103 on July 21, 2017. The program uses a science-based approach to identify conservation and enhancement opportunities that, if implemented, will help California's declining and vulnerable species by protecting, creating, restoring, and reconnecting habitat and may contribute to species recovery and adaptation to climate change and resiliency. The Program consists of three components: regional conservation assessments (RCAs), regional conservation investment strategies (RCISs), and mitigation credit agreements (MCAs). An RCA is a voluntary, non-regulatory, non-binding conservation assessment that includes information and analyses of important species, ecosystems, protected areas, and habitat linkages at the USDA ecoregion scale and may include more than one ecoregion. An RCIS is a voluntary, non-regulatory, and non-binding conservation assessment that includes information and analyses relating to the conservation of focal species, their associated habitats, and the conservation status of the RCIS land base. An RCIS establishes biological goals and objectives at the species level and describes conservation actions and habitat enhancement actions that, if implemented, will contribute to those goals and objectives. An MCA is a mitigation credit agreement developed under an approved RCIS. An MCA is developed in collaboration with CDFW to create mitigation credits by implementing the conservation or habitat enhancement actions identified in an RCIS.[44]

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44 California Department of Fish and Wildlife. *Regional Conservation Investment Strategies Program*. Available at: https://www.wildlife.ca.gov/Conservation/Planning/Regional-Conservation, accessed October 23, 2019.

Enhanced Infrastructure Financing Districts

Enacted on September 29, 2014, the new state law, Enhanced Infrastructure Financing Districts (SB 628; Chapter 2.99 [commencing with Section 53398.50] to Part 1 of Division 2 of Title 5 of the Government Code) allows the legislative body of a city or a county, defined to include a city and county, to establish an infrastructure financing district, adopt and infrastructure financing plan, and issue bonds to finance public facilities upon approval by two-thirds of a jurisdiction's voters. Additionally, a city or county is authorized to issue bonds upon approval by 55 percent of the voters, for which only the district is liable; to finance public capital facilities or other specified projects of communitywide significance, including, but not limited to, brownfield restoration and other environmental mitigation; the development of projects on a former military base; the repayment of the transfer of funds to a military base reuse authority; the acquisition, construction, or rehabilitation of housing for persons of low and moderate income for rent or purchase; the acquisition, construction, or repair of industrial structures for private use; transit priority projects; and projects to implement a sustainable communities strategy. The bill would also authorize an enhanced infrastructure financing district to utilize any powers under the Polanco Redevelopment Act.

3.11.2.3 Local

General Plans and Land Use Regulations

The legal framework in which California cities and counties exercise local planning and land use functions is provided in the California Planning and Zoning Law (California Code section 65000 et seq.) Under state planning law, each city and county is required to adopt a general plan "for the physical development of the county or city, and any land outside its boundaries which bears relation to its planning" (California Code section 65300 et seq.).

The general plan expresses the community's development goals and embodies public policy relative to the distribution of future land uses, both public and private. A general plan consists of a number of elements, including land use, circulation, housing, conservation, open space, noise, and safety; other elements may be included at the discretion of the jurisdiction that relate to the physical development of the county or city. The general plan must be comprehensive and internally consistent. Of particular importance is the consistency between the circulation and land use elements; the general location and extent of existing and proposed major thoroughfares, transportation routes, terminals, and other public utilities and facilities must be consistent with the general distribution and intensity of land used for housing, business, industry, open space, education, public areas, waste disposal facilities, agriculture, and other public and private uses.

In addition, every local jurisdiction within the region has land use regulations that implement the general plan. The zoning ordinance is the primary land use regulation used to implement the goals and policies of its general plan. Zoning ordinances, which are required to be consistent with the general plan, provide detailed direction related to development standards; permitted, conditionally permitted, and prohibited uses; and other regulations such as parking standards and sign regulations.

Local jurisdictions may also adopt specific plans, which are used to implement the general plan in particular geographic areas (California Code section 65450). Zoning ordinances and land use approvals must be consistent with applicable specific plans as well as the general plan.

Cities and counties are also required to comply with the Subdivision Map Act (California Code section 66410 et seq.). The Subdivision Map Act sets forth the conditions for approval of a subdivision map and requires enactment of subdivision ordinances by which local governments have direct control over the types of subdivision projects to be approved and the physical improvements to be installed.

Community Plans, Specific Plans, and Master Plans

A city or county may also provide land use planning by developing community or specific plans for smaller, more specific areas within their jurisdiction. These more localized plans provide for focused guidance for developing a specific area, with development standards tailored to the area, as well as systematic implementation of the general plan. Counties, cities, and private developers may also choose to partner in the development of a master plan that shows an overall development concept that includes urban design, landscaping, infrastructure, service provision, circulation, present and future land use and built form. It consists of three dimensional images, texts, diagrams, statistics, reports, maps and aerial photos that describe how a specific location will be developed. It provides a structured approach and creates a clear framework for developing an area.

Zoning

City and county zoning codes are the set of detailed requirements that implement the general plan policies at the level of the individual parcel. The zoning code presents standards for different uses and identifies which uses are allowed in the various zoning districts of the jurisdiction. Since 1971, state law has required the city or county zoning code to be consistent with the jurisdiction's general plan.

3.11.3 ENVIRONMENTAL IMPACTS

3.11.3.1 Thresholds of Significance

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

- Physically divide an established community.
- Cause a significant environmental impact due to conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

3.11.3.2 Methodology

The Plan includes transportation projects as well as transportation and land use strategies aimed to increase mobility, promote sustainability, and improve the regional economy. Although land use development is anticipated to occur within the region even without the Plan, the Plan includes policies and strategies that could influence growth, including distribution patterns. To address this, the analysis in the PEIR covers overall impacts of transportation projects and land use strategies described in the Plan and evaluates how conditions in 2045 under the Plan would differ from existing conditions. **Section 2.0, Project Description**, describes the Plan's vision, goals, guiding policies, performance measures, and land use and transportation strategies. A geographic information system (GIS) was used to analyze where major transportation (e.g., freeway, rail, and transit) projects would intersect areas used for residential development and business uses. A 500-foot potential impact zone was drawn around the freeway, rail, and transit projects in Connect SoCal to compute the number of acres that could potentially be affected by the construction and operation of transportation projects included in the Plan. **Table 3.11-6** shows the current land uses that are located within 500 feet of either side of Plan transportation projects.

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

3.11.3.3 Impacts and Mitigation Measures

Impact LU-1 Potential for the Plan to physically divide an established community

Significant and Unavoidable Impact - Mitigation Required.

Physical division of an established community could occur as a result of real or perceived barriers to pedestrians, bicyclists, and motorists. Short-term construction related impacts could result from disturbances due to construction equipment; these impacts are discussed under other impact categories (e.g., Noise, Aesthetics, and Air Quality). Long-term impacts could result from the completion of new or expanded roadways or transit facilities in existing communities. Also, if freeway routes, particularly those that occur in rural areas, are widened, they can create a real or perceived barrier to pedestrians, bicyclists, and motorists. Freeway segments that would occur in rural areas, such as projects adding express lanes along I-15 in San Bernardino County connecting I-215 to US-395, also have the potential to create physical barriers. Such additions of new roadways or expansion of existing roadways may be perceived as a great distance to cross by a pedestrian (whereas it may not have been perceived as an issue previously), thereby dividing a community. Urban transportation projects, and the Plan's emphasis on expanded transit could expand urban uses into undeveloped areas and has the potential to physically divide established communities. For example, an elevated grade crossing may create a physical barrier in some locations.

The transportation strategies in the Plan, such as emphasis on complete streets and TDM strategies would have less of an ability to divide established communities because they are generally expected to occur in established communities. Further, many of these strategies (i.e., bike lanes, pedestrian access) improve connectivity.

Implementation of the Plan would affect land use patterns and the consumption of currently vacant and open space lands. As described above, the Plan would result in the conversion of 41,546 greenfield acres including 6,732 acres of agricultural land to urban uses. As land gets converted from urban or agricultural uses, there is the potential for infrastructure or land developments to divide existing communities. Anticipated significant impacts include substantial density increases in areas of the region adjacent to transit, or other rights-of-way that could separate residences from community facilities and services, and conversion of vacant lands, including agricultural lands, to transportation infrastructure and residential and commercial development.

A GIS analysis was performed to determine where major transportation projects in the Connect SoCal Plan intersected with different land uses to evaluate the potential for conflicts. For purposes of identifying potential land use conflicts, a 500-foot buffer was used around the Plan's major transportation

projects to identify the number of acres potentially affected. Highway and transit extensions and major interchange projects are assumed to have a higher potential to disrupt or divide existing communities since they would involve the creation of new roadways. Highway widening and other projects along established transportation rights-of-way were assumed to have a lower potential to divide or disrupt existing communities and neighborhoods. The analysis is based on general descriptions of transportation projects listed in the Plan and is regional and programmatic in nature. As shown in **Table 3.11-6, Potential Displacement of Existing Residential and Commercial Land Uses (in Acres**), approximately 10,254 acres of land zoned for residential use (including multifamily and single family) could be affected by projects in the Plan. However, most projects in the Plan are modifications or expansions (e.g., HOV, widening) of existing facilities and would have less potential to divide an existing community than new projects.

Table 3.11-6
Potential Displacement of Existing Residential and Commercial Land Uses (in Acres)

Land Use	County						Total
	Imperial	Los Angeles	Orange	Riverside	San Bernardino	Ventura	
Commercial and services	64	1,369	635	821	874	532	4,295
General office	6	468	269	284	359	130	1,516
Industrial	3	2,203	208	719	570	193	3,894
Mixed commercial and industrial	-	8	0.7	131	30	7	179
Mixed residential	-	110	-	5	34	11	160
Mixed residential and commercial	-	237	78	59	75	133	581
Mobile homes and trailer parks	13	157	62	199	71	53	555
Multi-family residential	3	697	391	389	222	121	1,823
Rural residential	-	208	-	301	192	0.5	702
Single-family residential	35	3,258	1,018	983	880	260	6,434
Total	**123**	**8,716**	**2,662**	**3,891**	**3,307**	**1,441**	**20,138**

Source: SCAG, 2019

Nonetheless, because the Plan would result in the location of transportation infrastructure in residential areas, it is possible division of communities would occur. As such, impacts are considered significant.

Mitigation Measures

SCAG Mitigation Measures

SMM LU-1: SCAG shall coordinate with local County Transportation Commissions, Caltrans and other implementing agencies when siting new facilities in residential areas to facilitate minimizing future impacts of transportation projects on established communities, through cooperation, information sharing, and regional program development as part of SCAG's ongoing regional planning efforts to promote best planning practices.

Project Level Mitigation Measures

PMM LU-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects that physically divide a community, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

a) Facilitate good design for land use projects that build upon and improve existing circulation patterns

b) Encourage implementing agencies to orient transportation projects to minimize impacts on existing communities by:

- Selecting alignments within or adjacent to existing public rights of way.
- Design sections above or below-grade to maintain viable vehicular, cycling, and pedestrian connections between portions of communities where existing connections are disrupted by the transportation project.
- Wherever feasible incorporate direct crossings, overcrossings, or under crossings at regular intervals for multiple modes of travel (e.g., pedestrians, bicyclists, vehicles).

c) Where it has been determined that it is infeasible to avoid creating a barrier in an established community, consider other measures to reduce impacts, including but not limited to:

- Alignment shifts to minimize the area affected.
- Reduction of the proposed right-of-way take to minimize the overall area of impact.
- Provisions for bicycle, pedestrian, and vehicle access across improved roadways.

Level of Significance After Mitigation

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

Impact LU-2 **Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect**

Significant and Unavoidable Impact - Mitigation Required.

As part of the Plan, SCAG has developed a population, housing and employment growth forecast, land use and transportation strategies and forecasted land use patterns. The Plan seeks to integrate the forecasted land use patterns with the transportation network, in response to projected growth and housing needs, changing demographics, and transportation demands. Transportation strategies included in the Plan emphasize system preservation, active transportation, transportation safety, electrification, and transportation demand management measures. Land use strategies included in the Plan aim to focus most of the new housing and job growth in high-quality transit areas (HQTAs), with 60 percent of new homes and 73 percent of new jobs being located in these Priority Growth Areas (PGAs) which include existing main streets, downtowns, and commercial corridors. Land use strategies also seek to focus growth in other PGAs such as job centers and neighborhood mobility areas (NMAs) to maximize existing infrastructure and encourage infill development (**Figure 3.11-5, SCAG Region Proposed Job Centers**).

The development patterns encouraged by the Connect SoCal Plan, where implemented by local jurisdictions, would influence the distribution of growth in existing urbanized areas or suburban town centers and opportunity areas such as in HQTAs, including livable corridors and neighborhood mobility areas. As described in **Chapter 2.0, Project Description**, by 2045, the SCAG region is anticipated to add 3.2 million people with or without the Plan. To accommodate the growth, the Plan includes transportation and land use strategies that encourage higher densities in areas with infill potential and existing infrastructure (e.g., HQTAs, NMAs); emphasizes an increase in transportation mode choice such

as transit, walking and biking; promote diverse housing choices; support implementation of sustainability policies, promote a green region, and other benefits. In particular, the policies and strategies in the Plan support the development of local climate adaptation and hazard mitigation plans as well as project implementation that improves community resiliency to climate change and natural hazards; supports local policies for renewable energy production, reduction of urban heat islands and carbon sequestration; encourages the integration of local food production into the regional landscape; promotes more resource efficient development focused on conservation, recycling and reclamation; preserve, enhance and restore wildlife connectivity; reduce the consumption of resource areas, including agricultural lands; and identify ways to improve access to public park space.

In other areas, land use policies and strategies in the Plan would encourage development of underutilized areas (infill, etc.). As stated previously, development patterns, would be supported by transportation investments that emphasize system preservation and enhancement, active transportation, and land use integration, and are generally consistent with local land use plans, goals, and policies calling for higher density, compact, mixed-use development that may be served by high-quality transit, bicycle and pedestrian improvements. The Plan's transportation strategies would have less ability to result in conflicts with general plans as they are generally expected to be implemented in established communities where such strategies are often included at the local level.

The Plan contains strategies to guide anticipated population, households, and employment growth in the region by 2045. The land use strategies were developed as a result of SCAG's bottom-up planning process outlined in the Plan. This process involved extensive outreach to and input from local jurisdictions, including counties, subregions, and local city planners.

While the Plan was developed primarily from assumptions derived from local general plans and input from local governments and transportation agencies, SB 375 does not require local land use policies, regulations or general plans to be consistent with the Plan. Also, although the transportation projects and land use strategies included in the Plan are generally compatible with county- and regional-level general plans, local general plans may have not have been updated since SCAG's last adopted 2016 RTP/SCS. As such, it is likely that there could be incompatibilities with existing general plans in the region.

SCAG has no authority to adopt, approve, implement, or otherwise regulate local land use plans or projects that are listed in the Connect SoCal Plan. SB 375 specifically provides that a regional transportation plan does not supersede the land use authority of cities and counties. In addition, cities and counties are not required to change their land use plans and policies, including general plans, to be consistent with the Plan. Rather, SB 375 requires the projections of a regional land use pattern integrated with the transportation network and the provision of strategies and recommended policies to reduce per

capita GHG emissions from automobiles and light trucks. Local governments reserve their land use authority and may incorporate, as appropriate, the recommended land use strategies, guiding principles, and policies include in the Plan.

In addition, it is possible that many general plans do not include similar regional policies as they are focused on land uses within the local jurisdiction. For example, while the Plan includes strategies for compact development and higher densities as a means to accommodate increased population in an efficient manner, many jurisdictions are planning for smaller individual numbers and may assume smaller densities. The growth pattern in the Plan assumes 21 percent of new housing would be urban infill and 63 percent would be compact (walkable). It is possible that local general plans have not been updated to reflect the land use assumptions within the Plan, despite SCAG's outreach and bottom up planning process for the reasons stated above. As a result, there exists the potential for a local general plan to conflict with SCAG's projected land use pattern. While this conflict would not result in a direct physical impact, physical impacts could occur indirectly as other pressures for increased densities grow in the region. As density increases, consistent with SCAG's land use policies and strategies, these policies and strategies could facilitate higher density in areas not currently planned for such densities (at the local level). As such, there is the potential for inconsistencies between SCAG's land use strategies and local planning documents that could potentially lead to physical environmental impacts.

Implementation of the Plan would also have a potential to result in conflicts with the provisions of applicable adopted HCPs, NCCPs as well as other open space/parklands. The Plan's land use strategies seek to reduce conflicts with applicable HCPs, NCCPs and open spaces by focusing new growth in existing urban areas and urban opportunity areas to help preserve natural habitat areas. In addition, parklands are usually zoned as open space and SCAG does not allocate growth to lands designated for open space/parks. However, because some planned major transportation projects could occur in or adjacent to lands protected under these plans, there is the potential for a significant impact (See **Section 3.4, Biological Resources,** for further analysis of the Plan's potential to conflict with provisions of an adopted HCP or NCCPP).

As previously discussed, there are areas subject to general plans that would be impacted by transportation projects. In addition, since the Plan's planning horizon year is beyond the timeline of many of the most recent general plans, implementation of the Plan's transportation projects and land use strategies could potentially result in changes in the land use patterns in the region. Therefore, there is potential for inconsistencies with general plans as well as regional conservation plans, constituting potentially significant effects requiring the consideration of mitigation measures.

Mitigation Measures

SCAG Mitigation Measures

SMM LU-2: SCAG shall continue to promote the Intergovernmental Review (IGR) Program as an internal and external informational tool by reviewing and monitoring all projects submitted to SCAG for review and working with local jurisdictions to ensure that submitted projects support the most currently adopted Connect SoCal Plan. SCAG shall provide comment letters on regionally significant projects to recommend additional resources to help the lead agency support or develop a projects that are consistent with the Plan, as appropriate. The IGR Mapping Tool can also be utilized by local jurisdictions to assess regional impacts. To visit the IGR Mapping tool, please go to: https://maps.scag.ca.gov/IGR/. For more information on SCAG's IGR Program, please visit: http://www.scag.ca.gov/programs/Pages/IGR.aspx.

SMM LU-3: SCAG shall encourage cities and counties in the region to provide SCAG with electronic versions of their most recent general plan (and associated environmental document) and any updates as they are produced.

SMM LU-4: SCAG shall continue to provide targeted technical services such as GIS and data support for cities and counties to update their general plans at least every ten years, as recommended by the Governor's Office of Planning and Research.

SMM LU-5: SCAG shall provide technical assistance and regional leadership to encourage implementation of the Plan goals and strategies that integrate growth and land use planning with the existing and planned transportation network.

Project Level Mitigation Measures

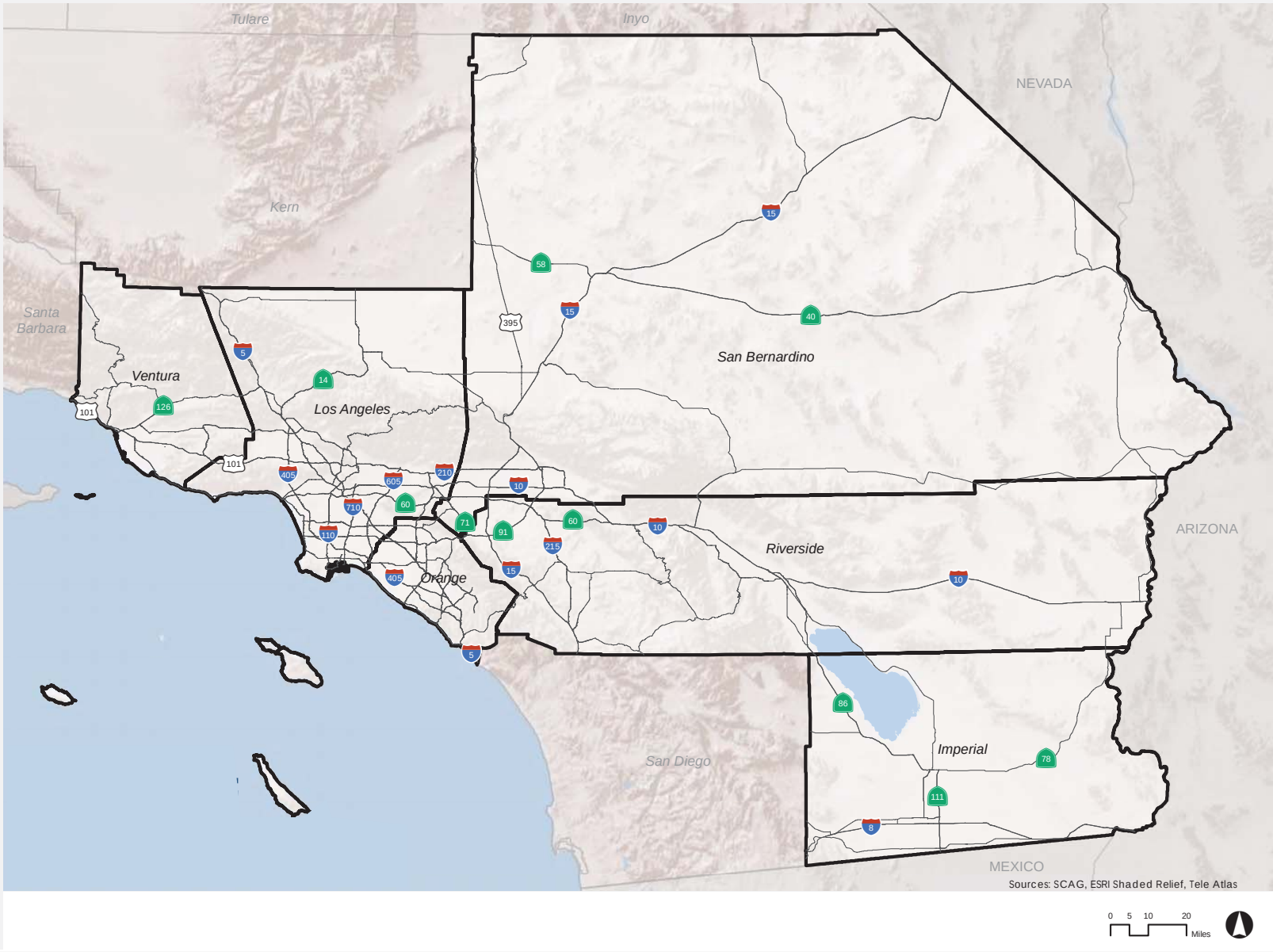
PMM LU-2: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects that physically divide a community, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

a) When an inconsistency with the adopted general plan policy or land use regulation (adopted for the purpose of avoiding or mitigating an impact) is identified modify the transportation or land use project to eliminate the conflict;

or, determine if the environmental, social, economic, and engineering benefits of the project warrant an amendment to the general plan or land use regulation.

Level of Significance After Mitigation

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



SOURCE: SCAG, 2019

FIGURE **3.11-1**

SCAG Region

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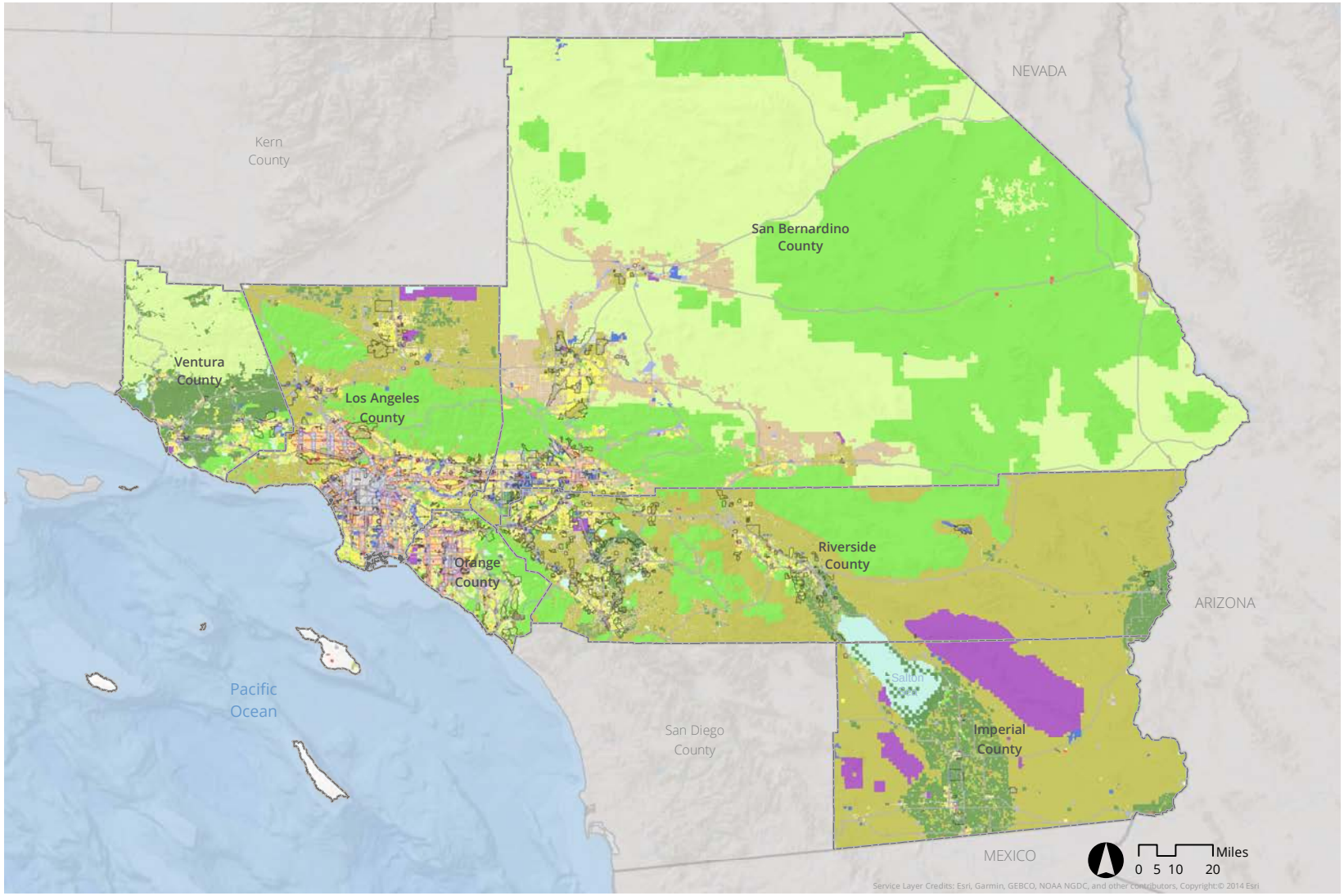

SOURCE: SCAG, ESRI Shaded Relief, Tele Atlas, 2012

FIGURE **3.11-2**

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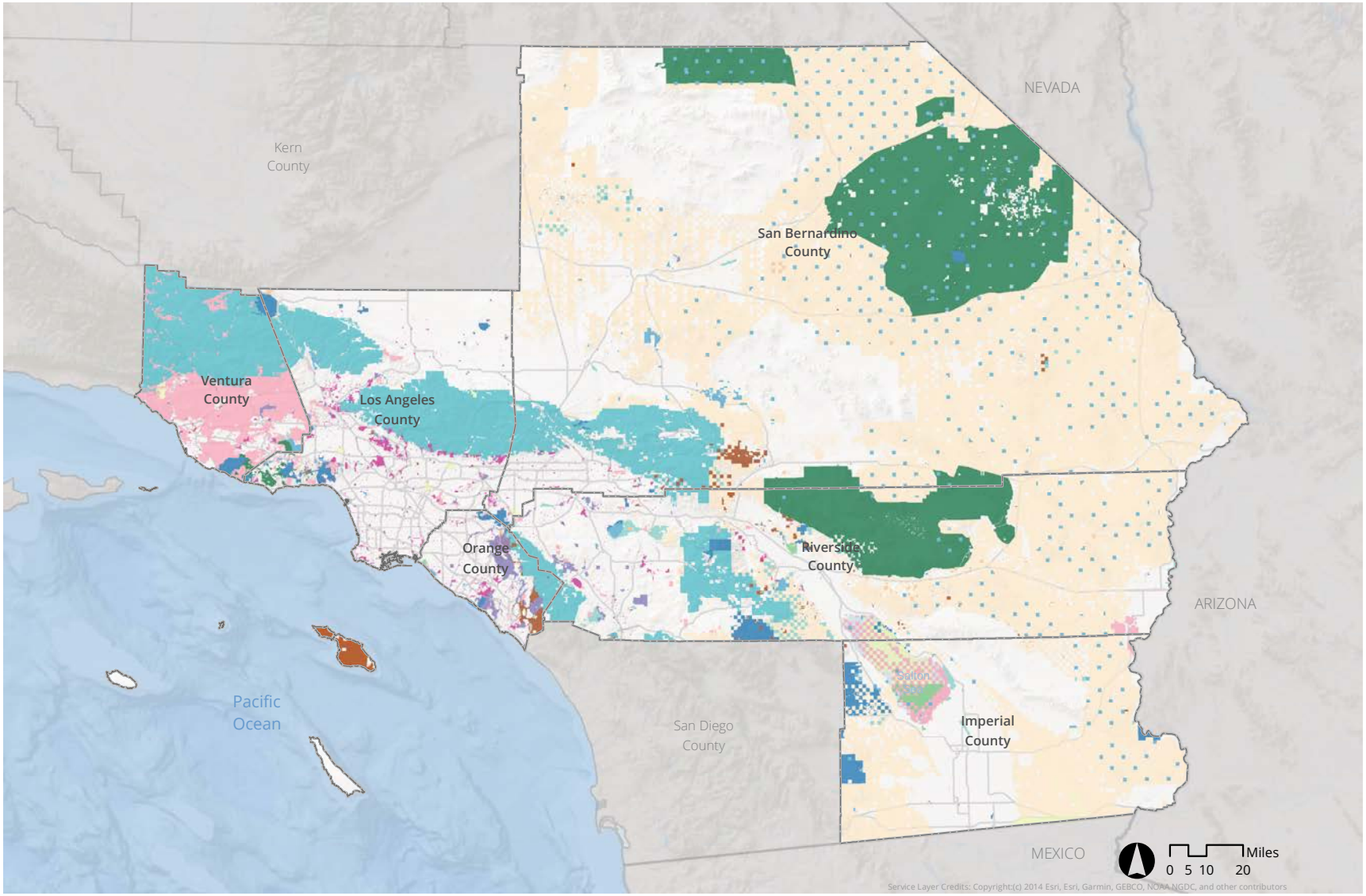
Existing Land Use



SOURCE: SCAG, California Protected Areas Database, 2017; California Conservation Easement Database, 2016

FIGURE **3.11-3**

IMPACT SCIENCES

Protected Areas in the SCAG Region

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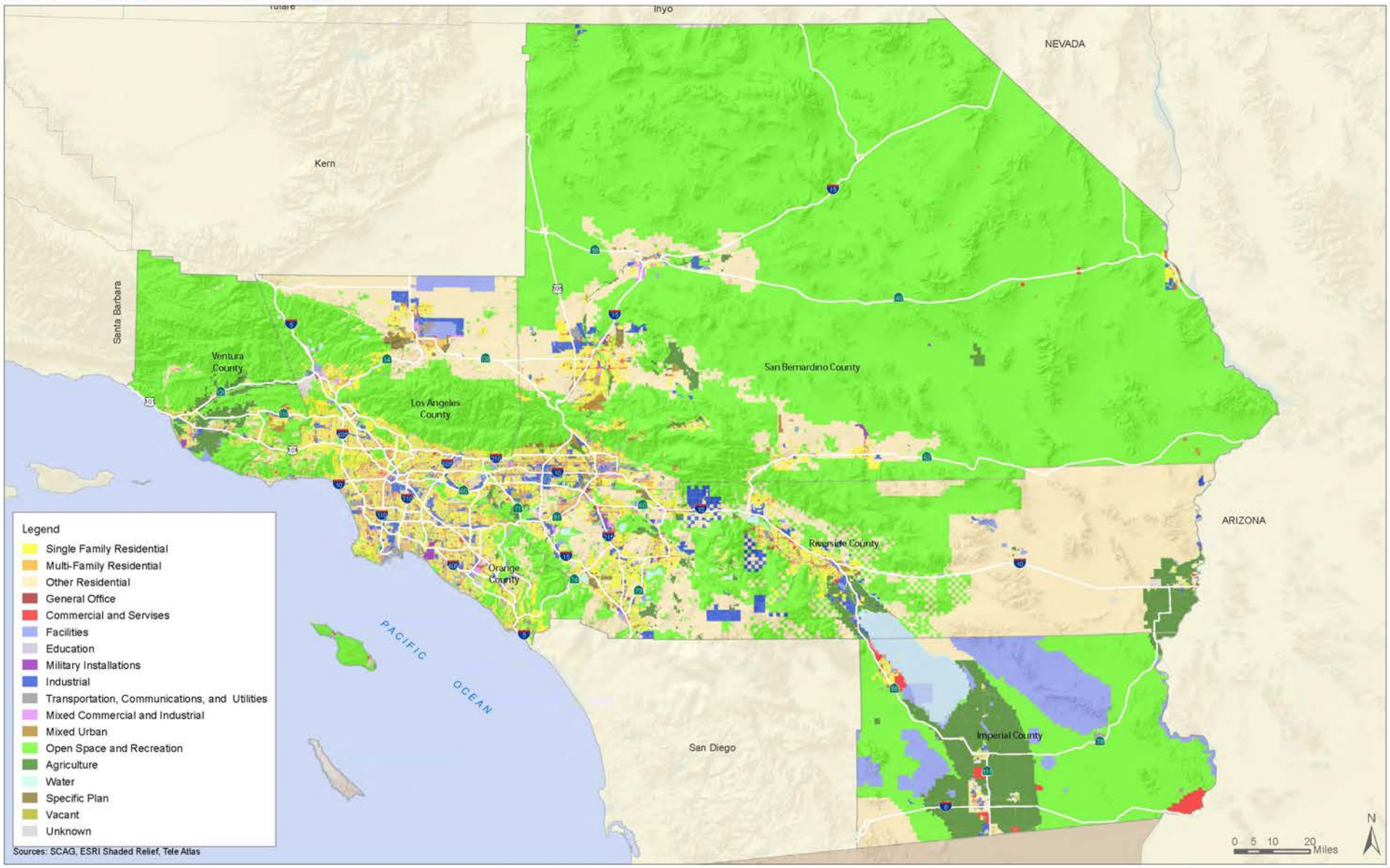


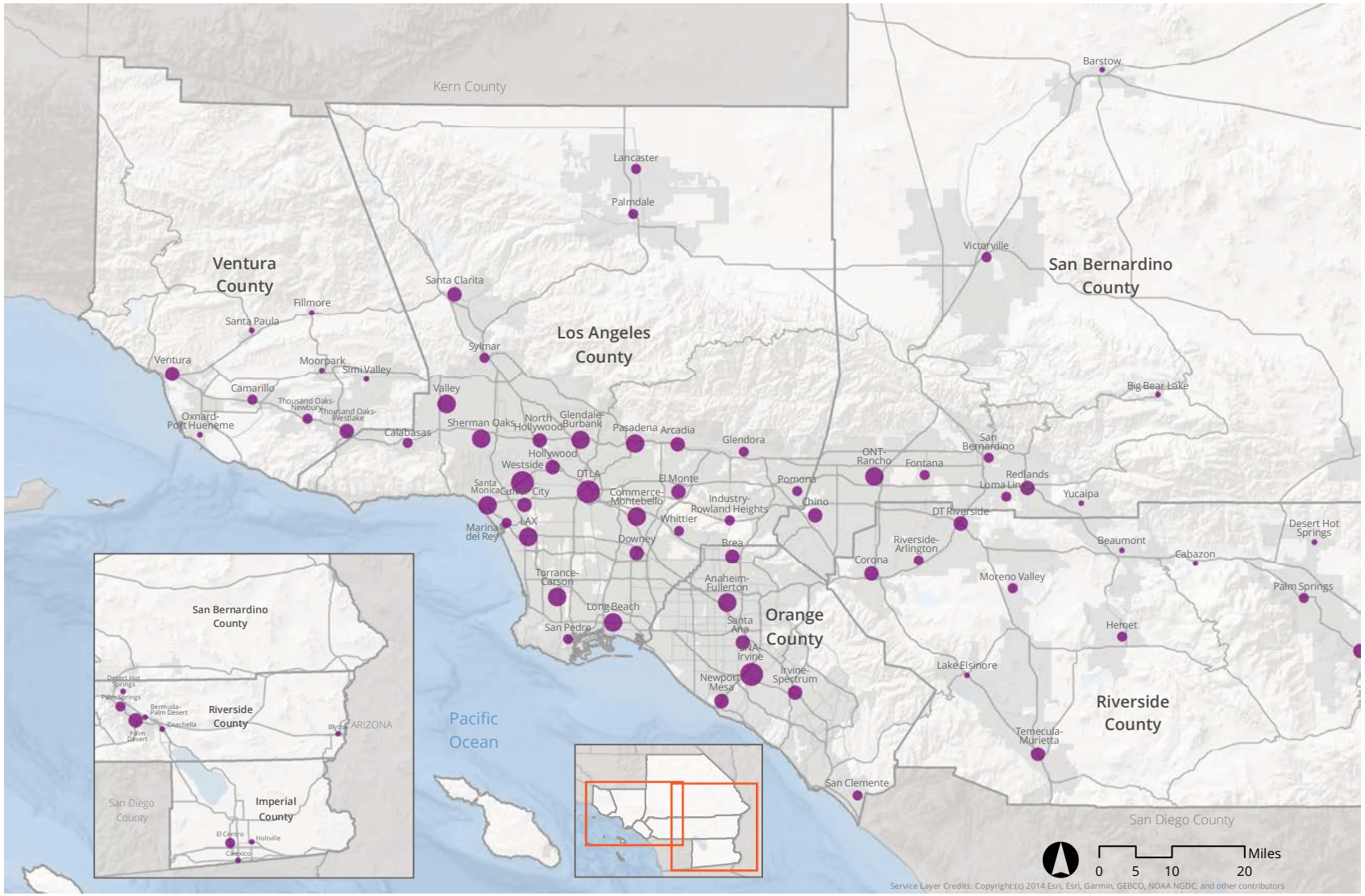
SOURCE: SCAG, ESRI Shaded Relief, TeleAtlas, 2012

FIGURE **3.11-4**

IMPACT SCIENCES

General Plan Land Use Designations

1329.001•11/19



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

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

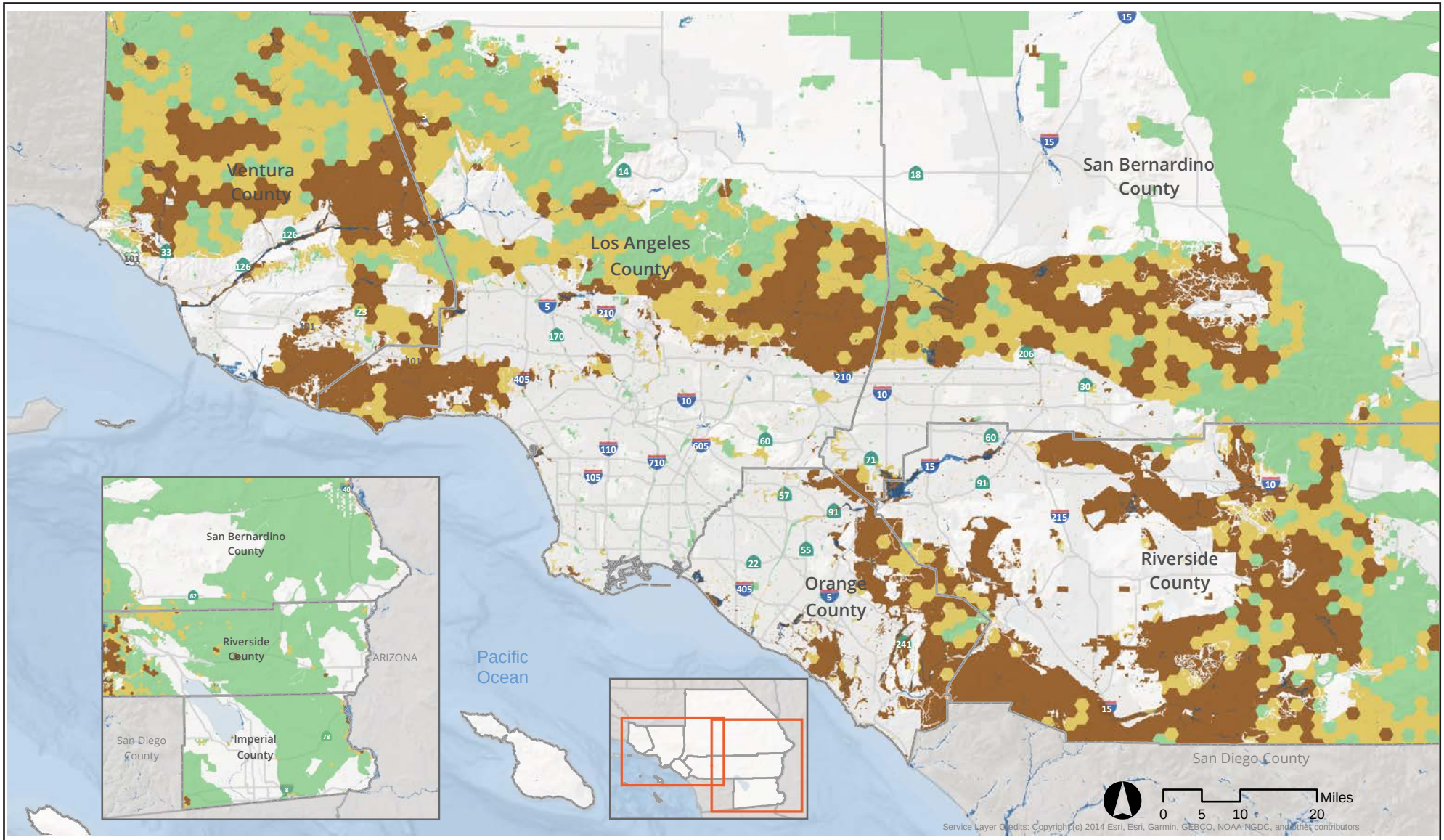
Notes:
(1) Centers are areas with denser employment than their surroundings.
(2) Dots represent the total employment in each center, not center boundaries.
(3) Names are intended to be illustrative and may not reflect all the jurisdictions in which a center fully lies.

SOURCE: SCAG, 2019

FIGURE **3.11-5**

IMPACT SCIENCES

SCAG Region Proposed Job Centers

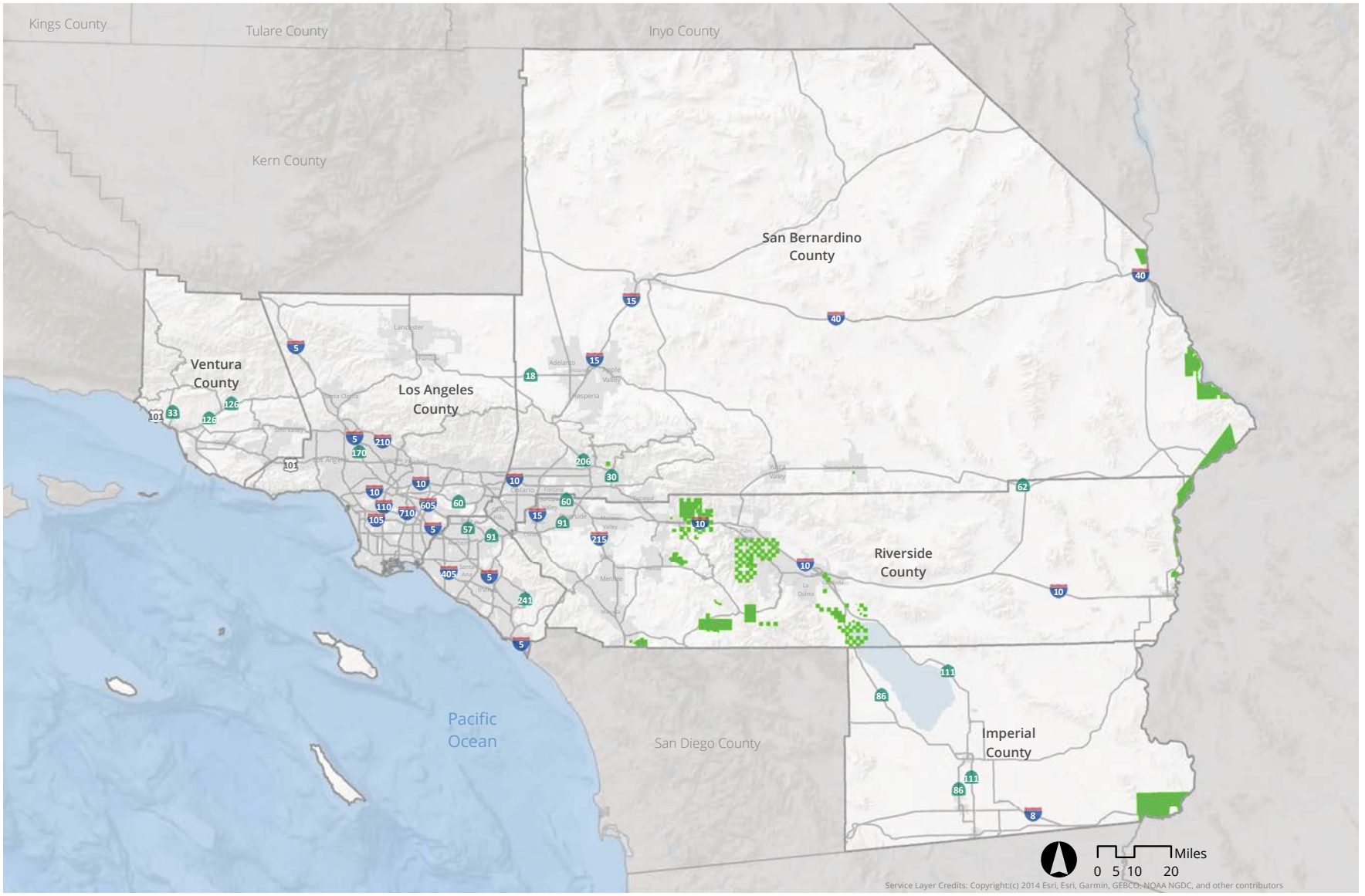


SOURCE: SCAG, ESRI Shaded Relief, TeleAtlas, 2015

FIGURE **3.11-6**

IMPACT SCIENCES

SCAG Region Open Space, Recreation, and Agricultural Uses



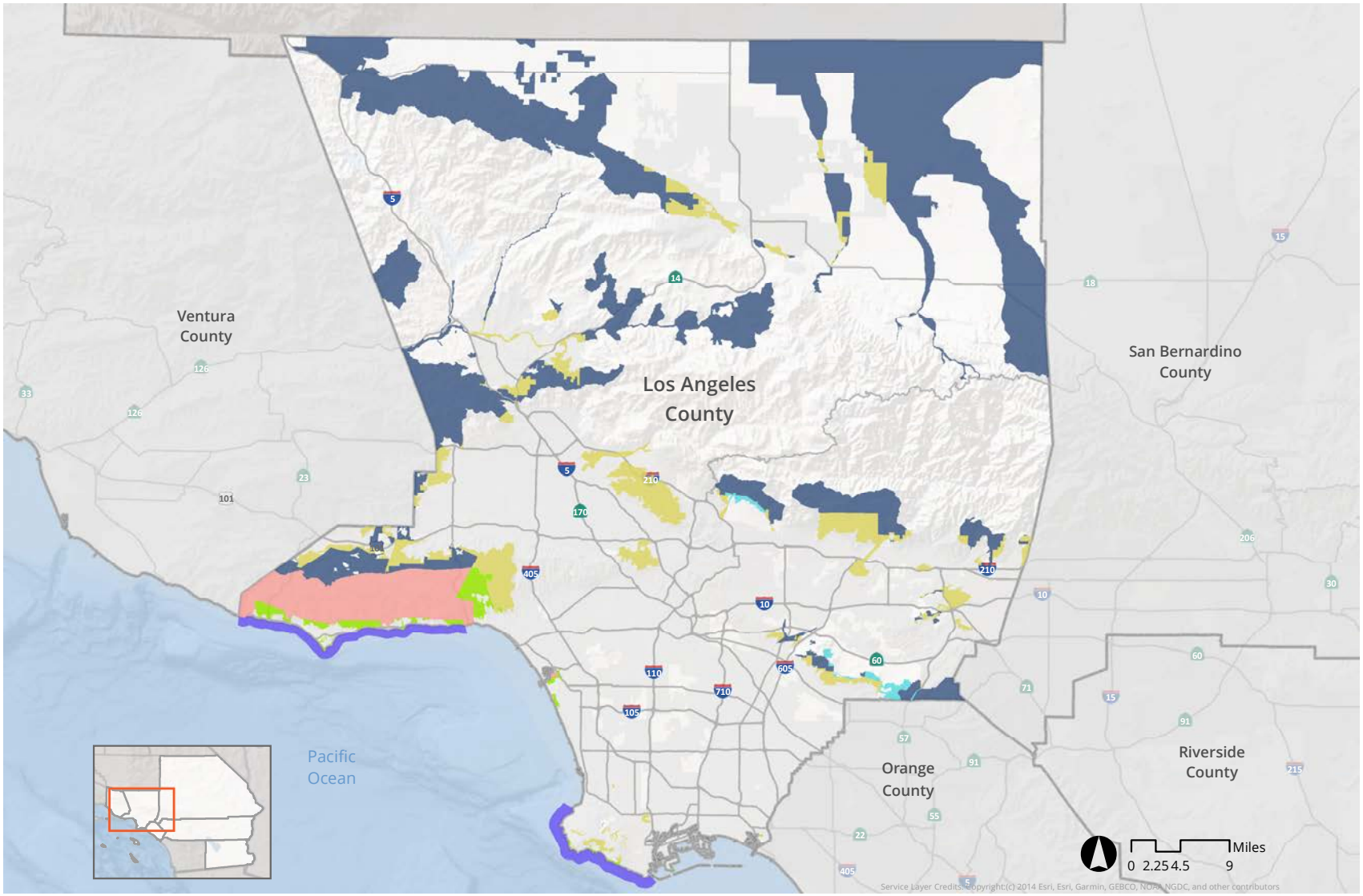
SOURCE: TeleAtlas/TomTom, US Census Bureau, 2016

FIGURE **3.11-7**

IMPACT SCIENCES

Tribal Lands in the SCAG Region

1329.001•10/19



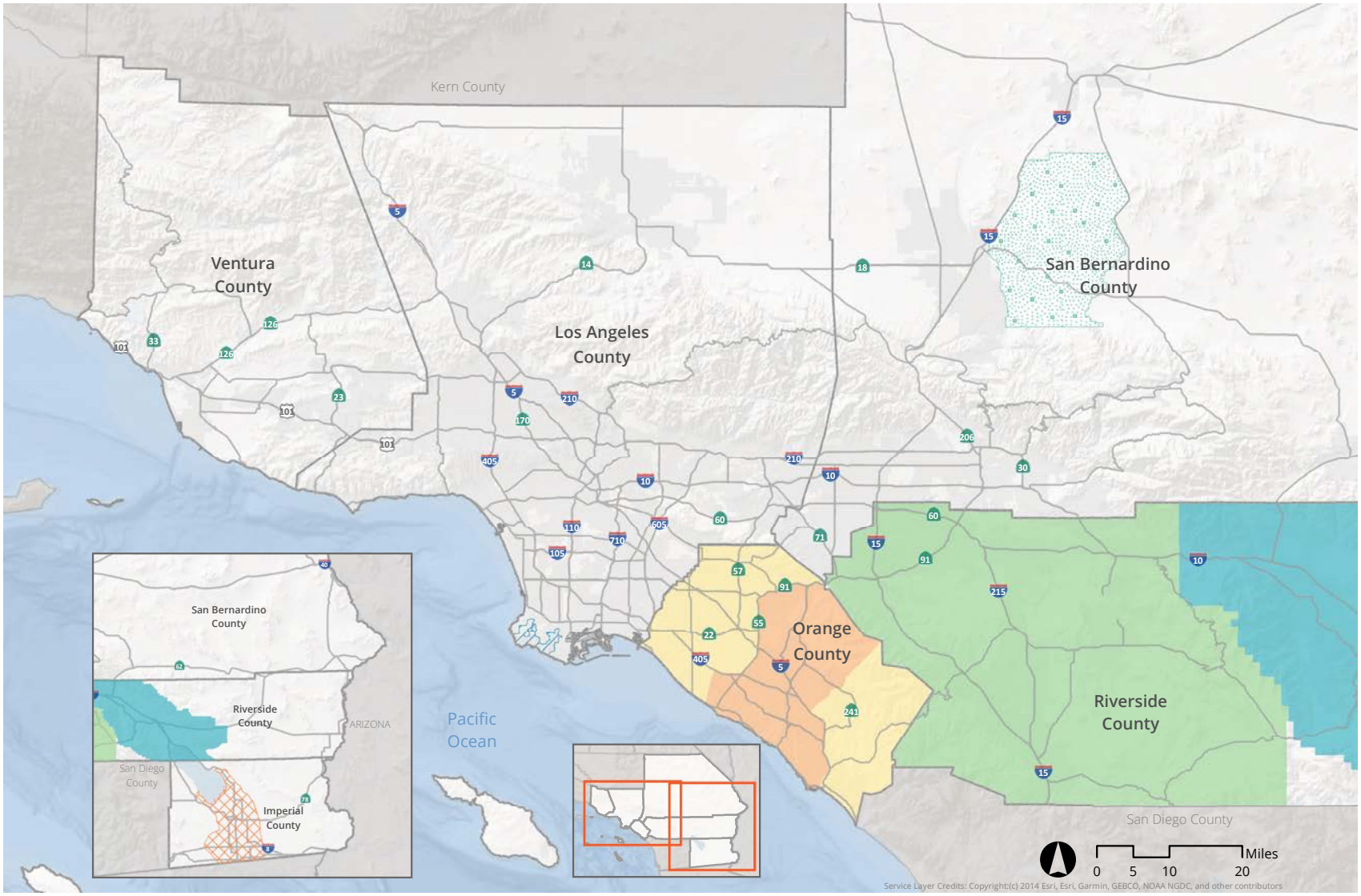
SOURCE: County of Los Angeles Department of Regional Planning, 2019

FIGURE **3.11-8**

IMPACT SCIENCES

Los Angeles County Significant Ecological Areas

1329.001•10/19



SOURCE: California Department of Fish and Wildlife, 2019

FIGURE **3.11-9**

IMPACT SCIENCES

Regional Conservation Plans in the SCAG Region

1329.001•10/19

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3.12 MINERAL RESOURCES

This section of the Program Environmental Impact Report (PEIR) describes mineral resources in the SCAG region, identifies the regulatory framework with respect to laws and regulations that affect mineral resources, and analyzes the potential impacts of the Connect SoCal Plan ("Connect SoCal"; "Plan") In addition, this PEIR provides regional-scale mitigation measures, as well as project-level mitigation measures for subsequent, site-specific environmental review documents prepared by lead agencies to reduce identified impacts as appropriate and feasible.

3.12.1 ENVIRONMENTAL SETTING

A mineral resource is a pure inorganic substance occurring in Earth's crust in such form, quantity or quality that there are reasonable prospects for economic extraction. With over 1,200 mines in California, the state relies on mineral resources as a continuous supply of construction aggregate materials (sand, gravel, and crushed stone) for urban infrastructure and essential to the economy of Southern California. Construction minerals, such as aggregate, constitute the state's most important mineral commodity in terms of tonnage, value, and societal infrastructure. California is number one in the United States (U.S.) for the production of sand and gravel, and fourth in the U.S. for total non-fuel mineral production. As of 2017, there were 663 active non-fuel mines in the state with a total market value of production valuing $3.6 billion.[1]

Mineral Resource Zones (MRZs) were initially mapped in 1980 as a result of the Surface Mining and Reclamation Act (SMARA) of 1975. MRZs are designated into four classes that indicate the potential for a specific area to contain significant mineral resources:

- **MRZ-1:** Areas where available geological information indicated there is little or no likelihood for presence of significant mineral resources.
- **MRZ-2:** Areas underlain by mineral deposits where geological data indicate that significant measured or indicated resources are present or where adequate information indicates that significant mineral deposits are present or where it is judged that a high likelihood for their presence exists.
- **MRZ-3:** Areas containing known mineral occurrences of undetermined mineral resources significance.

[1] California Department of Conservation (DOC). 2017. California's Non-Fuel Mineral Production in 2017. Available online at: https://www.conservation.ca.gov/cgs/Documents/california-non-fuel-mineral-production-2017.pdf, accessed June 12, 2019.

- **MRZ-4:** Areas of known mineral occurrences where geological information does not rule out the presence or absence of significant mineral resources.[2]

3.12.1.1 Mineral Resources Project

To organize active and historic mining data as mandated by the Surface Mining and Reclamation Act of 1975 (SMARA), the California Department of Conservation created the Mineral Resources Project, to provide information about California's non-fuel mineral resources. Under the project, the California Geological Survey (CGS) classifies lands that contain regionally significant mineral resources and then develops objective maps and reports to be used by mining companies and consultants, government agencies, and the public to recognize, utilize, and protect California's mineral resources.

The Mineral Resources Project divides non-fuel mineral resources into three categories: metals (include gold, silver, iron and copper), industrial minerals (like clays, limestone, and gypsum), and construction aggregate (sand, gravel, and crushed stone).[3]

3.12.2 ENVIRONMENTAL SETTING

3.12.2.1 Mineral Resources of Regional Significance

County and city general plans are required to identify significant mineral resource areas and apply appropriate land use designations to ensure their future availability. Many city and county general plans in the SCAG region reference and map local mineral resources. Most of the comprehensive mineral resource mapping in California has been completed for urban areas where there is a high probability that converted land uses would be incompatible with mining. Gold, sand, and gravel are the primary mineral resources still extracted throughout the SCAG region. As shown in **Figure 3.12-1, Mineral Resources in the SCAG Region**, other mineral resources in the SCAG region consist of bentonite, boron, cement, common clay, crushed stone, dimension stone, feldspar, gemstones, gypsum, lime, perlite, salt, silver, soda ash, sodium sulfate, sulfur, talc, and zeolites.

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2 California Department of Conservation (DOC). *Guidelines for Classification and Designation of Mineral Lands*. Available online at: https://www.conservation.ca.gov/smgb/Guidelines/Documents/ClassDesig.pdf, accessed August 19, 2019.

3 California Department of Conservation (DOC). 2017. *California's Non-Fuel Mineral Production in 2017*. Available online at: https://www.conservation.ca.gov/cgs/Documents/california-non-fuel-mineral-production-2017.pdf, accessed June 12, 2019.

Imperial County

A number of mineral resources in Imperial County are currently being extracted. These mineral resources include gold, gypsum, sand, gravel, lime, clay, stone, kyanite, limestone, sericite, mica, tuff, salt, potash, and manganese. Several issues influence the extraction of mineral deposits in Imperial County, including the location of geologic deposition, the potential for impacts to the environment, and land use conflicts. As a result, the extraction of mineral resources is limited to a relatively small number of sites throughout the County.[4]

Los Angeles County

In Los Angeles County, four major MRZ-2s are identified in, or partially within the unincorporated areas; Little Rock Creek Fan, Soledad Production Area, Sun Valley Production Area, and Irwindale Production Area. The Soledad and Little Rock Creek MRZ-2s contain significant commercially-viable aggregate or mineral deposits, such as sand, gravel, and other construction aggregate that are estimated to contain mineral resources through the year 2046.[5,6]

Orange County

In 1994, the California Department of Conservation, Division of Mines and Geology, published an updated report identifying significant sand and gravel resources for the Orange County region. These resource areas are located in portions of the Santa Ana River, Santiago Creek, San Juan Creek, Arroyo Trabuco and other areas.[7]

Riverside County

Mineral extraction is an important component of Riverside County's economy. The County of Riverside has extensive deposits of clay, limestone, iron, sand, and aggregates. Mineral deposits in the county are important to many industries, including construction, transportation and chemical processing. The value

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4 Imperial County. *Imperial County General Plan: Conservation & Open Space Element*. Available online at: http://www.icpds.com/CMS/Media/Conservation-&-Open-Space-Element-2016.pdf, accessed June 24, 2019.

5 Little Rock Creek Fan, Soledad Production Area, Sun Valley Production Area, and Irwindale Production Area. The Soledad and Little Rock Creek MRZ-2s contain significant deposits that are estimated to provide for future needs through the year 2046.

6 Los Angeles County. 2015. Los Angeles County General Plan Chapter 9: Conservation and Natural Resources Element. Available at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan.pdf, accessed September 10 2019.

7 Orange County Public Works. *General Plan Chapter VI: Resources Element*. Available online at: https://www.ocgov.com/civicax/filebank/blobdload.aspx?blobid=40235, accessed June 24, 2019.

of mineral deposits within the county is enhanced by their close proximity to urban areas. However, increasing urbanization also encroaches on the mineral resources within the county.[8]

San Bernardino County

The Desert Region Habitat, which covers approximately 93 percent of the San Bernardino County land area, contains mountain ranges which support exposed bedrock, mineral deposits in granite rock.[9]

Ventura County

The two principal mineral resources located in Ventura County are petroleum (oil and gas) and aggregate (principally sand and gravel). Other minerals of commercial value within Ventura County are: asphalt, clay, expansible shale, gypsum, limestone, and phosphate. Although many sand and gravel sites exist throughout the County, most of the extraction sites are located in and along the Santa Clara River bed.[10]

Construction Aggregate in the SCAG Region

Mapping information assists planners and decision-makers balance the need for construction aggregate with many other competing land use issues in their jurisdictions. It is estimated that in the next 50 years, California will need approximately 11 billion tons of aggregate, while current permits only allow for 7.6 billion tons, or 69 percent of the total need.[11]

Table 3.12-1, Permitted Aggregate Resources and 50-Year Demand in the SCAG Region, shows the forecasted demand as well as the permitted aggregate reserves within the SCAG region. The Temescal Valley-Orange County area has the highest projected demand over the next 50 years, with an estimated 1,079 million tons demanded. In contrast, Ventura County has a future demand of approximately 241 million tons of aggregate. All of the aggregate study areas within the SCAG region have less permitted aggregate reserves than they are projected to need for the next 50 years. The projected total 50-year

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8 Riverside County Planning Department. *General Plan: Multipurpose Open Space Element*. Available online at: https://planning.rctlma.org/Portals/14/genplan/general_Plan_2017/elements/OCT17/Ch05_MOSE_120815.pdf?ver=2017-10-11-102103-833, accessed June 24, 2019.

9 San Bernardino County, Land Use Services. *Countywide Plan: Conservation Element*. Available online at: http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGP.pdf, accessed June 24, 2019.

10 Ventura County Resource Management Agency. *Ventura County General Plan*. Available online at: https://docs.vcrma.org/images/pdf/planning/plans/Goals-Policies-and-Programs.pdf, accessed June 24, 2019.

11 California Geological Survey (CGS). 2018. *Aggregate Sustainability in California*. Available online at: https://www.conservation.ca.gov/cgs/Documents/MS_052_California_Aggregates_Report_201807.pdf, accessed July 30, 2019.

demand for the SCAG region is 4.4 billion tons [12] (It should be noted that although there are aggregate mines in Imperial County, the CGS does not provide permit and demand data for Imperial County).

Table 3.12-1
Permitted Aggregate Resources and 50-Year Demand in the SCAG Region

	County*	50-Year Demand (million tons)	Permitted Aggregate Reserves (million tons)	Permitted Aggregate Reserves Compared to 50-Year Demand (percent)	Projected Years Remaining
Claremont-Upland P-C Region	San Bernardino	202	90	45	21 to 30
Palmdale P-C Region	Los Angeles	569	163	29	11 to 20
Palm Springs P-C Region	Riverside	238	163	68	31 to 40
San Bernardino P-C Region	San Bernardino	939	156	17	11 to 20
San Fernando Valley/Saugus-Newhall	Los Angeles	387	17	4	10 or fewer
San Gabriel Valley P-C Region	Los Angeles	751	297	40	21 to 30
Temescal Valley-Orange County	Orange	1,079	862	80	41 to 50
Ventura County	Ventura	241	84	35	11 to 20
Total SCAG Region		**4,406**	**1,832**	**N/A**	**N/A**

*Note: *Aggregate reserves not analyzed for Imperial County*
Source: California Geological Survey (CGS). 2018. *Aggregate Sustainability in California.*

Current non-permitted aggregate resources are the most likely future sources of construction aggregate potentially available to meet California's continuing demand. Non-permitted aggregate resources are deposits that may meet specifications for construction aggregate, are recoverable with existing technology, have no land overlying them that is incompatible with mining, and currently are not permitted for mining. These resource areas include areas that that are known to contain aggregate resources and have compatible land uses such as agricultural land, open space lands (not designated as parks), and forest lands. Uses that are considered incompatible with mining include urban areas, county and state parks, national parks, and golf courses. It is unlikely that all of these resources would ever be mined as many are located in proximity to urban or environmentally sensitive areas or remote from a potential market to be economically viable. Land uses that are considered incompatible with mining include urban areas, county and state parks, national parks, and golf courses.

12 Ibid.

The estimated amount of non-permitted resources in the region is not easily quantifiable; California's non-permitted aggregate resources have been estimated to be approximately 74 billion tons.[13] While the estimated amount of nonpermitted resources is large, it is unlikely that all of these resources would ever be mined because of social, environmental, or economic factors. For example, aggregate resources located in proximity to urban or environmentally sensitive areas can limit or stop the development of mining operations, as such these sites are unlikely to be mined. These resources may also be located remote from a potential market to be economically viable, due to the cost of transporting such resources. In spite of such possible constraints, current nonpermitted aggregate resources are the most likely future sources of construction aggregate potentially available to meet California's continuing demand.

3.12.3 REGULATORY FRAMEWORK

3.12.3.1 Federal

Indian Mineral Development Act of 1982

The Indian Mineral Development Act of 1982 (25 U.S. Code [USC] 2101–2108) permits Indian tribes, through the Secretary of the Interior, to enter into a Minerals Agreement for the disposition of tribal mineral resources. A Minerals Agreement provides for the exploration for or extraction of oil, gas, uranium, coal, geothermal, or other energy or non-energy mineral resources for tribes that own a beneficial or restricted interest or provide for the sale or production of tribal mineral resources.[14]

3.12.3.2 State

Surface Mining and Reclamation Act (SMARA) of 1975

The SMARA (Public Resources Code [PRC] 2710–2796) requires that the State Department of Mines and Geology Board map areas throughout the state that contain regionally significant mineral resources. Construction aggregate resources (sand and gravel) deposits were the first commodity selected for classification by the Board. Once mapped, the Mines and Geology Board is required to designate for future use those areas that contain aggregate deposits that are of prime importance in meeting the region's future need for construction-quality aggregates. The primary objective of SMARA is for each jurisdiction to develop policies that would conserve important mineral resources, where feasible, that

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13 California Geological Survey (CGS). 2018. *Aggregate Sustainability in California*. Available online at: https://www.conservation.ca.gov/cgs/Documents/MS_052_California_Aggregates_Report_201807.pdf, accessed September 10, 2019.

14 U.S. Congress. *S. 1894 – Indian Mineral Development Act of 1982*. Available online at: https://www.congress.gov/bill/97th-congress/senate-bill/1894, accessed August 19, 2019.

might otherwise be unavailable when needed. SMARA requires that once policies are adopted, local agency land use decisions must be in accordance with its mineral resource management policies. These decisions must also balance the mineral value of the resource to the market region as a whole, not just their importance to the local jurisdiction.[15]

Government Code Section 65302(d)

Government Code Section 65302(d) states that a conservation element of the general plan shall address minerals and other natural resources.[16]

3.12.3.3 Local

County and City General Plans

For the most part, local planning guidelines have been developed in county and city general plans to identify and encourage the utilization and conservation of mineral and energy resources, encourage sustainable management of resources, prevent or minimize adverse effects to the environment, and protect public health and safety. Pursuant to Government Code Section 65302, a general plan must include "A conservation element for the conservation, development, and utilization of natural resources including water and its hydraulic force, forests, soils, rivers and other waters, harbors, fisheries, wildlife, *minerals*, and other natural resources" (emphasis added).[17]

3.12.4 ENVIRONMENTAL IMPACTS

3.12.4.1 Thresholds of Significance

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

- Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.

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15 California Department of Conservation. 2018. *Surface Mining and Reclamation Act of 1975 Statues and Regulations*. Available online at: https://www.conservation.ca.gov/smgb/Regulations/Documents/SMARA-statutes-regs-7-2018.pdf, accessed August 19, 2019.

16 California Legislative Information. 1965. *ARTICLE 5. Authority for and Scope of General Plans [65300-65303.4].*

17 Ibid.

- Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

3.12.4.2 Methodology

The methodology for determining the significance of impacts on mineral resources impacts compares the existing conditions (2019) to the future 2045 conditions under the Plan, as required by *CEQA Guidelines* Section 15126.2(a). Specifically, the volume of aggregate material likely to be required to support the transportation projects and urban development encouraged by land use strategies in the Plan was evaluated in relation to availability of permitted mineral resources, and other potential mineral resource recovery sites in the SCAG region. Mineral resources within the SCAG region were evaluated at the programmatic level of detail, in relation to the general plans of the six counties and 191 cities within the six-county area, a review of *California Minerals and Mines*, and a review of related literature germane to the SCAG region.

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

3.12.4.3 Impacts and Mitigation Measures

Impact MIN-1: Potential to result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.

Significant and Unavoidable Impact – Mitigation Required.

Transportation projects contained in the Plan and development projects anticipated to occur under the Plan would require substantial amounts of aggregate resources for construction purposes, constituting a significant impact. The six-county and 191-city SCAG region has approximately 1,832 million tons of permitted aggregate reserves (**Table 3.12-1).** The CGS estimates that the SCAG region would need

approximately 4,406 million tons of aggregate over the next 50 years.[18] The difference of 2,574 million tons would need to be permitted over the next 50 years to meet the projected demand. **Table 3.12-1** indicates that, of the eight areas of permitted aggregate resources, one is projected to have less than 10 years remaining (San Fernando Valley/Saugus-Newhall) and three have 11 to 20 years left (Palmdale P-C Region, San Bernardino P-C Region, and Ventura County). The SCAG region's construction industry is greatly dependent on readily available aggregate deposits that are within a reasonable distance to market regions. Aggregate is a low-unit-value, high-bulk-weight commodity or material required for construction of most transportation projects and development projects that must be obtained from nearby sources in order to minimize costs to the consumer. If nearby sources do not exist, then transportation costs quickly could exceed the value of the aggregate.

Table 3.12-1 shows that just under 42 percent of the projected 50-year demand is currently permitted in the SCAG region (excluding mines in Imperial County). The Plan includes transportation system improvements, such as new or expanded highway/arterials, high-occupancy vehicle (HOV) lanes and connectors, new light and heavy rail, goods movement projects, and infrastructure that would require substantial amounts of aggregate resources. In addition, the regional land use strategies identified in the Plan would influence population distribution by focusing growth in HQTAs, existing suburban town centers, and more walkable, mixed-use communities. The development projects encouraged by these land use strategies included in the Plan would also result in a demand for aggregate resources for construction.

As a programmatic, long-range planning document, the Plan does not include specific construction information related to transportation projects or potential land use development. However, transportation projects included in the Plan and potential development could require substantial amounts of aggregate resources for construction. Therefore, impacts would be significant, requiring mitigation.

Mitigation Measures

SCAG Mitigation Measures

SMM MIN-1: SCAG shall coordinate with the Department of Conservation, California Geological Survey to maintain a database of (1) available mineral resources in the SCAG region including permitted and unpermitted aggregate resources and (2) the anticipated 50-year demand for aggregate and other mineral resources. Based on the results of this survey,

[18] California Geological Survey (CGS). 2018. *Aggregate Sustainability in California*. Available online at: https://www.conservation.ca.gov/cgs/Documents/MS_052_California_Aggregates_Map_201807.pdf, accessed August 19, 2019.

SCAG shall work with local agencies on strategies to address anticipated demand, including identifying future sites that may seek permitting and working with industry experts to identify ways to encourage and increase recycling to reduce the demand for aggregate.

Project Level Mitigation Measures

PMM MIN-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce the use of mineral resources that could be of value to the region, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

a) Provide for the efficient use of known aggregate and mineral resources or locally important mineral resource recovery sites, by ensuring that the consumptive use of aggregate resources is minimized and that access to recoverable sources of aggregate is not precluded, as a result of construction, operation and maintenance of projects.

b) Where avoidance is infeasible, minimize impacts to the efficient and effective use of recoverable sources of aggregate through measures that have been identified in county and city general plans, or other comparable measures such as:

1) Recycle and reuse building materials resulting from demolition, particularly aggregate resources, to the maximum extent practicable.

2) Identify and use building materials, particularly aggregate materials, resulting from demolition at other construction sites in the SCAG region, or within a reasonable hauling distance of the project site.

3) Design transportation network improvements in a manner (such as buffer zones or the use of screening) that does not preclude adjacent or nearby extraction of known mineral and aggregate resources following completion of the improvement and during long-term operations.

4) Avoid or reduce impacts on known aggregate and mineral resources and mineral resource recovery sites through the evaluation and selection of project sites and design features (e.g., buffers) that minimize impacts on land suitable for aggregate and mineral resource extraction by maintaining portions of MRZ-2

areas in open space or other general plan land use categories and zoning that allow for mining of mineral resources.

Level of Significance after Mitigation

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

IMPACT MIN-2: Potential to result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

Significant and Unavoidable Impact – Mitigation Required.

Transportation projects contained in the Plan and development projects anticipated to occur under the Plan have the potential to impact availability of mineral resources if they are constructed in mineral resource zones. Improvements and modifications to existing rights-of-way, such as HOV lanes, high-occupancy toll (HOT) lanes, new bus-ways and capacity enhancement facilities, mixed flow lanes, and right-of-way maintenance would have less potential to impact mineral resources because these transportation projects improve facilities that already exist and are already impeding access to resources. Construction of new transportation projects, like new freeways, and even additional lanes, have the potential to impact availability of aggregate and mineral resources.

As noted in **Section 3.12.1.2** above, each county within the SCAG region contains mineral resources of local importance as noted in their respective general plans. These mineral resources generally include aggregate resources that are used in construction activities throughout the region. The Plan's transportation projects and anticipated development have the potential to reduce the availability of these resources, either directly by locating projects within mineral resource zones or indirectly through the use of aggregate and mineral resources in project development that may result in depletion of aggregate supply. Therefore, impacts would be significant, requiring mitigation.

Mitigation Measures

SCAG Mitigation Measure

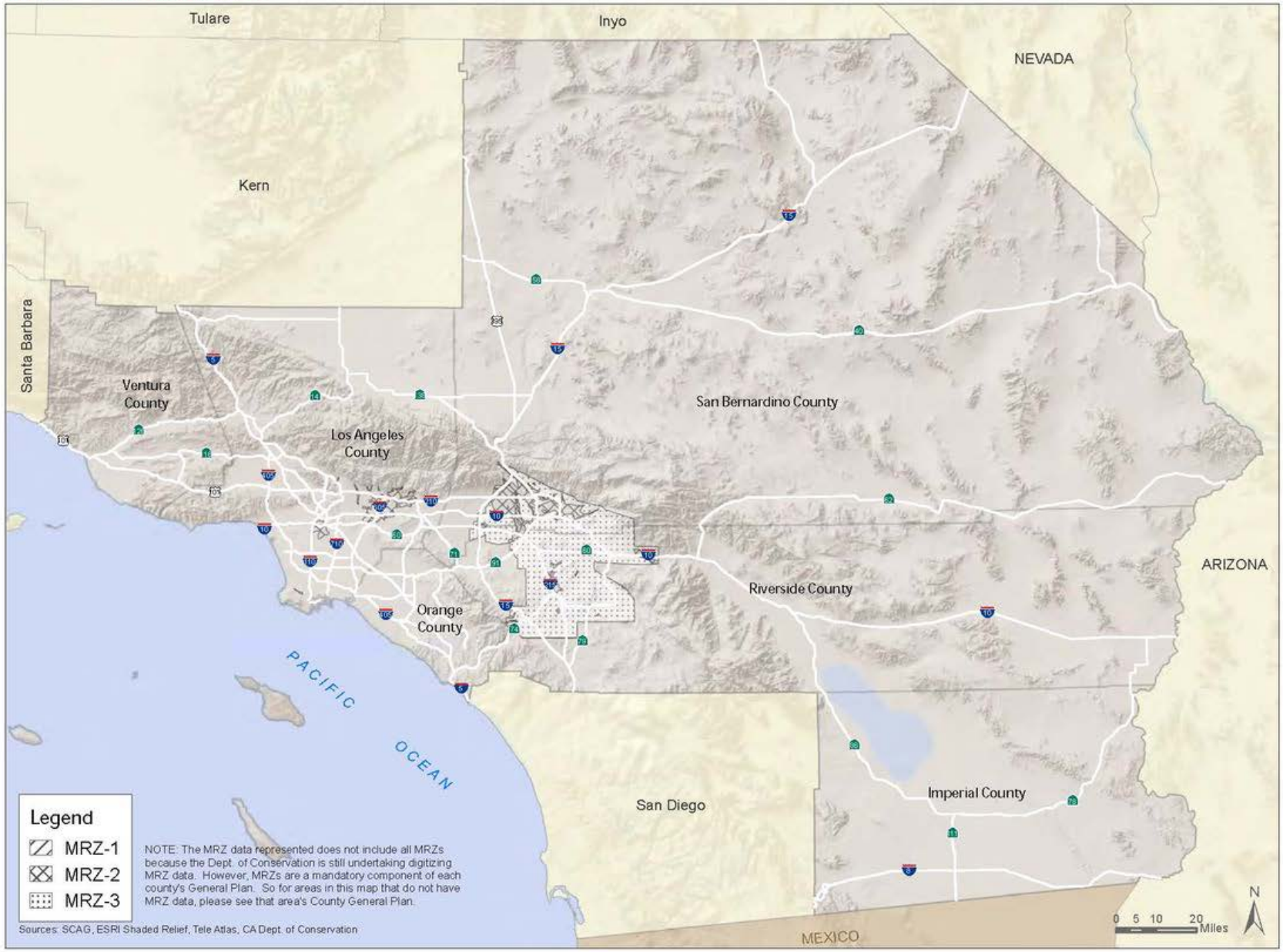
See **SMM MIN-1.**

Project Level Mitigation Measure

See **PMM-MIN-1.**

Level of Significance after Mitigation

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



SOURCE: SCAG, ESRI Shaded Relief, TeleAtlas, CA Department of Conservation, 2015

FIGURE **3.12-1**

Mineral Resources in the SCAG Region

IMPACT SCIENCES

1329.001•11/19

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3.13 NOISE

This section of the Program Environmental Impact Report (PEIR) describes the ambient noise characteristics in the SCAG region, identifies the regulatory framework with respect to laws and regulations that govern noise, and evaluates and discusses the potential impacts of the Connect SoCal Plan ("Connect SoCal"; "Plan"). In addition, this PEIR provides regional-scale mitigation measures as well as project-level mitigation measures to be considered by lead agencies for subsequent, site-specific environmental review to reduce identified impacts as appropriate and feasible.

3.13.1 ENVIRONMENTAL SETTING

3.13.1.1 Definitions

Terms and criteria used in the assessment of noise impacts are described below.

A-weighting: This is the method commonly used to quantify environmental noise that involves evaluation of all frequencies of sound, with an adjustment to reflect the constraints of human hearing. Because the human ear is less sensitive to low and high frequencies than to midrange frequencies, noise measurements are weighted more heavily within those frequencies of maximum human sensitivity in a process called A-weighting (dBA).

Ambient: Ambient is the total noise in the environment, excluding noise from the source of interest.

Community noise equivalent level (CNEL): CNEL represents the average daytime noise level during a 24- hour day, adjusted to an equivalent level to account for people's lower tolerance of noise during the evening and nighttime hours. Because community receptors are more sensitive to unwanted noise intrusion during the evening and night, an artificial decibel increment is added to quiet-time noise levels. Sound levels are increased by 5 dBA during the evening, from 7:00 p.m. to 10:00 p.m. and by 10 dBA during the nighttime, from 10:00 p.m. to 7:00 a.m. during this quiet time period.

Day-night equivalent level (L_{dn}): L_{dn} is a measure of the 24-hour average noise level at a given location. It is based on a measure of the L_{eq} noise level over a given time period. The L_{dn} is calculated by averaging the L_{eq} for each hour of the day at a given location after penalizing the "sleeping hours" (defined as 10:00 p.m. to 7:00 a.m.), by 10 dBA to account for the increased sensitivity of people to noises that occur at night. L_{dn} is also referred to as day-night average (DNL) sound level in some cases.

Decibel (dB): dB is a unitless measure of sound on a logarithmic scale that indicates the squared ratio of sound pressure amplitude to a reference sound pressure amplitude. The reference pressure is 20 micropascals.

Equivalent sound level (L_{eq}): L_{eq} is a term typically used to express time averages. It is a steady-state energy level that is equivalent to the energy content of a varying sound level over a stated period of time, which means that the L_{eq} represents the noise level experienced over a stated period of time averaged as a single noise level.

Frequency: Frequency is the number of cycles per unit of time (seconds), expressed in hertz (Hz).

Noise: Noise is any sound that annoys or disturbs humans or that causes or tends to cause an adverse psychological or physiological effect on humans. Any unwanted sound.

Noise level (L_N): Another measure used to characterize noise exposure, L_N is the variation in sound levels over time, measured by the percentage exceedance level. L_{10} is the A-weighted sound level that is exceeded for 10 percent of the measurement period, and L_{90} is the level that is exceeded for 90 percent of the measurement period. L_{50} is the median sound level. Additional statistical measures include L_{min} and L_{max}, the minimum and maximum sound levels, respectively, measured during a stated measurement period.

Peak Particle Velocity (PPV): Defined as the maximum instantaneous positive or negative peak of the vibration signal, usually measured in inches per second (in/sec).

Sound: A vibratory disturbance created by vibrating objects, which, when transmitted by pressure waves through a medium such as air, is capable of being detected by a receiving mechanism, such as the human ear or a microphone.

Sound Exposure Level (SEL): This metric represents all the acoustic energy (a.k.a. sound pressure) of an individual noise event as if that event had occurred within a one-second time period. SEL captures both the level (magnitude) and the duration of a sound event in a single numerical quantity, by "squeezing" all the noise energy from an event into one second. This provides a uniform way to make comparisons among noise events of various durations.

Vibration: Vibration is the mechanical motion of earth or ground, building, or other type of structure, induced by the operation of any mechanical device or equipment located upon or affixed thereto. For purposes of this report, the magnitude of the vibration shall be stated as the acceleration in "g" units (1 g is equal to 32.2 feet/second^2, or 9.81 meters/second^2).

Noise Fundamentals

Noise is defined as unexpected and unwanted sound. Unlike other linear measures, such as weight and time, noise levels are measured in decibels (dB) on a logarithmic scale. Thus, doubling a noise source, such as traffic volumes, does not double the noise level, but instead increases the resultant noise level by 3 dB.[1],[2] Conversely, reducing a noise source in half results in a 3 dB decrease.[3] Thus, due to the logarithmic scale of the decibel unit, sound levels are not added or subtracted arithmetically. Moreover, in cases where existing ambient noise levels are already relatively high, there will be a small change in overall noise levels when a newer and lesser noise source is added. For example, when 70 dB ambient noise levels are combined with a 60 dB noise source, the resulting noise level equals 70.4 dB.[4]

A significant challenge in managing and mitigating noise is that not every person or community perceives and responds to noise in the same way. From an individual to the neighborhood level, there are different thresholds and tolerances for sound. Furthermore, one community (e.g. urban environment) may deem a land use (e.g. airport expansion) acceptable within a certain noise level, while another (e.g. suburban) might not. Moreover, sensitive receptors, such as residential areas, convalescent homes, schools, auditoriums, and other similar land uses, may be affected to a greater degree by increased noise levels than industrial, manufacturing, or commercial facilities. The effects of noise can range from interference with sleep, concentration, and communication, to the causation of physiological and psychological stress, and at the highest intensity levels, hearing loss.[5]

The method commonly used to quantify environmental noise involves evaluation of all frequencies of sound, with an adjustment to reflect the constraints of human hearing. Since the human ear is less sensitive to low and high frequencies than to midrange frequencies, noise measurements are weighted more heavily within those frequencies of maximum human sensitivity in a process called "A-weighting," written as dBA.[6] In practice, environmental noise is measured using a sound level meter that includes an electronic filter corresponding to the A-weighted frequency spectrum. Typical examples can be used to

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1 Federal Transit Administration, Office of Planning and Environment. 2018. *Transit Noise and Vibration Impact Assessment.* Washington, DC.

2 California Department of Transportation, Division of Environmental Analysis. 2013. *Technical Noise Supplement to the Traffic Noise Analysis Protocol.* Sacramento, CA.

3 Ibid.

4 Ibid.

5 U.S. Environmental Protection Agency, Office of Noise Abatement and Control. 1978. *Noise: A Health Problem.* Washington, DC.

6 California Department of Transportation, Division of Environmental Analysis. 2013. *Technical Noise Supplement to the Traffic Noise Analysis Protocol.* Sacramento, CA.

illustrate sound sources that correlate to measure A-weighted sound levels and the subjective loudness to a person (**Table 3.13-1, Common Sound Levels and Loudness**).

Table 3.13-1
Common Sound Levels and Loudness

Decibel (dB)	Subjective Loudness	Source of Sound
130	Threshold of pain	Military jet aircraft take-off from aircraft carrier with afterburner at 50 feet
120	Uncomfortably loud	Turbo-fan aircraft at takeoff power at 200 feet; rock band
110		
100	Very loud	Boeing 707 or DC-8 aircraft at 1 nautical mile (6,080 feet) before landing; jet flyover at 1,000 feet; Bell J-2A helicopter at 100 feet
90		Boeing 737 or DC-9 aircraft at 1 nautical mile before landing; power mower; motorcycle at 25 feet; car wash at 20 feet
80		High urban ambient sound; diesel truck at 40 mph at 50 feet; diesel train at 45 mph at 100 feet; passenger car at 65 mph at 25 feet; food blender; garbage disposal
70	Moderately loud	Living room music; radio or TV audio; vacuum cleaner
60		Air conditioning unit at 100 feet; dishwasher (rinse) at 10 feet; conversation
50	Quiet	Large transformers at 100 feet
40		Bird calls; lowest limit of urban ambient sound
30		
20		Quiet living room
10	Just audible	Average whisper
0	Threshold of hearing	

Source:
Adapted from: Federal Interagency Committee on Noise. August 1992. Federal Agency Review of Selected Airport Noise Analysis Issues. Table B.1. Washington, DC.
Adapted from: Cowan, James P. 1993. Handbook of Environmental Acoustics. Hoboken, NJ: John Wiley and Sons.

Vibration Measurement

Vibration is an oscillatory motion in terms of displacement, velocity, or acceleration. Vibration is typically measured as peak particle velocity (PPV) in inches per second. In this context, vibration refers to the minimum ground- or structure-borne motion that causes a normal person to be aware of the vibration by means such as, but not limited to, sensation by touch or visual observation of moving objects. The effects of ground-borne vibration include movements of the building floors that can be felt, rattling of windows, and shaking of items on shelves or hangings on the walls. In extreme cases, vibration can cause damage to buildings. The noise radiated from the motion of the room surfaces is called ground-borne noise (**Table 3.13-2, Typical Levels of Ground-Borne Vibration**). The vibration motion normally does not provoke the same adverse human reactions as the noise unless there is an effect associated with the shaking of the

building. In addition, the vibration noise can only occur inside buildings. Similar to the propagation of noise, vibration propagated from the source to the receptor depends on the receiving building (i.e., the weight of the building), soil conditions, layering of the soils, the depth of groundwater table, and so forth.

Table 3.13-2
Typical Levels of Ground-Borne Vibration

Response	Velocity Level*	Typical Sources (at 50 feet)
Minor cosmetic damage of fragile buildings	100	Blasting from construction projects
Difficulty with tasks such as reading a video display terminal (VDT) screen	90	Bulldozers and other heavy tracked construction equipment
Residential annoyance, infrequent events	80	Rapid transit, upper range
Residential annoyance, frequent events	70	High speed rail, typical
Approximate threshold for human perception	60	Bus or truck, typical
	50	Typical background vibration

Note:
** Root mean square (RMS) vibration velocity level in VdB relative to 10^{-6} inches/second*
Source:
Nelson, J.T., and H.J. Saurenman. December 1983. State-of-the-Art Review: Prediction and Control of Ground-Borne Noise and Vibration from Rail Transit Trains. U.S. Department of Transportation, Urban Mass Transportation Administration, Report Number UMTA-MA-06-0049-83-4, DOT-TSC-UMTA-83-3.

Ambient Noise Level

The 38,000-square-mile SCAG region includes 6 counties and 191 cities. It covers a diverse array of land uses that range from quiet, undeveloped rural areas to loud, dense, urban areas. Ambient noise levels for areas where sensitive receptors may be located can range from 46 dBA for a small town or quiet suburban area to greater than 87 dBA for an urban area next to a freeway.[7] Given the size of the SCAG region and the variation in sources, it is not useful to complete a detailed noise monitoring study for this PEIR.

7 U.S. Environmental Protection Agency, Office of Noise Abatement and Control. 1974. *Information on Levels of Environmental Noise Requisite to Protect Public Health with an Adequate Margin of Safety*. Available online at: https://nepis.epa.gov/Exe/ZyPDF.cgi/2000L3LN.PDF?Dockey=2000L3LN.PDF, accessed March 27, 2019.

Rather, this PEIR presents a discussion of noise levels associated with different noise sources, thereby allowing the reader to infer the noise level at different locations depending on the proximity of a location to a noise source. Since the range of ambient noise levels is so vast, a variety of land uses and locations was sampled in order to characterize their ambient noise levels. Six locations were selected within the SCAG region to represent the range of ambient noise conditions by land use types (**Table 3.13-3, Ambient Noise Sampling Data**).

Table 3.13-3
Ambient Noise Sampling Data

Location	Land Use	Peak Hour Noise Level (dBA, Leq)
City of Los Angeles (Mission Hills)	Cemetery	62
City of Los Angeles (Baldwin Hills)	Residential (Multi-Family/Industrial Adjacent)	60
City of Riverside	Institutional (University)	56
City of Pasadena	Mixed-Use (Multi-Family Residential and Retail)	63
City of Los Angeles (Del Rey)	Residential (Single Family)	63
City of Moorpark	Recreational (City Park)	48
City of Los Angeles (Boyle Heights)	Institutional (High School/Middle School Adjacent)	57

Source: Impact Sciences, 2019

The most common noise sources within the SCAG region is traffic on highways and on arterial roadways. Higher levels of noise from traffic are generally due to higher traffic volumes and faster travel speeds. Aircraft noise is also present in many areas of the SCAG region, with higher noise levels generated during takeoff and landing. Rail traffic and industrial and commercial activities also contribute to the noise level. Other contributors may also include construction, garbage collecting trucks, helicopters (news, police activity and tourism) and sporting/special events.

Transportation

Many principal noise generators within the SCAG region are associated with transportation (i.e., airports, freeways, arterial roadways, seaports, and railroads). However, local collector streets are not considered to be a significant source of noise since traffic volumes and travel speeds are generally much lower than for freeways and arterial roadways.

Airports and Aviation

The six-county SCAG region is home to an expansive multiple airport system that includes seven commercial airports with scheduled passenger service, seven government/military air fields, and more

than 30 reliever and general aviation airports. The seven commercial service airports in the region with scheduled passenger service are: Hollywood-Burbank (BUR), Imperial (IPL), Long Beach (LGB), Los Angeles (LAX), Ontario (ONT), Palm Springs (PSP), and Santa Ana (SNA). Sixteen of the airports in the region are designated by the Federal Aviation Administration (FAA) as reliever airports, which means that those airports could provide congestion relief for any of the commercial service airports in the region if needed. With such a large and versatile transportation system, the SCAG region airports support a significant amount of passenger and goods movement, and the subsequent volume of air traffic. See **Table 3.13-4, Major Commercial Airports within the SCAG Region**.[8]

Table 3.13-4
Major Commercial Airports within the SCAG Region

Airport	Location	Airport Land Use Plan	Noise Contour Available?
Bob Hope Airport	Burbank	Los Angeles County Airport Land Use Plan	Yes
Ontario International Airport	Ontario	LA/Ontario International Airport Land Use Compatibility Plan	Yes
Los Angeles International Airport	Los Angeles	Los Angeles County Airport Land Use Plan	Yes
Long Beach Airport	Long Beach	Los Angeles County Airport Land Use Plan	Yes
Palm Springs International Airport	Palm Springs	Riverside County Airport Land Use Compatibility Plan	Yes
John Wayne Airport	Santa Ana	Airport Environs Land Use Plan for John Wayne Airport	Yes
Imperial County Airport	Imperial	Airport Land Use Compatibility Plan for Imperial County Airports	Yes

Source:
Southern California Association of Governments. 2019. Connect SoCal: Aviation and Airport Ground Access Technical Report.

Noise associated with aviation arise primarily from aircraft operations. Specifically, aircraft operations can generate substantial levels of noise exposure when one is in the immediate vicinity of airport runways, or when one is near the flight path of an aircraft departure or approach at lower altitudes. In addition to proximity to runways and departure/approach flight paths, other contributing factors to noise impacts include duration of noise exposure, the type of aircraft operated, number of aircraft operations (e.g. take-offs, landings, flyovers), altitude of the aircraft, and atmospheric conditions, which may influence the direction of aircraft operations and affect noise propagation.

8 Southern California Association of Governments. 2008. *SCAG Commercial Airport System Map*. Available at: http://www.scag.ca.gov/Documents/commercialairport_2008.pdf, accessed March 27, 2019.

Typically, most major public airports will have an airport land use plan that provides guidance on noise levels and land use in adjacent areas. The FAA measures airport-related noise in communities in terms of overall exposure rather than single events such as takeoffs and landings since overall exposure would account for the overall number of noise events and the time when these events occur. The day night average sound level (L_{dn}) is the standard federal (FAA and EPA) metric for this measurement; however, the FAA also accepts the CNEL when a state requires that metric to assess noise effects. The State of California Department of Transportation Division of Aeronautics adopted the CNEL as their methodology for describing airport noise exposure.[9] Noise levels computed by these two methods typically differ by less than 1 dBA. The resulting noise contour map identifies geographic areas that are exposed to various levels of impacts from airport noise. Areas that are within the noise contours of 65 dBA CNEL and above, associated with airport activities, are considered to be incompatible with certain land uses, including residences, schools, hospitals, and childcare facilities.[10]

Freeways, Highways, and Arterial Roadways

The SCAG region has more than 73,000 lane miles.[11] Regionally significant arterials provide access to the freeway system and often serve as parallel alternate routes; in some cases, they are the only major system of transportation available to travelers. Typical arterial roadways have one or two lanes of traffic in each direction, with some containing as many as four lanes in each direction. Traffic noise is generated primarily from vehicles and dominated by trucks. In general, higher traffic volumes, higher speeds, and greater numbers of trucks will increase the noise level. Vehicle noise comes from noises generated by the engine, exhaust, and tires, and is often exacerbated by vehicles in a state of disrepair, such as defective mufflers or struts.

There are also environmental factors that affect noise from highway and roads. The level of traffic noise can be reduced by distance, terrain, vegetation, and intervening obstructions. However, unlike construction noise, traffic noise is a line source, not a point source. Therefore, the attenuation with distance is not as great as for traffic noise. In comparison, a point source such as stationary construction equipment attenuates by 6 dB with every doubling of the distance, whereas a line source such as traffic attenuates only by 3 dB with every doubling of the distance.

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9 California Department of Transportation. *Airport Noise Program*. Available online at: https://dot.ca.gov/programs/aeronautics/airport-noise-program, accessed September 4, 2019.

10 Federal Aviation Administration. 2007. *Environmental Desk Reference for Airport Actions*. Chapter 17, Noise. Washington, DC. October.

11 Southern California Association of Governments (SCAG). 2019. Model Output, September 10, 2019.

Traffic noise can therefore be a significant environmental concern where buffers (e.g., buildings, landscaping, etc.) are inadequate or where the distance to sensitive receptors is relatively short. Given typical daily traffic volumes of 10,000 to 40,000 vehicle trips, noise levels along arterial roadways typically range from L_{dn} 65 to 70 dB at a distance of 50 feet from the roadway centerlines.

In addition to distance, the line of sight also affects the extent to which traffic noise can affect sensitive receptors. Line of sight can be interrupted by roadways that are elevated above grade or depressed below grade; by intervening structures such as buildings, landscaping, and sound walls; or by terrain such as hills. For example, measurements show that depressing a freeway by approximately 12 feet yields a reduction in traffic noise relative to an at-grade freeway of 7 to 10 dB at all distances from the freeway due to the interrupted line of sight. Traffic noise from an elevated freeway is typically 2 to 10 dB less than the noise from an equivalent at-grade facility within 300 feet of the freeway, but beyond 300 feet, the noise radiated by an elevated and at-grade freeway (assuming equal traffic volumes, fleet mix, and vehicle speed) is the same because at short distances, the elevated structure of the freeway itself interrupts the line of sight between the traffic and the sensitive receptor, but that line of sight is reestablished at greater distances.[12] Caltrans also has an extensive sound wall program for areas with residential property built prior to the freeway or prior to a major widening and has hourly noise levels that exceed the 67-dB (L_{eq}) threshold, and where the wall would be able to achieve at least a 5-dB reduction and the cost would not exceed $35,000 per residential unit (1987 dollars).[13] A typical wall that interrupts the line of sight is capable of reducing noise levels by 10 dB to 15 dB.

Railroad Operations

Railroad operations generate high, relatively brief, intermittent noise events. These noise events are an environmental concern for sensitive receptors located along rail lines and in the vicinities of switching yards. Locomotive engines; the interaction of steel wheels and rails from rolling noise, impact noise when a wheel encounters a rail joint, turnout, or crossover, and squeal generated by friction on tight curves; and warning devices such as air horns and crossing bell gates are the primary sources of rail noise. Noise levels vary widely for different types of rail operations (**Table 3.13-5, Reference Noise Levels for Various Rail Operations**).

12 California Department of Transportation. 2013. *Technical Noise Supplement to the Traffic Noise Analysis Protocol.* September.

13 California Department of Transportation. 2010. *Soundwalls*. Website. Available online at: http://www.dot.ca.gov/dist07/resources/soundwalls/, accessed March 27, 2019.

Table 3.13-5
Reference Noise Levels for Various Rail Operations

Source/Type		Reference Condition	Reference Noise Level (SEL, dBA)
Commuter rail, at-grade	Locomotives	Diesel-electric, 3,000 horsepower	92
		Electric	90
	Diesel multiple unit	Diesel-powered, 1,200 horsepower	85
	Horns	Within one-quarter mile of grade crossing	110
	Cars	Ballast, welded rail	82
Rail transit		At-grade, ballast, welded rail	82
Transit whistles/warning devices		Within one-eighth mile of grade crossing	93
Automated guideway transit	Steel wheel	Aerial, concrete, welded rail	80
	Rubber tire	Aerial, concrete, guideway	78
Monorail		Aerial, straddle beam	82
Maglev		Aerial, open guideway	72

Source:
Federal Transit Administration. May 2018. Transit Noise and Vibration Impact Assessment Manual. Washington, DC.

Freight Trains

Locomotive engine noise and wheel-to-rail interactions are the primary source of noise generated by freight train pass-by events. Engine noise increases when the train is being pulled uphill. Wheel noise increases approximately 6 dB for each doubling of train velocity. A rail line supporting 40 freight trains per day generates approximately L_{dn} 75 dB at 200 feet from the tracks. Freight trains also generate substantial amounts of ground-borne noise and vibration in the vicinity of the tracks. Ground-borne noise and vibration is a function of both the quality of the track and the operating speed of the train.

The SCAG region is served by two Class I railroads: Union Pacific Railroad (UP) and Burlington Northern/Santa Fe Railway (BNSF).[14] BNSF rail lines extend south from switching yards in eastern Los Angeles to the Los Angeles and Long Beach ports complex and east to Arizona and points beyond via San Bernardino County. In addition, there are three Class III railroads (short lines) serving the region, the Pacific Harbor Line (which handles all rail coordination in the Ports of Los Angeles and Long Beach), the

14 Southern California Association of Governments. 2012. *On the Move: Southern California Delivers the Goods*. Summary Report. December.

Los Angeles Junction Railway (which provides switching service in the Vernon area for the two main line railroads), and the Ventura County Railroad (which serves the Port of Hueneme).

Completed in 2002, the Alameda Corridor provides a substantial long-term reduction in noise and vibration associated with rail operations in the vicinities of the Ports of Long Beach and Los Angeles by eliminating over 200 grade-level street/rail crossings.[15] The Alameda Corridor consolidates the operations of UP and BNSF on 90 miles of existing branch line tracks into one 20-mile corridor along Alameda Street. This corridor provides a direct connection between the ports of Long Beach and Los Angeles and the UP and BSNF switching yards in eastern Los Angeles. The project includes four overpasses and three underpasses at intersections south of SR-91 that allow vehicles to pass above the trains. North of SR-91, trains pass through a 10-mile, 33-foot-deep trench.[16] The construction of tracks in a below-grade trench, track construction on new base materials, and the use of continuous welded track reduce noise impacts on adjacent uses from trains associated with the ports. The project also includes sound walls in certain locations to mitigate vehicle noise along Alameda Street in residential neighborhoods and other sensitive areas.

Commuter Rail

In general, the noise generated by commuter rail facilities (powered by either diesel or electric locomotives) is from the locomotives themselves. In the SCAG region, there are two commuter and intercity passenger train operators: Amtrak and the Southern California Regional Rail Authority (SCRRA).

Amtrak operates five routes that travel through the SCAG region: Texas Eagle, Coast Starlight, Pacific Surfliner, Southwest Chief, and Sunset Limited. These routes serve Chicago, St. Louis, Dallas, San Antonio, Los Angeles, Portland, Seattle, San Luis Obispo, Santa Barbara, San Diego, Albuquerque, and New Orleans.[17] A typical Amtrak pass-by event generates SEL 107 dB at 50 feet; two such events during the daytime or evening periods generate approximately L_{dn} 61 dB at 50 feet and approximately L_{dn} 52 dB at 200 feet. Nine such events generate approximately L_{dn} 67 dB at 50 feet and 58 L_{dn} dB at 200 feet.

15 Alameda Corridor Transportation Authority. *Alameda Corridor Fact Sheet*. Available online at: http://www.acta.org/projects/projects_completed_alameda_factsheet.asp, accessed January 9, 2019.

16 Ibid.

17 Amtrak. *California Train Routes*. Available online at: http://www.amtrak.com/california-train-routes, accessed January 9, 2019.

The SCRRA operates the Metrolink commuter rail system. This system currently includes 59 stations and 7 rail lines: Antelope Valley, Inland Empire–Orange County, Orange County, Riverside, San Bernardino, Ventura, and 91.[18] Noise levels generated by Metrolink are similar to those associated with Amtrak.

Urban Rail Transit

This category includes both heavy and light rail transit. Heavy rail is generally defined as electrified rapid transit trains with dedicated guideways, and light rail as electrified transit trains that do not require dedicated guideways. In general, noise increases with speed and train length. Sensitivity to rail noise generally arises when there is less than 50 feet between the rail and sensitive receptors. Individual urban rail transit pass-by events generate substantially less noise than commuter rail events, but the aggregate noise impact for sensitive uses along the line can be similar or greater due to the much higher frequency of pass-by events. Complaints about ground-borne vibration from surface track are more common than complaints about ground-borne noise. A significant percentage of complaints about noise can be attributed to the proximity of switches, rough or corrugated track, or wheel flats.

In the SCAG region, the Los Angeles County Metropolitan Transportation Authority (Metro) provides urban rail transit for their 1,479-square-mile service area. Metro operates 98 miles of rail service on two subway lines (Purple and Red) and four light rail lines (Blue, Expo, Gold, and Green).[19] The Purple Line extends from downtown Los Angeles west to the Koreatown neighborhood with 8 existing stations. The Red Line extends from downtown Los Angeles west to the Koreatown neighborhood and then north to North Hollywood with 14 existing stations. The Blue Line extends from Long Beach to downtown Los Angeles with 22 existing stations. The Expo Line extends from downtown Los Angeles to Santa Monica with 19 existing stations. The Gold Line extends from East Los Angeles to Azusa with 27 existing stations. The Green Line extends from Norwalk west to El Segundo and south to Redondo Beach with 14 existing stations. In addition, Metro has two (Orange and Silver) bus rapid transit ways (BRTs). The Orange Line extends from North Hollywood, travels west to Woodland Hills, and then north to Chatsworth, with 18 existing stations. The Silver Line extends from El Monte west to downtown Los Angeles and then south to San Pedro with 11 existing stations.

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18 Metrolink. *Experience Metrolink's History*. Available online at: https://www.metrolinktrains.com/about/agency/history-of-metrolink/, accessed January 9, 2019

19 Los Angeles County Metropolitan Transportation Authority. *Facts at a Glance.* Available online at: https://www.metro.net/news/facts-glance/, accessed January 7, 2019.

Port Operations

The three major ports in the SCAG region, Port of Los Angeles, Port of Long Beach, and Port of Hueneme in Ventura County, provide a major link between the United States and the Pacific Rim countries. Noise associated with port operations is typically generated from three sources: ships using the port facilities, equipment associated with cargo activity within the port, and truck and rail traffic that move cargo to and from the ports. These sources affect the ambient noise levels in the port areas. Residential areas in San Pedro, Wilmington, and West Long Beach are affected most by truck and rail traffic related to the ports.

Since 2000, the Port of Los Angeles has handled more container volume of cargo than any other port in the United States. In fiscal year 2017, the Port of Los Angeles handled 198 million metric revenue tons (MMRT) of cargo,[20] Port of Long Beach handled 168.1 MMRT,[21] and Port of Hueneme handled 1.4 MMRT.[22] When combined together, the Port of Los Angeles and the Port of Long Beach rank ninth in the world for container volume. The Ports of Los Angeles, Long Beach, and Hueneme are major regional economic development centers. The San Pedro Bay Ports, which include the Los Angeles and Long Beach Ports, currently handle approximately 32 percent of the cargo volume in the country;[23] the Port of Hueneme in Ventura County is a major shipping point for automobiles, non-automotive roll-on roll off cargo, project cargo, fresh produce, and liquid bulk.[24]

Industrial and Manufacturing Noise

Noise from industrial complexes and manufacturing plants are characterized as stationary point sources of noise even though they may include mobile sources such as forklifts. Local governments typically regulate noise from industrial and manufacturing equipment and activities through enforcement of noise ordinance standards and implementation of general plan policies. Industrial complexes and manufacturing plants are generally located away from sensitive land uses, and, as such, noise generated from these sources generally has less effect on the local community.

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20 Port of Los Angeles. 2018. *Facts & Figures [2018].* Available online at: https://kentico.portoflosangeles.org/getmedia/fe3515ee-309e-47b3-83ad-b09d58edec67/2018-facts-figures, accessed August 28, 2019.

21 The Harbor Department, an Enterprise Fund of the City of Long Beach, California. 2017. *Comprehensive Annual Financial Report for the Fiscal Year Ended September 30, 2017.*

22 Port of Hueneme. 2017. *Comprehensive Annual Financial Report: Fiscal Year Ended June 30, 2017.* November.

23 Port of Los Angeles. 2018. *Facts & Figures [2018].* Available online at: https://kentico.portoflosangeles.org/getmedia/fe3515ee-309e-47b3-83ad-b09d58edec67/2018-facts-figures, accessed August 28, 2019.

24 Port of Hueneme. 2017. *Comprehensive Annual Financial Report: Fiscal Year Ended June 30, 2017.* November.

Construction Noise

Noise from construction sites are characterized as stationary point sources of even though they may include mobile sources, such as graders, they generally move slowly. Local governments typically regulate noise from construction equipment and activities through enforcement of noise ordinance standards and imposition of conditions of approval for building or grading permits.

Construction noise related to transportation projects is typically addressed in each project's noise analysis report and related environmental document. Most projects will not require modeling or any form of analysis associated with construction-related noise. Some projects may require basic noise calculations. For projects that require compliance with local ordinances, more detailed analysis techniques may be required.

Construction-related noise levels generally fluctuate depending on the construction phase, equipment type and duration of use, distance between noise source and receptor, and line of sight between the noise source and the receptor (temporary barriers can block the line of sight to reduce noise levels). The Federal Transit Administration has established typical noise levels associated with various types of construction-related machinery (**Table 3.13-6, Construction Equipment Noise Levels**). In contrast to industrial and manufacturing plants, construction sites are located throughout the region and are often located within, or adjacent to, residential districts and other sensitive receptors. While individual construction sites come and go (as buildings are constructed and completed), there is generally on-going construction activity in the region.

In general, construction activities generate high noise levels intermittently on and adjacent to the construction sites, and the related noise impacts are short-term in nature for individual sites but on-going throughout the region. The dominant source of noise from most construction equipment is the engine, usually a diesel engine, with inadequate muffling. In a few cases, however, such as impact pile driving or pavement breaking, noise generated by the process dominates. Construction equipment can be considered to operate in two modes, stationary and mobile. Stationary equipment operates in one location for one or more days at a time, with either a fixed-power operation (pumps, generators, compressors) or a variable noise operation (pile drivers, pavement breakers). Mobile equipment moves around the construction site with power applied in cyclic fashion (bulldozers, loaders), or movement to and from the site (trucks). The noise levels of these point sources decrease by approximately 6 dB with each doubling of distance from the noise source (e.g., noise levels from excavation might be approximately 83 dB at 100 feet from the site, and about 77 dB at 200 feet from the site). Interior noise levels from construction are approximately 10 dB (open windows) to 20 dB (closed windows) less than exterior noise levels due to the attenuation provided by building walls.

Construction projects often create activities that extend beyond project limits. These can include activities such as trucks supplying material (stone, concrete, steel, etc.) to a project, trucks hauling soil and/or demolition materials from a project site, activity associated with off-site operations such as materials storage areas, and effects of detoured or rerouted traffic due to construction activities. Haul routes may be specifically designated for use by construction-related traffic when supplying and hauling excess material from the project site, potentially creating a high source of noise depending on the number and frequency of trucks utilizing the route.

Table 3.13-6
Construction Equipment Noise Levels

Equipment	Typical Noise Level (dBA) at 50 feet from Source
Air Compressor	80
Backhoe	80
Ballast Equalizer	82
Ballast Tamper	83
Compactor	82
Concrete Mixer	85
Concrete Pump	82
Concrete Vibrator	76
Crane, Derrick	88
Crane, Mobile	83
Dozer	85
Generator	82
Grader	85
Impact Wrench	85
Jack Hammer	88
Loader	80
Paver	85
Pile-driver (Impact)	101
Pile-driver (Sonic)	95
Pneumatic Tool	85
Pump	77
Rail Saw	90
Rock Drill	95
Roller	85
Saw	76
Scarifier	83
Scraper	85
Shovel	82
Spike Driver	77
Tie Cutter	84

Equipment	Typical Noise Level (dBA) at 50 feet from Source
Tie Handler	80
Tie Inserter	85
Truck	84

Source:
Federal Transit Administration. September 2018. Transit Noise and Vibration Impact Assessment Manual. Washington, DC.

Sensitive Receptors

Some land uses are considered more sensitive to ambient noise levels than others due to noise exposure (in terms of both exposure time and "insulation" from noise) and the types of activities typically involved. Residences, motels, and hotels; schools; libraries; churches; hospitals; nursing homes and senior centers; and natural areas, parks, and outdoor recreation areas are generally more sensitive to noise than are commercial and industrial land uses. The 38,000-square-mile SCAG region contains a large number of these sensitive land uses. The noise-sensitive areas of residences, schools, libraries, churches, hospitals, nursing homes, natural areas, and parks are generally more sensitive to noise than are commercial and industrial land uses. Increases in noise near these sensitive receptors are more likely to cause an adverse community response.

As such, the noise standards for sensitive land uses are more stringent than those for less sensitive uses. To protect various human activities and sensitive land uses (e.g., residences, schools, and hospitals) lower noise levels are needed. An exterior noise level of L_{dn} 55 to 60 dB is the upper limit for intelligible speech communication inside a typical home. In addition, social surveys and case studies have shown that complaints and community annoyance in residential areas begin to occur at L_{dn} 55 dB. Sporadic complaints associated with the L_{dn} 55 to 60 dB range give way to widespread complaints and individual threats of legal action within the L_{dn} 60 to 70 dB range. At L_{dn} 70 dB and above, residential community reaction typically involves threats of legal action and strong appeals to local officials to stop the noise.

Sensitive receptors for vibration are the same as for noise, with one exception. Historic structures are potentially sensitive to excessive vibration because ground vibration will excite building structures, and if the vibration levels are high, there is a potential for structural damage. The Caltrans Transportation and Construction Vibration Manual references the National Cooperative Highway Research Program report for a summary of construction effects on historic buildings.[25] Using the most conservative values in the report, historic buildings may be damaged when a single vibration event exceeds 0.20 ppv or frequent

25 Caltrans. 2013. *Transportation and Construction Guidance Manual*. Page 26. September.

vibration events exceed 0.13 ppv, whereas extremely fragile historic buildings may be damaged when a single vibration event exceeds 0.12 ppv or frequent vibration events exceed 0.08 ppv.[26]

3.13.2 REGULATORY FRAMEWORK

The federal government sets noise standards for transportation-related noise sources that are closely linked to interstate commerce, such as aircraft, locomotives, and trucks; and, for those noise sources, the state government is preempted from establishing more stringent standards. The state sets noise standards for those transportation noise sources that are not preempted from regulation, such as automobiles, light trucks, and motorcycles. Noise sources associated with industrial, commercial, and construction activities are generally subject to local control through noise ordinances and general plan policies.

3.13.2.1 Federal

Noise Control Act of 1972

The Noise Control Act of 1972, as codified in 42 U.S. Code §4901 et seq., establishes a means for effective coordination of federal research and activities in noise control, authorizes the establishment of federal noise emission standards for products distributed in commerce, and provides information to the public with respect to the noise emission and noise reduction characteristics of such products.[27]

Noise Emission Standards for Interstate Rail Carriers, Motor Carriers, Construction Equipment, and Medium and Heavy Duty Trucks (Title 40 of the Code of Federal Regulations Parts 201, 202, 204, and 205)

The Federal Highway Administration sets federal regulations related to noise limits for locomotives, and medium and heavy trucks, and standards for noise studies and studies for federal and federal-aid highway projects.

Part 201

Federal regulations for railroad noise are contained in Title 40 of the Code of Federal Regulations (CFR) Part 201 and 49 CFR Part 210. The regulations set noise limits for locomotives and are implemented through regulatory controls on locomotive manufacturers.[28,29]

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26 National Cooperative Highway Research Program. 2012. *Current Practices to Address Construction Vibration and Potential Effects to Historic Buildings Adjacent to Transportation Projects*. Table 1. September.

27 U.S. Environmental Protection Agency. 2017. *Summary of the Noise Control Act, 42 U.S.C §4901 et seq. (1972)*

28 Code of Federal Regulations. 2018. *Title 40 Protection of the Environment, Parts 190 to 259*.

Part 202

Federal regulations regarding motor carriers engaged in interstate commerce are contained in Title 40 of the CFR Part 202. The regulations set noise limits for motor carriers engaged in interstate commerce, including setting standards for highway operations.[30]

Part 204

Title 40 of the CFR Part 204 sets noise emission standards for construction equipment. The regulations set noise standards and requirements as well as testing, for construction equipment including air compressors.[31]

Part 205

Federal regulations also establish noise limits for medium and heavy trucks (more than 4.5 tons, gross vehicle weight rating) under 40 CFR Part 205, Subpart B. The federal truck pass-by noise standard is 80 decibels (dB) at 15 meters from the vehicle pathway centerline. These controls are implemented through regulatory controls on truck manufacturers. The Federal Highway Administration (FHWA) regulations for noise abatement must be considered for federal or federally funded projects involving the construction of a new highway or significant modification of an existing freeway when the project would result in a substantial noise increase or when the predicted noise levels approach or exceed the Noise Abatement Criteria (NAC).[32]

Abatement of Highway Traffic Noise and Construction Noise (Title 23 of the Code of Federal Regulations Part 772)

Title 23 CFR § 772.1 *et seq.* provides procedures for preparing operational and construction noise studies and evaluating noise abatement considered for federal and federal-aid highway projects. Under 23 CFR §772.7, projects are categorized as Type I or Type II projects. FHWA defines a Type I project as a proposed federal or federal-aid highway project for the construction of a highway on a new location, or the physical alteration of an existing highway that significantly changes either the horizontal or vertical alignment, or increases the number of through-traffic lanes. A Type II project is a noise barrier retrofit project that involves no changes to highway capacity or alignment.

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29 Code of Federal Regulations. 2018. *Title 49 Transportation, Parts 200 to 299*.

30 Code of Federal Regulations. 2018. *Title 40 Protection of the Environment, Parts 190 to 259*.

31 Ibid.

32 Code of Federal Regulations. 2018. *Title 40 Protection of the Environment, Volume 27*.

Type I projects include those that create a completely new noise source, as well as those that increase the volume or speed of traffic or move the traffic closer to a receiver. Type I projects include the addition of an interchange, ramp, auxiliary lane, or truck-climbing lane to an existing highway, or the widening an existing ramp by a full lane width for its entire length. Projects unrelated to increased noise levels such as striping, lighting, signing, and landscaping projects are not considered Type I projects.

Under Title 23 CFR § 772.11, noise abatement must be considered for Type I projects if the project is predicted to result in a traffic noise impact. In such cases, 23 CFR § 772 requires that the project sponsor consider noise abatement before adoption of the environmental document. This process involves identification of noise abatement measures that are reasonable, feasible, and likely to be incorporated into the project, and of noise impacts for which no apparent solution is available.

Traffic noise impacts, as defined in 23 CFR § 772.5, occur when the predicted noise level in the design year approaches or exceeds the NAC specified in 23 CFR § 772, or a predicted noise level substantially exceeds the existing noise level (a substantial noise increase). Under these regulations, an impact could result unrelated to the plan if existing noise levels already exceed the NAC. A substantial increase is defined as when an increase in L_{eq} of 12 dB during the peak hour of traffic noise occurs. For sensitive uses, such as residences, schools, churches, parks, and playgrounds, the NAC for interior and exterior spaces is L_{eq} 57 and 66 dB, respectively, during the peak hour of traffic noise.[33]

Aircraft Noise Standards (Title 14 Code of Federal Regulations, Part 36)

The Federal Aviation Administration (FAA) has federal regulatory authority over noise emissions levels by aircraft operated in the United States. These requirements are set forth in Title 14 CFR, Part 36. Part 36 establishes maximum acceptable noise levels for specific aircraft types, taking into account the model year, aircraft weight, and number of engines. Pursuant to the federal Airport Noise and Capacity Act of 1990, the FAA established a schedule for complete transition to Part 36 "Stage 3" standards by year 2000. This transition schedule applies to jet aircraft with a maximum takeoff weight in excess of 75,000 pounds, and thus applies to passenger and cargo airlines, but not to operators of business jets or other general aviation aircraft.[34]

Airport Noise Compatibility Planning (Title 14 Code of Federal Regulations Part 150)

Part 150 applies to airport noise compatibility planning and provides the procedures, standards, and methodology governing the development, submission, and review of airport noise exposure maps and

33 Code of Federal Regulations. 2018. *Title 23 Highways*.

34 Code of Federal Regulations. 2018. *Title 14 Aeronautics and Space Parts 1 to 59*.

airport noise compatibility programs, including the process for evaluating and approving or disapproving those programs. It provides guidance for measuring noise at airports and surrounding areas and for determining exposure of individuals to noise from the operations of an airport. Part 150 also identifies land uses that are normally compatible with various levels of exposure to noise by individuals. It provides guidance on the preparation and execution of noise compatibility planning and implementation programs.[35]

Noise Abatement and Control (Title 24 Code of Federal Regulations, Part 51, Subpart B)

The mission of the Department of Housing and Urban Development (HUD) includes fostering "a decent, safe, and sanitary home and suitable living environment for every American." Accounting for acoustics is intrinsic to this mission, as an environment's safety and comfort can be compromised by excessive noise. In order to facilitate the creation of suitable living environments, HUD has developed a standard for noise criteria. The basic foundation of the HUD noise program is set out in the noise regulation 24 CFR Part 51 Subpart B, Noise Abatement and Control.

HUD's noise policy clearly requires noise attenuation measures be provided when proposed projects are located in high noise areas. Within the HUD Noise Assessment Guidelines, potential noise sources are examined for projects located within 15 miles of a military or civilian airport, 1,000 feet from a road, or 3,000 feet from a railroad.

HUD exterior noise regulations state that 65 dBA DNL noise levels or less are acceptable for residential land uses and noise levels exceeding 75 dBA DNL are unacceptable. HUD's regulations do not contain standards for interior noise levels. Rather, a goal of 45 dBA is set forth, and the attenuation requirements are geared toward achieving that goal. It is assumed that, with standard construction, any building will provide sufficient attenuation so that if the exterior level is 65 dBA DNL or less, the interior level will be 45 dBA DNL or less.[36]

Federal Transit Administration Noise and Vibration Guidance

The Federal Transit Administration (FTA) has published the Transit Noise and Vibration Impact Assessment Manual to provide guidance on procedures for assessing impacts at different stages of transit project development.[37] The report covers both construction and operational noise impacts, and describes

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35 Code of Federal Regulations. 2018. *Title 14 Aeronautics and Space, Parts 110 to 199*.

36 Code of Federal Regulation. 2018. *Title 24 Housing and Urban Development, Parts 0 to 199*.

37 Federal Transit Administration. 2018. *Transit Noise and Vibration Impact Assessment Manual*. September.

a range of measures for controlling excessive noise and vibration. The specified noise criteria are an earlier version of the criteria provided by the Federal Railroad Administration's High-Speed Ground Transportation Noise and Vibration Impact Assessment (**Table 3.13-8, Construction Vibration Damage Criteria**). In general, the primary concern regarding vibration relates to potential damage from construction. The guidance document establishes criteria for evaluating the potential for damage for various structural categories from vibration (**Table 3.13-8, Construction Vibration Damage Criteria**).

Table 3.13-8
Construction Vibration Damage Criteria

Building Category	PPV (in/sec)
I. Reinforced-concrete, steel or timber (no plaster)	0.5
II. Engineered concrete and masonry (no plaster)	0.3
III. Non-engineered timber and masonry buildings	0.2
IV. Buildings extremely susceptible to vibration damage	0.12

Source:
Federal Transit Administration. September 2018. Transit Noise and Vibration Impact Assessment Manual.

Railroad Noise Guidance

The Federal Railroad Administration provides implementation procedures for predicting and assessing noise and vibration impacts of high-speed trains within their *High-Speed Ground Transportation Noise and Vibration Impact Assessment*.[38] The document provides three levels of analysis, including a preliminary impact screening, a general assessment, and a detailed analysis, as well as a range of mitigation measures for dealing with adverse noise and vibration impacts. The report also includes noise criteria for potential impacts (**Table 3.13-9, Noise Levels Defining Impact for High-Speed Train Projects**, and **Table 3.13-10, Land Use Categories and Metrics for High-Speed Train Noise Impact Criteria**).

38 Federal Railroad Administration. 2012. *High-Speed Ground Transportation Noise and Vibration Impact Assessment*. Final Report. Washington, DC. September.

Table 3.13-9
Noise Levels Defining Impact for High-Speed Train Projects

Existing Noise Exposure* Leq(h) or Ldn (dBA)	Project Noise Impact Exposure* Leq(h) or Ldn (dBA)					
	Category 1 or 2 Sites			Category 3 Sites		
	No Impact	Moderate Impact	Severe Impact	No Impact	Moderate Impact	Severe Impact
<43	< Ambient+10	Ambient + 10 to 15	>Ambient+15	<Ambient+15	Ambient + 15 to 20	>Ambient+20
43	<51.6	51.6–57.6	>57.6	<56.6	56.6–62.6	>62.6
44	<51.8	51.8–58.6	>58.6	<56.8	56.8–63.6	>63.6
45	<52.0	52.0–58.6	>58.6	<57.0	57.0–63.6	>63.6
46	<52.2	52.2–58.7	>58.7	<57.2	57.2–63.7	>63.7
47	<52.5	52.5–58.9	>58.9	<57.5	57.5–63.9	>63.9
48	<52.7	52.7–59.1	>59.1	<57.7	57.7–64.1	>64.1
49	<53.0	53.0–59.3	>59.3	<58.0	58.0–64.3	>64.3
50	<53.4	53.4–59.5	>59.5	<58.4	58.4–64.5	>64.5
51	<53.7	53.7–59.7	>59.7	<58.7	58.7–64.7	>64.7
52	<54.1	54.1–60.0	>60.0	<59.1	59.1–65.0	>65.0
53	<54.4	54.4–60.4	>60.4	<59.4	59.4–65.4	>65.4
54	<54.9	54.9–60.7	>60.7	<59.9	59.9–65.7	>65.7
55	<55.3	55.3–61.1	>61.1	<60.3	60.3–66.1	>66.1
56	<55.7	55.7–61.5	>61.5	<60.7	60.7–66.5	>66.5
57	<56.2	56.2–61.9	>61.9	<61.2	61.2–66.9	>66.9
58	<56.7	56.7–62.3	>62.3	<61.7	61.7–67.3	>67.3
59	<57.2	57.2–62.8	>62.8	<62.2	62.2–67.8	>67.8
60	<57.8	57.8–63.3	>63.3	<62.8	62.8–68.3	>68.3
61	<58.4	58.4–63.8	>63.8	<63.4	63.4–68.8	>68.8
62	<58.9	58.9–64.4	>64.4	<63.9	63.9–69.4	>69.4
63	<59.6	59.6–64.9	>64.9	<64.6	64.6–69.9	>69.9
64	<60.2	60.2–65.5	>65.5	<65.2	65.2–70.5	>70.5
65	<60.8	60.8–66.1	>66.1	<65.8	65.8–71.1	>71.1
66	<61.5	61.5–66.7	>66.7	<66.5	66.5–71.7	>71.7
67	<62.2	62.2–67.4	>67.4	<67.2	67.2–72.4	>72.4
68	<62.9	62.9–68.0	>68.0	<67.9	67.9–73.0	>73.0
69	<63.6	63.6–68.7	>68.7	<68.6	68.6–73.7	>73.7
70	<64.4	64.4–69.4	>69.4	<69.4	69.4–74.4	>74.4
71	<65.0	65.0–70.1	>70.1	<70.0	70.0–75.1	>75.1
72	<65.0	65.0–70.8	>70.8	<70.0	70.0–75.8	>75.8
73	<65.0	65.0–71.6	>71.6	<70.0	70.0–76.6	>76.6
74	<65.0	65.0–72.3	>72.3	<70.0	70.0–77.3	>77.3
75	<65.0	65.0–73.1	>73.1	<70.0	70.0–78.1	>78.1
76	<65.0	65.0–73.9	>73.9	<70.0	70.0–78.9	>78.9

Existing Noise Exposure* Leq(h) or Ldn (dBA)	Project Noise Impact Exposure* Leq(h) or Ldn (dBA)					
	Category 1 or 2 Sites			Category 3 Sites		
	No Impact	Moderate Impact	Severe Impact	No Impact	Moderate Impact	Severe Impact
77	<65.0	65.0–74.7	>74.7	<70.0	70.0–79.7	>79.7
>77	<65.0	65.0–75.0	>75.0	<70.0	70.0–80.0	>80.0

Note:
** L_{dn} is used for land use where nighttime sensitivity is a factor; L_{eq} during the hour of maximum transit noise exposure is used for land use involving only daytime activities.*
Source:
Federal Railroad Administration. September 2012. High-Speed Ground Transportation Noise and Vibration Impact Assessment. Final Report. Table 3-1.

Table 3.13-10
Land Use Categories and Metrics for High-Speed Train Noise Impact Criteria

Land-Use Category	Noise Metric (dBA)	Description of Land-Use Category
1	Outdoor L_{eq}(h)*	Tracts of land where quiet is an essential element in their intended purpose. This category includes lands set aside for serenity and quiet, and such land uses as outdoor amphitheaters and concert pavilions, as well as national historic landmarks with significant outdoor use. Also included are recording studios and concert halls.
2	Outdoor L_{dn}	Residences and buildings where people normally sleep. This category includes homes, hospitals, and hotels where a nighttime sensitivity to noise is assumed to be of utmost importance.
3	Outdoor L_{eq}(h)*	Institutional land uses with primarily daytime and evening use. This category includes schools, libraries, theaters, and churches, where it is important to avoid interference with such activities as speech, meditation, and concentration on reading material. Places for meditation or study associated with cemeteries, monuments, and museums can also be considered to be in this category. Certain historical sites, parks, campgrounds, and recreational facilities are also included.

Note:
** L_{eq} for the noisiest hour of transit-related activity during hours of noise sensitivity.*
Source:
Federal Railroad Administration. September 2012. High-Speed Ground Transportation Noise and Vibration Impact Assessment. Final Report. Table 3-2. Washington, DC.

3.13.2.2 State

California Government Code Section 65302

Section 65302 of California Government Code provides a framework for general plans and their content. It requires that the noise element include implementation measures and possible solutions that address

existing and foreseeable noise problems, if any. The adopted noise element shall serve as a guideline for compliance with the state's noise insulation standards. The noise element shall also identify and appraise noise problems in the community, analyze and quantify current and projected noise levels for (a) highways and freeways; (b) primary arterials and major local streets; (c) passenger and freight online railroad operations and ground rapid transit systems; (d) commercial, general aviation, heliport, helistop, and military airport operations, aircraft overflights, jet engine test stands, and all other ground facilities and maintenance functions related to airport operation; (e) local industrial plants, including, but not limited to, railroad classification yards; and (f) other ground stationary noise sources, including, but not limited to, military installations, identified by local agencies as contributing to the community noise environment.

Section 65302 also specifies that noise contours be shown for all of the above listed sources and be stated in terms of community noise equivalent level (CNEL) or day-night average level (L_{dn}). The noise contours shall be prepared on the basis of noise monitoring or following generally accepted noise modeling techniques for the various sources identified above. The noise contours shall be used as a guide for establishing a pattern of land uses in the land use element that minimizes the exposure of community residents to excessive noise.[39]

California Noise Control Act of 1973

The California Noise Control Act (California Health and Safety Code, Division 28, § 46000 et seq), as found in the California Health and Safety Code, Division 28, § 46000 et seq., declares that excessive noise is a serious hazard to public health and welfare, and establishes the Office of Noise Control with responsibility to set standards for noise exposure in cooperation with local governments or the state legislature.[40]

Airport Noise Standards (Title 21, CCR Section 5000 et seq.)

The State of California has the authority to establish regulations requiring airports to address aircraft noise impacts on land uses in their vicinities. The State of California's Airport Noise Standards, found in Title 21 of the California Code of Regulations, identify a noise exposure level of CNEL 65 dB as the noise impact boundary around airports. Within the noise impact boundary, airport proprietors are required to

39 California Legislative Information. *Article 5. Authority for and Scope of General Plans [65300-65303.4], Section 65302*.

40 California Legislative Information. *Division 28. Noise Control Act, 46000-46080*.

ensure that all land uses are compatible with the aircraft noise environment or the airport proprietor must secure a variance from the California Department of Transportation (Caltrans).[41]

Noise Insulation Standards (Health & Safety Code § 17922.6)

California Health and Safety Code § 17922.6 requires noise insulation standards for new multi-family residential units, hotels, and motels that may be subject to relatively high levels of transportation-related noise. For exterior noise, the noise insulation standard is DNL 45 dB in any habitable room and requires an acoustical analysis demonstrating how dwelling units have been designed to meet this interior standard where such units are proposed in areas subject to noise levels greater than DNL 60 dB.[42]

Freeway Noise Attenuation (Streets and Highways Code, Article 6 and *Vehicle Code, Article 2.5)*

The State of California establishes noise limits for vehicles licensed to operate on public roads. For heavy trucks, the state pass-by standard is consistent with the federal limit of 80 dB.[43] The state pass-by standard for light trucks and passenger cars (less than 4.5 tons gross vehicle rating) is also 80 dB at 15 meters from the centerline.[44] Additionally, for a motor vehicle weighing more than 5 tons the pass-by standard is 88dB at 15 feet from the centerline of the vehicle.[45] For new roadway projects, Caltrans employs the NAC, promulgated by Title 40 of the Code of Federal Regulations (CFR), as administered by the FHWA.[46]

Section 216 of the California Streets and Highways Code relates to the noise effects of a proposed freeway project on public and private elementary and secondary schools. Under this code, a noise impact occurs if, as a result of a proposed freeway project, noise levels exceed 52 dBA Leq in the interior of public or private elementary or secondary classrooms, libraries, multipurpose rooms, or spaces. If a project results in a noise impact under this code, noise abatement must be provided to reduce classroom noise to a level that is at or below 52 dBA Leq. If the noise levels generated from freeway and non-freeway sources exceed 52 dBA Leq prior to the construction of the proposed freeway project, then noise abatement must be provided to reduce the noise to the level that existed prior to construction of the project.[47]

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41 California Code of Regulations. *21 CCR § 5012. Airport Noise Standard*.

42 California Legislative Information. *Chapter 2. Rules and Regulations [17920-17928], Section 17922.6*.

43 California Legislative Information. *Vehicle Code, Article 2.5 Noise Limits [27200-27207].*

44 Government Publishing Office. *40 CFR 205, Subpart B Medium and Heavy Trucks.*

45 California Legislative Information. *Vehicle Code, Article 2.5 Noise Limits [27200-27207].*

46 Government Publishing Office. 2019. *Electronic Code of Federal Regulations, §202.20 Standards for highway operations*.

47 California Legislative Information. *Article 6. Freeway Noise Attenuation [215.5-216.5], Section 216*.

Section 215.5 of the Streets and Highways Code implements a priority system to determine the need for the installation of noise attenuation barriers (i.e. soundwalls) along freeways and expressways. The highest consideration is given to residential areas developed prior to the opening of the freeway or where alterations have been made to the freeway which resulting in a significant increase in ambient noise levels. Other criteria for determining priorities includes the existing and future sound intensity generated by the freeway, the increase in traffic flow since the freeway originally opened, the cost of constructing a soundwall related to expected noise reduction, and the number of nearby residents included whether they lived there prior to the opening of the freeway.[48] Pursuant to Section 215.6, a city or county can accelerate the priority of a noise attenuation project by contributing at least 33 percent of the estimated cost of a soundwall project. [49]

California Department of Health Services Land Use Guidelines for Community Noise Exposure

The state has published guidance for locating land uses in areas compatible with the existing noise environment (**Table 3.13-11, Community Noise Exposure**).[50] For example, it would normally be acceptable for a single-family residence to be located in an area with an existing noise level of 60 dBA CNEL or less.

48 California Legislative Information. *Streets and Highways Code, Article 6. Freeway Noise Attenuation [215.5-216.5].*

49 *Ibid.*

50 Governor's Office of Planning and Research. 2017. *State of California General Plan Guidelines*.

Table 3.13-11
Community Noise Exposure

Land Use Category	Community Noise Exposure (dB, Ldn or CNEL) 55 60 65 70 75 80
Residential - Low Density Single-Family, Duplex, Mobile Homes	
Residential - Multi-Family	
Transient Lodging - Motels Hotels	
Schools, Libraries, Churches, Hospitals, Nursing Homes	
Auditoriums, Concert Halls, Amphitheaters	
Sports Arena, Outdoor Spectator Sports	
Playgrounds, Neighborhood Parks	
Golf Courses, Riding Stables, Water Recreation, Cemeteries	
Office Buildings, Business Commercial and Professional	
Industrial, Manufacturing, Utilities, Agriculture	

Normally Acceptable - Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements.

Conditionally Acceptable - New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply system or air conditioning will normally suffice.

Normally Unacceptable - New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

Clearly Unacceptable - New construction or development should generally not be undertaken.

Source: California Office of Planning and Research "General Plan Guidelines, Noise Element Guidelines (Appendix D)", 2017.

Caltrans Guidance

Traffic Noise. Chapter 30 of the *Caltrans Project Development Procedures Manual* offers guidance on highway traffic noise abatement criteria (NAC), corresponding to various land use activity categories.[51] However, the NAC in Chapter 30 has been superseded by the Caltrans *Traffic Noise Analysis Protocol for New Highway Construction, Reconstruction, and Retrofit Barrier Projects* (**Table 3.13-12, Activity Categories and Noise Abatement Criteria**).[52] Activity categories and related traffic noise impacts are determined based on the actual land use in a given area. The Caltrans *Technical Noise Supplement to the Traffic Noise Analysis Protocol* provides additional details on noise analysis procedures, practices, and other useful technical background information related to the analysis and reporting of highway and construction noise impacts and abatement.[53] It supplements and expands on concepts and procedures referred to in the *Traffic Noise Analysis Protocol for New Highway Construction, Reconstruction, and Retrofit Barrier Projects*.

Table 3.13-12
Activity Categories and Noise Abatement Criteria

Activity Category	Hourly A-Weighted Sound Level, Leq(h)*	Evaluation Location	Description of Activities
A	57	Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B**	67	Exterior	Residential.
C**	67	Exterior	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	52	Interior	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E	72	Exterior	Hotels, motels, offices, restaurants/bars, and other developed lands, properties, or activities not included in A–D or F.
F			Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing.
G			Undeveloped lands that are not permitted.

*Notes: The $L_{eq}(h)$ activity criteria values are for impact determination only and are not design standards for noise abatement measures. All values are A-weighted decibels (dBA). ** Includes undeveloped lands permitted for this activity category.*
Source: California Department of Transportation, Division of Environmental Analysis. May 2011. Traffic Noise Analysis Protocol for New Highway Construction, Reconstruction, and Retrofit Barrier Projects. Table 1.

51 California Department of Transportation. *Project Development Procedures Manual*. Chapter 30. May 2019.

52 California Department of Transportation, Division of Environmental Analysis. *Traffic Noise Analysis Protocol for New Highway Construction, Reconstruction, and Retrofit Barrier Projects*. May 2011.

53 California Department of Transportation. *Technical Noise Supplement to the Traffic Noise Analysis Protocol*. September 2013.

Airport Noise. The Caltrans Division of Aeronautics California Airport Land Use Planning Handbook offers guidance on airport planning and developing compatible land use policies.[54] It also provides suggested criteria for the CNEL values commonly used as the limit for acceptable residential noise exposure **(Table 3.13-13, Noise Compatibility Criteria**).

Table 3.13-13
Noise Compatibility Criteria

CNEL (dB)	Criteria	Suggested Applicability
65	Set by the FAA and other federal agencies as the level above which residential land uses may be incompatible if not acoustically treated. Established by California state regulations as the maximum normally acceptable noise level for residential and certain other land uses at county-designated noise-problem airports.	Generally not appropriate for most new development. May be acceptable in noisy urban locations and/or in hot climates where most buildings are air conditioned.
60	The contour within which California Building Code (Section 1207.11) requires an acoustical analysis of proposed residential structures, other than detached single-family dwellings. Suggested by the California Governor's Office of Planning and Research General Plan Guidelines as the maximum "normally acceptable" noise exposure for residential areas. [Note: Individual noise events will occasionally cause significant interference with residential land use activities, particularly outdoor activities, in quiet suburban/rural communities.]	Suitable for new development around most airports. Particularly appropriate in mild climates where windows are often open.
55	Identified by the EPA as the level below which "undue interference with activity and annoyance" will not occur. [Note: Individual noise events will seldom significantly interfere with residential land use activities (e.g., interference with speech). In urban areas, aircraft contribution to this noise level may be less than that of other noise sources.]	Suitable for airports in quiet, rural locations.

Note:
When setting criteria for a specific airport, other characteristics of the airport and its environs also need to be considered.
Source::
California Department of Transportation. October 2011. California Airport Land Use Planning Handbook. Table 4B.

Construction Noise. Section 14-8.02, Noise Control, of Caltrans standard specifications provides guidance on preventing construction noise impacts. The specification states:

- Do not exceed 86 dBA at 50 feet from the job site activities from 9 p.m. to 6 a.m.
- Equip an internal combustion engine with the manufacturer recommended muffler. Do not operate an internal combustion engine on the job site without the appropriate muffler.

If adverse construction noise impacts are anticipated, project plans and specifications must identify abatement measures that would minimize or eliminate adverse construction noise impacts on the community.

54 California Department of Transportation. *California Airport Land Use Planning Handbook*. October 2011.

Construction Vibration. The *Transportation and Construction Vibration Guidance Manual* presents a variety of criteria for vibration impacts based on previously completed studies.[55] Caltrans recommends that extreme care be taken when sustained pile driving occurs within 7.5 meters (25 feet) of any building and 15 to 30 meters (50 to 100 feet) of a historic building or a building in poor condition.

3.13.2.3 Local

To identify, appraise, and remedy noise problems in local communities, each county and city in the SCAG region is required to adopt a noise element as part of its General Plan. Each noise element is required to analyze and quantify current and projected noise levels associated with local noise sources, including, but not limited to, highways and freeways, primary arterials and major local streets, rail operations, air traffic associated with the airports, local industrial plants, and other ground stationary sources that contribute to the community noise environment. Beyond statutory requirements, local jurisdictions are free to adopt their own goals and policies in their noise elements, although most jurisdictions have chosen to adopt noise/land use compatibility guidelines that are similar to those recommended by the state. The overlapping DNL ranges indicate that local conditions (existing noise levels and community attitudes toward dominant noise sources) should be considered in evaluating land use compatibility at specific locations.

In addition to regulating noise through noise element policies, local jurisdictions regulate noise through enforcement of local ordinance standards. These standards generally relate to noisy activities (e.g., use of loudspeakers and construction) and stationary noise sources and facilities (e.g., air conditioning units and industrial activities). Three cities in the SCAG region, Los Angeles, Long Beach, and Port Hueneme, operate port facilities. Noise from the Ports of Los Angeles, Long Beach, and Hueneme are regulated by the noise ordinances and noise elements of the Los Angeles, Long Beach, and Port Hueneme General Plans.

In terms of airport noise, airport operators have addressed local community noise concerns through a variety of methods changes including runway use and flight routing changes, aircraft operational procedure changes, and engine run-up restrictions. These actions generally are subject to approval by the FAA, which has the authority and responsibility to control aircraft noise sources, implement and enforce flight operational procedures, and manage the air traffic control system. Airport operators also consider limitations on airport use, but such restrictions can be overridden by the Federal Aviation Administration if it is determined that they unjustly discriminate against any user, impede the federal interest in safety and management of the air navigation system, or unreasonably interfere with interstate commerce. In

55 California Department of Transportation. 2013. *Transportation and Construction Vibration Guidance Manual*. Sacramento, CA. September.

addition airport operators have addressed community concerns by retrofitting homes under flight paths to provide additional noise insulation.

Some local jurisdictions regulate vibration through enforcement of local ordinance standards. These standards generally relate to preventing perceptible vibration from being generated past the property line of the source location.

3.13.3 ENVIRONMENTAL IMPACTS

3.13.3.1 Thresholds of Significance

The impacts related to noise from the Plan would be considered significant if they would exceed the following significance criteria, in accordance with Appendix G of the *State CEQA Guidelines*:

- Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- Generation or excessive groundborne vibration or groundborne noise levels;
- For a project within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels.

3.13.3.2 Methodology

This section evaluates the potential impacts of the proposed Connect SoCal Plan on ambient noise levels, identifies mitigation measures for the impacts, and evaluates the residual impacts in accordance with Appendix G of the 2019 State California Environmental Quality Act (CEQA) Guidelines. Noise within the SCAG region was evaluated at the programmatic level of detail, in relation to federal noise and vibration impacts guidelines; *State of California General Plan Guidelines for Noise Elements*; California Department of Transportation guidance documents; the general plans of the six counties and 191 cities within the SCAG region; and a review of related literature germane to the SCAG region, as well as a review of Connect SoCal.[56,57,58,59,60,61,62,63,64,65,66,67]

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56 Federal Interagency Committee on Noise. 1992. *Federal Agency Review of Selected Airport Noise Analysis Issues.* August.

57 Cowan, James P. 1993. *Handbook of Environmental Acoustics*.

Ambient noise levels in the SCAG region vary widely as a function of the dramatic physical environment, land use, and density of people. Noise levels for various areas are identified according to the use of the area. Maximum allowable noise levels associated with various sensitive land uses are provided. Exposure of people to noise levels and ground borne vibration from transportation and transit infrastructure varies in relation to noise level at the source, density of the source, distance from the source, and sound modulating or attenuating structures between the source and the receptor.

The methodology for determining the significance of noise and vibration impacts compares the existing conditions to the conditions as a result of implementing the transportation projects and growth under the Plan.[68]

Permanent increases in operational noise associated with highway traffic is dependent on several variables:

- Traffic volume (the greater the number of vehicles passing through an area within a specified period result in greater noise)
- Vehicle speed (greater speed results in greater noise from tire and aerodynamic noise)

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58 Nelson, J.T., and H.J. Saurenman. 1983. *State-of-the-Art Review: Prediction and Control of Ground-Borne Noise and Vibration from Rail Transit Trains*. U.S. Department of Transportation, Urban Mass Transportation Administration, Report Number UMTA-MA-06-0049-83-4, DOT-TSC-UMTA-83-3.

59 Governor's Office of Planning and Research. 2017. *State of California 2017 General Plan Guidelines.*

60 California Department of Transportation. 2009. *Project Development Procedures Manual*. Chapter 30.

61 California Department of Transportation, Division of Environmental Analysis. 2011. *Traffic Noise Analysis Protocol for New Highway Construction, Reconstruction, and Retrofit Barrier Projects.*

62 California Department of Transportation. 2013. Technical Noise Supplement to the Traffic Noise Analysis Protocol. September.

63 California Department of Transportation, Division of Environmental Analysis. 2013. *Transportation and Construction Vibration Guidance Manual.*

64 Federal Railroad Administration. 2012. *High-Speed Ground Transportation Noise and Vibration Impact Assessment*.

65 California Department of Transportation, Division of Aeronautics. 2011. *California Airport Land Use Planning Handbook*.

66 U.S. Department of Transportation, Federal Transit Administration. 2006. *Transit Noise and Vibration Assessment.*

67 U.S. Department of Transportation, Federal Highway Administration. 2006. *FHWA Highway Construction Noise Handbook.*

68 Note that ambient noise from the existing transportation network, including freeways, are generally not considered impacts under CEQA unless the project exacerbates the existing environmental conditions. *See* Cal. Building Industry Assn. v. Bay Area Air Quality Management District (2015) 62 Cal.4th 369 (California Supreme Court ruled that agencies subject to CEQA generally are not required to analyze the impact of existing environmental conditions on a project's future users or residents unless the proposed project risks exacerbating those environmental hazards or conditions that already exist.); *see also* Cal. Building Industry Assn. v. Bay Area Air Quality Management District (2016) 2 Cal.App.5th 1067.

- Vehicle types such as cars, trucks, and motorcycles (different engine and exhaust combinations, different tires, and different aerodynamic profiles result in different noise levels)

- Location of the roadway with respect to sensitive receptors (distance and intervening objects or topography will reduce noise levels).

The noise impacts analysis was based on the Project List (See **Appendix 2.0, Connect SoCal Project List**) located throughout the six counties and 38,000 square miles of the SCAG region.[69] Project types range from projects with substantial ground disturbance such as rail projects, mixed flow lane projects, and grade separation projects, to operations and maintenance projects with minimal ground disturbance such as traffic signal synchronization or lane-restriping projects.[70]

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

3.13.3.3 Impacts and Mitigation Measures

Impact NOISE-1 **Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.**

Significant and Unavoidable Impact – Mitigation Required.

Implementation of transportation projects and development projects anticipated to occur under the Plan would likely result in exposure of persons to or generation of noise levels in excess of standards

69 SCAG. 2019. *Connect SoCal Transportation System Project List Technical Report.* November.

70 Note that as discussed in **Section 3.15.3, Public Services – Schools**, CEQA review of school construction generally does require an evaluation of the effects of existing air quality exposure on pupils, and to the extent the health risk is unacceptable, the school would not be built. CEQA also provides limited protection and requires analysis of impacts of the existing environment on certain housing development projects exercising exemptions under Pub. Res. Code § 21096.

established in the local general plan or noise ordinance, or applicable standards of other agencies, constituting a significant impact. Grading and construction activities would generate temporary increases in noise levels, and operational activities would generate permanent increases in noise levels in excess of standards established in the local general plan or noise ordinance, constituting a significant impact, requiring the consideration of mitigation measures.

As noted above, noise impacts are experienced locally and cannot be quantified at a regional level. Land uses support various noise environments depending on multiple factors. For example, urban environments tend to be louder than suburban environments due to denser, multi-use land use patterns. Urban environments also typically support higher volumes of traffic as well as other transportation modes that generate sound such as trains, light rail, and buses. Suburban environments, where land uses are often more segregated, have more moderate noise levels. Agricultural areas also have a unique noise environment as compared to urban and suburban environments. Agricultural operations require the use of heavy-duty equipment (e.g., mechanized plows, tractors) that produce high noise levels. However, because agricultural areas are sparsely populated, noise generally does not have the same adverse effect on surrounding land uses and may be protected by right-to-farm regulations or other local land use policies.

Construction. Impacts to sensitive receptors resulting from the construction of transportation projects as well as the implementation of land use strategies would depend on several factors, such as the type of project, adjacent land use, and duration and intensity of the construction activity. Construction noise levels would fluctuate depending on how the construction is phased, the equipment mix, the distance between the construction and the nearest sensitive receptor, and the presence of intervening objects. Furthermore, anticipated development to accommodate the forecast population, household, and employment would take a variety of forms, with a substantial number (60 percent of housing units and 73 percent of jobs) focused in Growth Priority Areas including in and around high-quality transit areas (HQTAs), as well as development in existing urbanized areas, and opportunity areas. Because development would be focused in HQTAs and urbanized areas, residents in and around those areas would be subject to increased frequency of construction noise.

Operations. Impacts to sensitive receptors resulting from the operation of transportation projects as well as increases in traffic due to anticipated development projects under the Plan would depend on several factors, such as the type of project and adjacent land use. Operational noise levels would fluctuate depending on traffic volume, vehicle speed, vehicle mix, location and distance of the roadway with respect to sensitive receptors, and the presence of intervening objects. A doubling of traffic generally corresponds to a 3 dB increase in noise level, which is only just perceptible to the human ear. Most major facilities do not have the capacity to allow a doubling of traffic and therefore this increase is generally not

expected.

Similar to construction impacts, anticipated development to accommodate the forecast population, household, and employment growth would take a variety of forms, with a substantial fraction focused in and around HQTAs, existing urbanized areas, and opportunity areas as reflected under Connect SoCal's land use strategies. As traffic volumes increase, the duration of the peak hour noise levels extend as well. Operation of transportation and transit projects in these HQTAs, existing urbanized areas, and opportunity areas would have the potential to increase noise level in excess of standards established in county and city general plans and noise ordinances.

Heavy rail would increase the number of passenger and freight trains in the region. Because of the number of existing passenger and freight trains that use the existing heavy rail tracks, additional trains are not expected to increase daily noise (CNEL) along any given track by more than 3 dB relative to baseline conditions. Light rail improvements will include increasing frequency on and making improvements to existing corridors and adding new corridors. In general, the proposed transit improvements along existing corridors will occur in developed urban areas where noise levels are already high from existing sources. In areas that do not currently have light rail operations, implementation of the Plan could increase noise levels above 65 dB CNEL and increase daily noise (CNEL) by more than 3 dB relative to baseline conditions. Increases in operational mobile source noise from the projected land use pattern and planned transportation improvements would result in new vehicles trips on existing roadways generating increases in noise. In locations where noise would exceed the CNEL threshold of 65 dB following the implementation of the Plan, a significant noise impact would occur.

Land use strategies in the Plan would encourage development in HQTA's and other urbanized areas. Urban areas experience noise from a number of sources associated with living in proximity to other people and among different land uses. Typical community noise sources include small mechanical devices (e.g., lawn mowers, leaf blowers), parks and playgrounds, restaurants and bars, commercial uses, events, and industrial plants. Traffic and other transportation-related noise is also a dominant noise source in urban areas. Light rails, passenger trains, and other forms of public transit generate noise from the contact of wheels on railways as well as loud bells that signal to cars, cyclists, and pedestrians of their arrival. Implementation of the Plan is likely to increase the amount of noise experienced in HQTAs because of the increased density in these areas as well as from improved transportation infrastructure.

In suburban and rural areas, noise sources are fewer and the addition of new stationary or mobile noise sources could result in an increase in ambient noise. As the Plan is expected to result in the conversion of 41,546 greenfield acres, there is the potential for increased ambient noise in suburban and rural areas.

Because of the nature of noise impacts (noise dissipates with distance from the source), new transportation operations may cause noise impacts, and those impacts may exceed applicable noise thresholds for determining significance within a localized area, but those impacts cannot be quantified at a regional level. Therefore, implementation of transportation projects and land use strategies in Connect SoCal would result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies, which constitutes a significant impact requiring the consideration of mitigation measures.

Mitigation Measures

SCAG Mitigation Measures

SMM-NOISE-1: SCAG shall coordinate with CTCs and member agencies as part of SCAG's outreach and technical assistance to local governments to encourage transportation projects and projects involving residential and commercial land uses to mitigate noise and vibration or be developed in areas that are normally acceptable or conditionally acceptable, consistent with applicable guidelines (i.e, OPR, Caltrans, etc.).

Project Level Mitigation Measures

PMM NOISE-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects that physically divide a community, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

a. Install temporary noise barriers during construction.

b. Include permanent noise barriers and sound-attenuating features as part of the project design. Barriers could be in the form of outdoor barriers, sound walls, buildings, or earth berms to attenuate noise at adjacent sensitive uses.

c. Schedule construction activities consistent with the allowable hours pursuant to applicable general plan noise element or noise ordinance

d. Post procedures and phone numbers at the construction site for notifying the Lead Agency staff, local Police Department, and construction contractor (during regular construction hours and off-hours), along with permitted

construction days and hours, complaint procedures, and who to notify in the event of a problem.

e. Notify neighbors and occupants within 300 feet of the project construction area at least 30 days in advance of anticipated times when noise levels are expected to exceed limits established in the noise element of the general plan or noise ordinance.

f. Designate an on-site construction complaint and enforcement manager for the project.

g. Ensure that construction equipment are properly maintained per manufacturers' specifications and fitted with the best available noise suppression devices (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds silencers, wraps). All intake and exhaust ports on power equipment shall be muffled or shielded.

h. Use hydraulically or electrically powered tools (e.g., jack hammers, pavement breakers, and rock drills) for project construction to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust should be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves should be used, if such jackets are commercially available, and this could achieve a further reduction of 5 dBA. Quieter procedures should be used, such as drills rather than impact equipment, whenever such procedures are available and consistent with construction procedures.

i. Where feasible, design projects so that they are depressed below the grade of the existing noise-sensitive receptor, creating an effective barrier between the roadway and sensitive receptors.

j. Where feasible, improve the acoustical insulation of dwelling units where setbacks and sound barriers do not provide sufficient noise reduction.

k. Using rubberized asphalt or "quiet pavement" to reduce road noise for new roadway segments, roadways in which widening or other modifications

require re-pavement, or normal reconstruction of roadways where re-pavement is planned

l. Projects that require pile driving or other construction noise above 90 dBA in proximity to sensitive receptors, should reduce potential pier drilling, pile driving and/or other extreme noise generating construction impacts greater than 90 dBA; a set of site-specific noise attenuation measures should be completed under the supervision of a qualified acoustical consultant.

m. Use land use planning measures, such as zoning, restrictions on development, site design, and buffers to ensure that future development is compatible with adjacent transportation facilities and land uses;

n. Monitor the effectiveness of noise reduction measures by taking noise measurements and installing adaptive mitigation measures to achieve the standards for ambient noise levels established by the noise element of the general plan or noise ordinance.

o. Use equipment and trucks with the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds, wherever feasible) for project construction.

p. Stationary noise sources can and should be located as far from adjacent sensitive receptors as possible and they should be muffled and enclosed within temporary sheds, incorporate insulation barriers, or use other measures as determined by the Lead Agency (or other appropriate government agency) to provide equivalent noise reduction.

q. Use of portable barriers in the vicinity of sensitive receptors during construction.

r. Implement noise control at the receivers by temporarily improving the noise reduction capability of adjacent buildings (for instance by the use of sound blankets), and implement if such measures are feasible and would noticeably reduce noise impacts.

s. Monitor the effectiveness of noise attenuation measures by taking noise measurements.

t. Maximize the distance between noise-sensitive land uses and new roadway lanes, roadways, rail lines, transit centers, park-and-ride lots, and other new noise-generating facilities.

u. Construct sound reducing barriers between noise sources and noise-sensitive land uses.

v. Stationary noise sources can and should be located as far from adjacent sensitive receptors as possible and they should be muffled and enclosed within temporary sheds, incorporate insulation barriers, or use other measures as determined by the Lead Agency (or other appropriate government agency) to provide equivalent noise reduction.

w. Use techniques such as grade separation, buffer zones, landscaped berms, dense plantings, sound walls, reduced-noise paving materials, and traffic calming measures.

x. Locate transit-related passenger stations, central maintenance facilities, decentralized maintenance facilities, and electric substations away from sensitive receptors to the maximum extent feasible.

Level of Significance after Mitigation

As discussed above, regulations and polices would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this EIR identifies project-level mitigation measures consistent with applicable regulations and polices designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and lack of project-specific detail, including the inability to quantify noise impacts at the regional level, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts related to substantial temporary or permanent increases in ambient noise levels in excess of standards established in local general plans or noise ordinances, or applicable standards of other agencies, to be significant and unavoidable even with implementation of mitigation.

Impact NOISE-2 Generation of excessive groundborne vibration or groundborne noise levels.

Significant and Unavoidable Impact – Mitigation Required.

Implementation of the transportation projects and the construction of land use development projects anticipated to occur under the Plan would generate varying levels of vibration and groundborne noise. As noted above, urban environments tend to be louder than suburban environments due to denser, multi-use land use patterns. Urban environments also typically support higher volumes of traffic as well as other transportation modes that generate groundborne vibration and sound such as trains, light rail, and buses. Suburban environments, where land uses are often more segregated, have more moderate noise levels. Agricultural areas also have a unique noise environment as compared to urban and suburban environments. Agricultural operations require the use of heavy-duty equipment (e.g., mechanized plows, tractors) that produce high noise levels. However, because agricultural areas are sparsely populated, noise generally does not have the same adverse effect on surrounding land uses and may be protected by right-to-farm regulations or other local land use policies.

Traffic, especially heavy truck traffic, can be a source of vibration and groundborne noise. Rail operations, including freight and light rail trains, can also be a source of vibration. **Table 3.13-14** contains reference to vibration levels associated with heavy-duty equipment.

Construction. Transportation projects and development anticipated to occur under the Plan could result in temporary noise and vibration impacts from grading, paving, clearing, landscaping, staging, excavation, earthmoving, and other related construction activities. Such construction activities would require the use of heavy construction equipment (e.g., pile drivers, back hoes, jackhammers) and vehicles that generate significant amounts of noise and vibration in the immediate vicinity of the source, often resulting in noise and vibration levels substantially higher than existing conditions. **Table 3.13-14, Construction Equipment Source Noise Levels**, summarizes typical construction noise levels for various construction activities.

Table 3.13-14
Construction Equipment Source Noise Levels

Equipment	Levels in dB(A) at 50 feet
Front Loader	73-86
Trucks	82-95
Cranes (Moveable)	75-88
Cranes (Derrick)	86-89
Vibrator	68-82
Saws	77-82
Pneumatic Impact Equipment	83-88
Jackhammers	81-98
Pumps	68-72
Generators	71-83
Compressors	75-87
Concrete Mixers	75-88
Concrete Pumps	81-85
Back Hoe	73-85
Pile Driving (Peaks)	95-107
Tractor	77-98
Scraper/Grader	80-93
Paver	85-88

Source: US Environmental Protection Agency, Noise From Construction Equipment and Operations, Building Equipment and Home Appliances, PB 206717, 1971.

Noise impacts from construction activities depend on several factors including the types of surrounding land uses, duration and type of construction activities, distance between source and receptor, and the presence or absence of barriers between source and receptor. Construction impacts are considered temporary and localized in nature, as they are limited to the time during which the project is being constructed and confined to areas adjacent to the construction site. After construction is completed, all construction equipment and vehicles are removed. In urban areas, where most of the development takes place, construction is a frequent occurrence, and although construction can be a nuisance, it may not result in a significant impact. In rural and suburban areas, where ambient noise levels are lower, it may rise to the level of an impact. However, land uses are also further apart, thereby reducing the potential for conflicts. Further, many local jurisdictions have policies specifically dealing with construction noise including restrictions on hauling and hours of construction.

Transportation projects and anticipated development projects under the Plan have the potential to result in construction-related impacts that increase noise levels above the noise thresholds identified in **Table 3.13-14** and substantially increase noise levels in locations currently in exceedance of a CNEL threshold;

as well as the potential to result in excessive levels of vibration and groundborne noise from increased traffic and congestion, at the local level (see **Section 3.17, Transportation, Traffic and Safety,** for further discussion of how the Plan affects the transportation network). Although construction noise is short-term for individual project sites, it can nonetheless result in substantial increases in ambient noise levels in the immediate vicinity of each construction site. Construction activities would occur in accordance with applicable city or county standards. Most such standards address acceptable hours of operation, while some standards address allowable noise levels. If sensitive receptors are in the immediate vicinity of construction activities, they could be temporarily adversely affected. Land use strategies which would encourage more dense development near a sensitive receptor would result in increased temporary construction noise for those receptors. Construction activity, and associated groundborne vibration or noise levels, is a routine part of the urban environment. While construction of individual projects is considered to have a less than significant impact, construction activities are likely to be ongoing throughout the region and therefore impacts are considered significant.

As previously discussed, there are sensitive receptors such as residences, schools, libraries, churches, hospitals, nursing homes, natural areas, and parks in the SCAG region that could be affected by construction or operation of Plan projects. As such, impacts are considered significant.

Construction-related vibration has the potential to damage structures and be a source of annoyance to individuals who live or work near these construction activities. Pile drivers can generate vibrations in excess of 0.5 PPV at a distance of 25 feet, see **Table 3.13-15, Construction Equipment Vibration Levels**, which can result in damage to reinforced concrete. Vibration levels generated by pile driving vary depending on soil conditions, construction methods, and equipment used. Depending on the proximity of existing structures to the pile driving, the structural condition of the existing structures, and the methods of construction used, vibration levels caused by pile driving or other foundation work with a substantial impact component such as blasting, rock or caisson drilling, and site excavation or compaction may be high enough to damage existing structures. A vibration analysis completed by Caltrans indicated that "extreme care must be taken when sustained pile driving occurs within 7.5 m (25 ft) of any building, and 15–30 m (50–100 ft) of a historical building or building in poor condition."[71]

71 California Department of Transportation. 2002. *Transportation Related Earthborne Vibrations*. Available online at: http://www.vibrationdata.com/tutorials_alt/caltrans_earth.pdf, accessed September 30, 2019.

Tables 3.13-15
Construction Equipment Vibration Levels

Equipment		PPV at 25 feet
Pile Driver (impact)	Upper Range	1.518
	Typical	0.644
Pile Driver (Sonic)	Upper Range	0.734
	Typical	0.170
Vibratory Roller		0.210
Clam Shovel		0.202
Hydrol Mill	In Soil	0.008
	In Rock	0.017
Large Bulldozer		0.089
Caisson Drilling		0.089
Loaded Trucks		0.076
Jackhammer		0.035
Small Bulldozer		0.003

Source:
Adapted from: Federal Transit Administration. September 2018. Transit Noise and Vibration Impact Assessment Manual. Washington, DC

Operation. Normal operation of residential, office and commercial, and mixed-use buildings are unlikely to generate substantial vibration or groundborne noise. Industrial and public buildings could generate vibration and groundborne noise during operations that involve the use of machinery or other vibration-inducing equipment. However, the amount of vibration produced is not anticipated to be excessive, as workplace vibration is typically addressed from an occupational health and safety perspective. As with noise, vibration dissipates with distance from the source, therefore surrounding land uses would unlikely be affected. **Table 3.13-15** indicates that, even at close distances, vibration levels for most heavy-duty equipment are below 0.1 inches per second.

Traffic, especially heavy truck traffic, can be a source of vibration and groundborne noise. However, such vibration is rarely high enough to cause annoyance to surrounding uses, as vehicles are supported on spring suspensions and pneumatic tires, which reduce the amount of vibration and groundborne noise generated from vehicular traffic. Rail operations, including freight and light rail trains, can also be a source of vibration. Under the Plan there would be increases in both heavy rail and light rail. Existing and future growth and development near existing or planned light rail or heavy rail lines could result in excessive levels of vibration and groundborne noise as compared to existing conditions.

Impacts associated with transportation strategies such as complete streets and TSM would be minimal and they would generally improve overall traffic flow and would not be expected to increase noise or

vibration. Land use strategies would encourage compact development which would encourage more people in urbanized areas where vibration impacts would occur. Operation-related vibration would be a source of annoyance to individuals who live or work near new infrastructure associated with heavy duty truck and bus traffic along roadways and train traffic along rail lines. The amplitude of vibration generated by heavy trucks, buses, or trains has the potential to result in structural or cosmetic damage if the route is adjacent or in close proximity to fragile older buildings.

Based on vibration measurements throughout California, Caltrans determined the maximum traffic vibration levels from truck traffic drop below the threshold of perception at a distance of 42.5 metes (140 feet) from the source and that vibration level from truck traffic are unlikely to cause architectural damage to fragile historic buildings unless the building was adjacent or within 5 meters or 17 feet from the source.[72] Therefore, it is anticipated that operational activities would result in a significant impact related to the exposure of people to excess groundborne vibration or groundborne noise levels.

Furthermore, Caltrans measured a peak train vibration level of 0.36 in/sec PPV at 3 meters (10 feet).[73] A vibration level of 0.36 in/sec PPV at 3 meters or 10 feet would fall below the threshold of perception at a distance of 80 meters (263 feet) from the source. Therefore, it is anticipated that operational activities would result in a significant impact related to the exposure of people in excess groundborne vibration or groundborne noise levels.

As a result, implementation Connect SoCal would result in the exposure of persons to generation of excessive groundborne vibration or groundborne noise levels, which constitutes a significant impact requiring the consideration of mitigation measures.

Mitigation Measures

SCAG Mitigation Measure

See **SMM NOISE-1.**

72 Ibid.

73 Ibid.

Project Level Mitigation Measures

See **PMM-NOISE-1.**

PMM NOISE-2: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to violating air quality standards. Such measures may include the following or other comparable measures identified by the Lead Agency:

a. For projects that require pile driving or other construction techniques that result in excessive vibration, such as blasting, determine the potential vibration impacts to the structural integrity of the adjacent buildings within 50 feet of pile driving locations.

b. For projects that require pile driving or other construction techniques that result in excessive vibration, such as blasting, determine the threshold levels of vibration and cracking that could damage adjacent historic or other structure, and design means and construction methods to not exceed the thresholds.

c. For projects where pile driving would be necessary for construction due to geological conditions, utilize quiet pile driving techniques such as predrilling the piles to the maximum feasible depth, where feasible. Predrilling pile holes will reduce the number of blows required to completely seat the pile and will concentrate the pile driving activity closer to the ground where pile driving noise can be shielded more effectively by a noise barrier/curtain.

d. Restrict construction activities to permitted hours in accordance with local jurisdiction regulation.

e. Properly maintain construction equipment and outfit construction equipment with the best available noise suppression devices (e.g., mufflers, silences, wraps).

f. Prohibit idling of construction equipment for extended periods of time in the vicinity of sensitive receptors.

Level of Significance after Mitigation

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

Impact NOI-3 **For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels.**

Significant and Unavoidable – Mitigation Required.

Implementation of transportation projects and development anticipated to occur under the Plan may result in exposure of persons to or generation of significant noise levels from aircrafts and other airport activity (including ground transportation) constituting a significant impact.

The SCAG region contains an expansive multiple airport system with seven commercial airports, seven government/military fields, and more than 30 reliever and general aviation airports. California's Airport Noise Standards identify a noise exposure level of CNEL 65 dB as the noise impact boundary around airports. Airport proprietors are required to ensure all land uses are compatible with the aircraft noise environment or secure a variance from the California Department of Transportation.

Note that SCAG has no authority over airport development. Rather SCAG includes aviation planning information within each RTP/SCS in order to facilitate ground transportation access planning. Development authority of airports rests with each airport (i.e. airport sponsors retain authority over planning and development decisions) and the Federal Aviation Administration (FAA), which makes airport funding decisions based on national priorities. Moreover, airports are not required to incorporate MPO planning recommendations into their capital plans, and FAA funding decisions are not necessarily tied to MPO RTP recommendations.

Despite some downturns, air passenger traffic in the region has increased at a steady rate over the past two decades, with a particularly high growth rate in recent years. In 2017, the six-county SCAG region was one of the most active and fastest growing regions for air passenger traffic in the United States. In 2017, at 110.17 million annual passengers, SCAG was second only to the New York/New Jersey region for air passenger traffic. The SCAG region saw a passenger growth rate of 5.12 percent from 2012 to 2017.[74]

As noted above, SCAG does not have any regulatory, developmental, operational, or planning authority over the airports. Rather, SCAG is primarily a regional surface transportation planning agency that maintains a list of airport ground access projects and a consultative relationship with the airports. Therefore, SCAG is focused on air and passenger cargo activity from the perspective of how the traffic coming and going from the airports affects the region's roads, highways, and transit system. SCAG also prepares an Aviation Technical Report to the Plan.

The Connect SoCal Aviation Technical Report references a comprehensive review of various forecasts for aviation growth in the SCAG region:[75]

- Regional air passenger transportation is anticipated to grow by an average of 2.1% annually; from 110.17 MAP in 2017 to 197.1 MAP in 2045
- Regional air cargo transportation is anticipated to grow by an average of 3.3% annually, from 3.14 million in 2017 to 7.77 million tons in 2045
- Total regional aircraft operations are not anticipated to grow as fast as passenger and/or cargo growth. Regional aircraft operations are anticipated to grow by an average of 0.74% annually, from 3.7 million operations in 2017 to 4.58 million operations in 2045

As mentioned above, LAX is the only regional large-hub primary airport, and the operational data listed for each regional airport indicates most regional airport operations are associated with LAX. Recent statistics show that while passenger traffic has increased by approximately 1% in 2019, aircraft operations have reduced by approximately 2%. The LAWA department of the City of Los Angeles is currently constructing an Automated People Mover (APM) electric train to reduce ground traffic congestion, accommodate future operational growth, and provide a direct rail connection to Los Angeles and adjacent cities.[76] The APM is planned to open for passenger services in 2023, and APM operation will reduce ground traffic and could incrementally reduce associated ground traffic noise.

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74 Connect SoCal. 2019. *Aviation and Airport Ground Access Technical Report*.

75 Ibid.

76 https://www.lawa.org/en/connectinglax/automated-people-mover; 8/30/2019

The following information was obtained from the Airport Noise Overview Technical Report prepared as part of the PEIR. The full report is provided in **Appendix 3.13**. Region-wide growth between 2017 to mid-year 2019 is estimated to be up to approximately 2% for air passengers and less than 0.5% for aircraft operations. For the purposes of assessing regional noise impacts from aviation, the above bulleted forecasts reasonably approximate the 2019 to 2045 time period.

As noted above, the aircraft operations growth forecast is significantly smaller than the air passenger and air cargo percentages. This is anticipated because newer aircraft carry a higher volume of passengers and carriers are running at a higher load factor than in the past. When the airlines carry more passengers per flight, the flights are more profitable and fewer flights are needed to carry the same volume of passengers to a specific location. This allows the airlines to schedule some of these flights to other locations and/or reduce their airport operations.

The noise from airports is directly related to the number of aircraft operations as well as the size, aircraft type, and number and type of engines, with additional contributions from other airport activities and ground transportation (noise from ground transportation is as part of the overall transportation projects in the Plan).

In general, if the mix of aircraft remains constant, the aviation noise contours grow larger or shrink smaller as the operations increase or decrease. Noise levels do not increase algebraically as the noise sources increase but increase in a logarithmic fashion. For example, two noise sources each emitting a noise level of 60 dB add together to produce noise of 63 dB, not 120 dB. Doubling the number of noise sources increases the overall noise level by 3 dB and doubling the number of aircraft operations would also increase the overall airport noise level by 3 dB and expand the area inside the noise contours, assuming all other factors such as aircraft type, engines, flight tracks, etc., remain the same.

Considering the growth in airport operations from 3.7 million to 4.58 million, if all aircraft types and operational characteristics were to remain equal, the forecasted increase in noise would equate to 0.9 decibels. However, this average increase in aircraft operations would not occur at all airports, as different airports will experience different changes and noise contours may grow or shrink independently. Airport noise levels are expected to increase at the busiest airports such as LAX, ONT, PSP and BUR, while noise levels at airports with noise and/or operations constraints would not be expected to increase as much. The details needed to model airport noise level changes over the forecast period are not available to provide specific changes. Additionally, airports across the nation have received an increase in noise complaints since implementation in 2015 of FAA's *NextGen* program to modernize the nation's air

transportation system.[77] One aspect of *NextGen* utilizes satellite navigation that precisely direct aircraft flight tracks for more efficient performance, reducing fuel costs and associated carbon emissions, and to increase overall flight capacity.[78] Aircraft flight track changes in some cases moved flights over areas that previously did not experience overflights or concentrated aircraft over areas that already experienced overflights, and airport noise complaints increased.[79] As the FAA and airports such as LAX and BUR[80] wrestle with the contending issues of an efficient airspace and noise complaints, it is unclear whether aircraft flight tracks will remain constant, further complicating the details needed for forecasting airport noise level changes over the lifetime of the Plan.

Technological changes also play a role in understanding airport noise impacts. The aircraft industry continues to develop aircraft with higher capacity, lower fuel consumption, and lower carbon emissions, but as it does, the industry must also comply with FAA and international aircraft compliance requirements regarding noise. Aircraft noise is classified into various Stages, with current Stage 3 and 4 aircraft operating quieter than previously used Stage 2 aircraft. Stage 3 aircraft measure between 7 and 20 EPNdB (Effective Perceived Noise Level, decibels) quieter than State 2 aircraft, while Stage 4 aircraft are an additional 10 EPNdB quieter than Stage 3 aircraft. Stage 2 aircraft no longer fly in the U.S., with some exceptions for lighter weight aircraft, taking the noisiest aircraft out of service. As airlines replace older and noisier Stage 3 aircraft with quieter Stage 4 aircraft, the aircraft fleet becomes quieter. As a recent example, American Airlines retired the last of its Stage 3 compliant McDonnell Douglas MD-80 aircraft in September 2019 and looks to replace the aircraft with more fuel-efficient aircraft with lower maintenance costs.[81] Even as newer aircraft have more powerful engines, the requirements to comply with the quieter Stage 4 noise levels will result in a quieter fleet overall. In 2018, the FAA adopted regulations requiring newly designed aircraft to meet even quieter Stage 5 requirements with a reduction of 7 EPNdB,[82] and as these aircraft come into service (and some aircraft currently in operation already meet this standard), this will lower the aircraft noise level further.

It is possible that in the long term, as aircraft operations grow over the next 25 years, the lower noise levels of aircraft will offset the increased operations to maintain or even reduce the aircraft noise contour

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77 https://www.faa.gov/nextgen/. 9/20/2019

78 https://www.faa.gov/nextgen/how_nextgen_works/; 9/20/2019

79 https://www.washingtonpost.com/local/trafficandcommuting/advances-in-airport-technology-mean-sleepless-nights-for-some/2016/03/04/7b8eb936-e098-11e5-9c36-e1902f6b6571_story.html; 9/20/2019

80 https://www.latimes.com/california/story/2019-09-16/hollywood-burbank-airport-noise-rattles-residents-who-want-flights-spread-over-wider-area; 9/20/2019

81 https://www.nbcsandiego.com/news/california/American-Airlines-Retires-the-Last-of-Its-Iconic-MD-80-Jets-560489551.html; 9/20/2019

82 Federal Aviation Administration, Stage 5 Airplane Noise Standards, published October 4, 2017. Accessible: https://www.federalregister.gov/documents/2017/10/04/2017-21092/stage-5-airplane-noise-standards

footprints around airports, as this has been the general trend in aviation noise over the previous 40 years. It may also be possible that the growth in operations at some airports may overtake the trend toward a quieter aircraft fleet and cause aircraft noise and the noise contours to increase.

In addition, most major public airports have an airport land use plan that provides guidance on safety and land use in adjacent areas. State law mandates the creation of an Airport Land Use Compatibility Plan. The Airport Land Use Commissions (ALUC) coordinates planning for areas that surround public use airports. The ALUC is tasked with preparing airport land use plans to protect the public by minimizing their exposure to excessive noise and safety hazards within these areas.

Furthermore, the development of Airport Land Use Plans are guided by three federal regulations and two state codes:

- Title 14 Code of Federal Regulations, Part 36, establishes maximum acceptable noise levels for specific aircraft types.
- Title 14 Code of Federal Regulations, Part 150, provides guidance for measuring noise at airports and surrounding areas, determining exposure of individuals to noise from the operations of an airport, identifying land uses that are normally compatible, and preparing and executing noise compatibility planning and implementation programs.
- As part of Title 24 Code of Federal Regulations, Part 51, Subpart B, the HUD exterior noise regulations state that noise levels of 65 dBA DNL or less are acceptable for residential land uses and noise levels exceeding 75 dBA DNL are unacceptable.
- California Government Code Section 65302 specifies that noise contours be shown for all facilities related to airport operations and be stated in terms of CNEL or Ldn. These noise contours are intended to guide how patterns of land uses are established in the land use element in order to minimize the exposure of community residents to excessive noise.
- Title 21, California Code of Regulations Section 5000 et seq., identifies a noise exposure level of CNEL 65 dB as the noise impact boundary around airports. Within this noise impact boundary, airport proprietors are required to ensure that all land uses are compatible with the aircraft noise environment or the airport proprietor must secure a variance from Caltrans.

Additionally, each county and city in the SCAG region is required to adopt safety and noise elements as part of their General Plans. It is expected that local jurisdictions would conduct environmental review for projects that are within or near sensitive airport zones, and are expected to implement best management

practices and mitigation measures on a project-by-project basis, to minimize potential noise risks associated with air traffic.

Nevertheless, due to the regional scale of aviation operations and because the noise profiles of future aircraft types and their engines are unknown, as is the timeframe for phasing out older aircraft and replacing them with newer aircraft, impacts cannot be accurately determined at this time. Conservatively it is assumed sensitive receptors may experience greater noise impacts than at present in the vicinity of airports resulting in significant impacts.

Mitigation Measures

SCAG Mitigation Measures

See **SMM NOISE-1.**

Project Level Mitigation Measures

See **PMM NOISE-1.**

Level of Significance after Mitigation

As discussed above, regulations and polices would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this EIR identifies project-level mitigation measures consistent with applicable regulations and polices designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and lack of project-specific detail, the unknown noise profiles of future aircraft types and their engines and the timeframe for phasing out older aircraft and replacing them with newer aircraft, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts related to aviation noise to be significant and unavoidable even with implementation of mitigation.

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3.14 POPULATION AND HOUSING

This section of the Program Environmental Impact Report (PEIR) describes the existing land use characteristics within the SCAG region, identifies the regulatory framework with respect to laws and regulations that affect population and housing, and analyzes the potential impacts of the Connect SoCal Plan ("Connect SoCal"; "Plan"). In addition, this PEIR provides regional-scale mitigation measures as well as project-level mitigation measures to be considered by lead agencies for subsequent, site-specific environmental review to reduce identified impacts as appropriate and feasible.

3.14.1 ENVIRONMENTAL SETTING

3.14.1.1 Definitions

Definitions of terms used in the regulatory framework, characterization of baseline conditions, and impact analysis for population, housing, and employment are provided.

Employment: Paid employment consists of full- and part-time employees, including salaried officers and executives of corporations, who were on the payroll in the pay period. Included are employees on sick leave, holidays, and vacations; not included are proprietors and partners of unincorporated businesses.

Household: A household consists of all the people who occupy a housing unit. A household includes the related family members and all the unrelated people, if any, such as lodgers, foster children, wards, or employees who share the housing unit. A person living alone in a housing unit, or a group of unrelated people sharing a housing unit such as partners or roomers, is also counted as a household.

Householder: The householder refers to the person (or one of the people) in whose name the housing unit is owned or rented (maintained) or, if there is no such person, any adult member, excluding roomers, boarders, or paid employees. If the house is owned or rented jointly the householder may be either party. The person designated as the householder is the "reference person" to whom the relationship of all other household members, if any, is recorded.

Housing: As used in this analysis, *housing* is data available from the U.S. Census for the SCAG region for the period of 2000 through 2035. Housing is a general term used to describe multiple housing units.

Housing Unit: A house, an apartment or other group of rooms, or a single room are regarded as housing units when occupied or intended for occupancy as separate living quarters. Different jurisdictions have slightly different definitions of what constitutes a housing unit.

Population: As used in this analysis, *population* is data available from the U.S. Census for the SCAG region for the period of 1900 through 2010, with population projections available from SCAG in 2019 for the projected population growth through 2045.

Regional Housing Needs Assessment (RHNA): As discussed in more detail in the Regulatory Background, the RHNA quantifies the need for housing within each jurisdiction during specified planning periods. The RHNA is mandated by state housing law as part of the periodic process of updating local housing elements of the General Plan. The California Department of Housing and Community Development (HCD) provides a regional determination of housing need, and then SCAG allocates this housing need to jurisdictions in the region. The intention of the RHNA process is to create a better balance of jobs and housing in communities, ensure the availability of decent affordable housing for all income groups, and achieve sustainability through long-term strategic land use planning.

3.14.1.2. Existing Population, Housing, and Employment

Population

The six-county SCAG region encompasses 38,000 square miles in area (almost 25 million acres) and is home to approximately 19 million people as of 2019, making it the second most populous metropolitan region in the U.S.[1] Approximately 6 percent of the national population lives in the SCAG region, and for over half a century the region has been home to approximately half the population of California. At the turn of the 20th Century, the SCAG region comprised less than 1 percent of the U.S. population and less than 30 percent of the state population. By 1960, the region grew to represent nearly 5 percent of the national population.[2] Historically, population within the SCAG region was heavily influenced by net migration, or the difference between people coming into an area (immigrating) and the people leaving an area (emigrating) as opposed to the increase of births over deaths. However, since about 2000, net migration has slowed and has resulted in slower population growth across the SCAG region. The population growth within the SCAG region is similar to that of California and the U.S. as a whole.

As shown below in **Table 3.14-1, Population Growth in the SCAG Region (2000-2019 for Incorporated Cities and Unincorporated Areas),** existing populations have increased in every county within the SCAG region from 2000 to 2019. However, while increasing in population, the SCAG region's overall growth rate is slowing. The change is largely attributed to four key factors: (1) lower birth rates (fewer children),

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1 American FactFinder. 2017. *2017 Population Estimates.* Available online at: https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml, accessed January 29, 2018.

2 Southern California Association of Governments (SCAG). 2016. *2016 RTP/SCS Program Draft Environmental Impact Report*.

(2) lower immigration rates (fewer immigrants), (3) aging population (fewer at childbearing age), and (4) high housing costs (lack of housing).[3]

Table 3.14-1
Population Growth in the SCAG Region
(2000-2019 for Incorporated Cities and Unincorporated Areas)

County	Population 2000[1]	Population 2010[2]	Population 2019[3]	Growth Rate 2000-2010	Growth Rate (2010-2019)
Imperial	142,361	174,528	207,682	22.6%	19%
Los Angeles	9,519,338	9,818,605	10,333,540	3.1%	5.2%
Orange	2,846,289	3,010,232	3,250,121	5.8%	8%
Riverside	1,545,387	2,189,641	2,462,592	41.7%	12.5%
San Bernardino	1,709,434	2,035,210	2,217,205	19.1%	8.9%
Ventura	753,197	823,318	868,622	9.3%	5.5%
SCAG Region	**16,516,006**	**18,051,534**	**19,339,762**	**9.3%**	**7.1%**

Sources:
1 *SCAG. 2016 Draft RTP.SCS. 3.14 Population, Housing, and Employment. Table 3.14.2-3 "Population Growth in the SCAG Region for 2000-2014." Available online at: http://scagrtpscs.net/Pages/DRAFT2016PEIR.aspx, accessed September 3, 2019.*
2 *California Department of Finance (DOF). 2010. E-5 Population and Housing Estimates for Cities, Counties, and the State. January. Available online at: http://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-5/, accessed August 30, 2019.*
3 *Southern California Association of Governments (SCAG). 2019.* 2019 Local Profiles*. Available online at: https://www.scag.ca.gov/DataAndTools/Pages/LocalProfiles.aspx, accessed September 3, 2019.*

From the 1980s into the 2000s, the region was in a housing and economic boom, which led to increased immigration and household size, and a surge in population growth in all six SCAG counties. When the market slowed, beginning in 2006, growth slowed as well, and from the years 2010-2019, Imperial, Riverside, San Bernardino and Ventura counties all showed a significant decrease in population growth. During the same period, Los Angeles and Orange counties maintained similar growth rates for the years 2010-2019 compared to the years 2000-2010. This is not surprising, as the counties of Los Angeles and Orange contain coastal areas and metropolitan cities, which make them attractive destinations regardless of job and housing creation.

Housing

As shown in **Table 3.14-2, Households in the SCAG Region,** there were approximately 6.2 million households in the SCAG region in 2019, an increase from 2010. More than half of the households in the region are located in Los Angeles County. Unfortunately, California, like many other places in the U.S., is

3 Ibid.

experiencing a housing crisis. At a fundamental level, there is simply not enough housing for everyone who wants to live in the state.

Table 3.14-2
Households in the SCAG Region

County	Number of Households (2010)	Number of Households (2019
Imperial	79,126	58,000
Los Angeles	3,239,280	3,409,500
Orange	990,019	1,053,500
Riverside	686,260	758,300
San Bernardino	611,618	656,500
Ventura	266,920	276,100
SCAG	**5,873,223**	6,211,900

Source: SCAG, 2019

Household Income

Median household income in the SCAG region in 2018 varies widely, from $44,779 in Imperial County (incorporated cities) to $81,972 in Ventura County (incorporated cities). The county with the second highest median income is Orange County ($81,851) (incorporated cities). Across the SCAG region, the average income was $64,597 (incorporated cities). Homeownership rates also vary, from a low of 45.9 percent in Los Angeles County (incorporated cities) to a high of 65 percent in Riverside County (incorporated cities). The average homeownership rate in the SCAG region is 57.9 percent (incorporated cities).[4]

Household Size

Household size in the SCAG region (Incorporated Cities) increased between 2000 and 2018, from 3.16 persons per household to 3.2 persons per household, or an increase of the equivalent of an average of 0.04 persons per household (**Table 3.14-3, Household Size in the SCAG Region [Persons]**). In descending order, San Bernardino, Riverside, Imperial, and Orange Counties' household size grew, while Ventura and Los Angeles Counties' household size declined between 2000 and 2018.

4 Southern California Association of Governments (SCAG). 2019. *2019 Local Profiles*. Available online at: https://www.scag.ca.gov/DataAndTools/Pages/LocalProfiles.aspx, accessed September 3, 2019.

Table 3.14-3
Household Size in the SCAG Region (Persons)

County	2000[1]	2018[2]	2000–2018 Change
Imperial	3.42	3.6	0.18
Los Angeles	3.14	3.0	–0.14
Orange	3.06	3.1	0.04
Riverside	3.09	3.3	0.21
San Bernardino	3.17	3.3	0.13
Ventura	3.11	3.1	–0.01
SCAG Region	**3.16**	**3.2**	**0.04**

Sources:
1 *Southern California Association of Governments (SCAG). 2016. 2016 RTP/SCS Program Draft Environmental Impact Report.*
2 *Southern California Association of Governments (SCAG). 2019.* 2019 Local Profiles*. Available online at: https://www.scag.ca.gov/DataAndTools/Pages/LocalProfiles.aspx, accessed September 3, 2019.*

Poverty

The U.S. Census Bureau reported 2.5 million people in the SCAG region were living in poverty in 2018, down from 2.9 million people in 2010 (**Table 3.14-4, Poverty Rates in the SCAG Region [1990–2018]**).[5] The average poverty rate in the SCAG region has remained above the state and national averages since 1990. Imperial County has the highest poverty rate, followed by San Bernardino County, and Los Angeles County, which are above the state and national averages, and then Riverside County which has fallen below the state and national averages in recent years. Orange County and Ventura County have consistently had poverty rates below state and national averages between 1990 and 2018.

5 U.S. Census Bureau. 2018. Poverty Status in the Past 12 Months. Available online at: https://data.census.gov/, accessed October 29, 2019.

Table 3.14-4
Poverty Rates in the SCAG Region (1990-2018)

County	1990 Poverty Rate[1]	2000 Poverty Rate[1]	2010 Poverty Rate[1]	2018 Poverty Rate[2]
Imperial	23.8%	22.6%	23.0%	23.1%
Los Angeles	15.1%	17.9%	17.1%	14.1%
Orange	8.5%	10.3%	11.7%	10.5%
Riverside	11.5%	14.2%	15.6%	12.7%
San Bernardino	12.7%	15.9%	17.6%	14.9%
Ventura	7.3%	9.2%	10.3%	8.9%
SCAG Region Average	**13.2%**	**15.0%**	**15.9%**	**14.0%**
State Average	**12.5%**	**14.2%**	**15.3%**	**12.8%**

Sources:
1 Southern California Association of Governments (SCAG). 2016. 2016 RTP/SCS Program Draft Environmental Impact Report.
2 U.S. Census Bureau. 2018. Poverty Status in the Past 12 Months. Available online at: https://data.census.gov/, accessed October 29, 2019.

Using U.S. Census Bureau American Community Survey Data, SCAG has identified underserved communities in the SCAG region. See Connect SoCal Technical Report, Environmental Justice, for discussion and analysis of environmental justice communities relative to the Plan. Disadvantaged communities in the SCAG region include census tracts that have been identified by the California Environmental Protection Agency (Cal/EPA) as Disadvantaged Communities (DACs) based on the requirements set forth in SB 535, which seek to identify areas disproportionately burdened by and vulnerable to multiple sources of pollution. Environmental justice areas of concern include those areas where there are issues of public health, housing, impacts on racial and ethnic minority groups, and environmental impacts.

Note that while socioeconomic issues do not in and of themselves constitute physical environmental impacts, they do have the potential to lead to physical environmental impacts. For example, as gentrification occurs near urban job centers, increased housing costs could outpace income growth leading to households moving toward more affordable suburbs. This would increase commute times, resulting in increases in vehicle miles traveled and air pollution.

Employment

Throughout the SCAG region, jobs are frequently co-located along major transportation intersections and transportation corridors. **Figure 3.14-1, Employment Density in the SCAG Region**, depicts the employment density across the region. Employment trends in Southern California have long followed a "boom and bust" cycle. Much of the 2000s saw a boom of housing development, particularly in the Inland Empire, only to be followed by a bust starting in 2008 which affected employment, particularly in

the housing construction and service sectors. In 2019, there were approximately 8.7 million jobs in the SCAG region (**Table 3.14-5, 2019 Employment by County**). Based on available SCAG data (2019), the economy experienced a net increase in jobs, between 2000 and 2019, for every county in the SCAG region **(Table 3.14-6, Employment Growth from 2000 to 2019**). As of 2019, Imperial County saw the largest relative increase in job generation, growing by 67.1 percent (31,048 jobs), followed by Riverside with 26.2% growth (168,593 jobs). The largest increase in jobs overall occurred in Los Angeles County with nearly 401,695 jobs and in Orange County with more than 336,543 jobs. Overall, the SCAG region gained approximately 1,033,738 jobs (or 13.6 percent) between 2000 and 2019.

Table 3.14-5
2019 Employment by County

County	Total County Employment
Imperial	77,348
Los Angeles	4,826,595
Orange	1,765,643
Riverside	812,793
San Bernardino	828,342
Ventura	346,417
SCAG Region	8,657,138

Table 3.14-6
Employment Growth for 2000 to 2019

County	2000 (Jobs)[1]	2019 (Jobs)[2]	2000- 2019 Growth (Jobs)	Percent Change (2000- 2019)
Imperial	46,300	77,348	31,048	67.1%
Los Angeles	4,424,900	4,826,595	401,695	9.1%
Orange	1,429,100	1,765,643	336,543	23.5%
Riverside	644,200	812,793	168,593	26.2%
San Bernardino	704,000	828,342	124,342	17.7%
Ventura	374,900	346,417	-28,483	-7.6%
SCAG	**7,623,400**	**8,657,138**	**1,033,738**	**13.6%**

Sources:

1 Southern California Association of Governments (SCAG). 2016. 2016 RTP/SCS Program Environmental Impact Report.

2 Southern California Association of Governments (SCAG). 2019. 2019 Local Profiles. Available online at: https://www.scag.ca.gov/DataAndTools/Pages/LocalProfiles.aspx, accessed September 3, 2019.

Unemployment

Although unemployment rates declined between 2010 and 2018 for all counties in the SCAG region, rates of unemployment remain slightly above the national and state average (3.7 percent[6] and 4.1 percent,[7] respectively, as of August 2019) in Imperial, Los Angeles, and Riverside Counties (**Table 3.14-7, Unemployment Rates**). In 2018, Imperial County had the highest unemployment rate in the SCAG region (18.1 percent), while Orange County had the lowest in the SCAG region (2.9 percent, below the national and state averages). In 2018, the average unemployment rate in the SCAG region was 6.3 percent.

Table 3.14-7
Unemployment Rates

County	2000 Unemployment Rate[1]	2010 Unemployment Rate[1]	2018 Unemployment Rate[2]
Imperial	17.5%	29.9%	18.1%
Los Angeles	5.4%	12.6%	4.7%
Orange	3.5%	9.5%	2.9%
Riverside	5.4%	14.5%	4.4%
San Bernardino	4.8%	14.2%	4.0%
Ventura	4.5%	10.8%	3.8%
SCAG Region	**6.8%**	**15.3%**	**6.3%**
State Average	**4.9%**	**12.4%**	**4.2%**

Sources:
1 *Southern California Association of Governments (SCAG). 2016. 2016 RTP/SCS Program Draft Environmental Impact Report.*
2 *State of California Employment Development Department. 2018. REPORT 400 C - Monthly Labor Force Data for Counties - Annual Average 2018 - Revised. Available online at: https://www.labormarketinfo.edd.ca.gov/file/lfhist/18aacou.pdf, accessed September 5, 2019.*

Growth Forecasts

In order to develop growth forecasts, SCAG encourages and utilizes the participation and cooperation of all local government partners within the SCAG region. SCAG uses a bottom-up planning process by which all local governments are informed of the Connect SoCal planning process and have clear and adequate opportunities to provide input. Growth forecasts and land use updates for development under the Plan have been developed through this bottom-up local input process, reflecting the following guiding principles approved by SCAG's Regional Council on August 1, 2019 .

6 Bureau of Labor Statistics, *The Employment Situation—August 2019.* Available online at: https://www.bls.gov/news.release/pdf/empsit.pdf, accessed September 16, 2019.

7 State of California Employment Development Department, *California Unemployment rate dips to record low 4.1 percent in July.* Available online at: https://www.edd.ca.gov/newsroom/unemployment-august-2019.htm, accessed September 16, 2019.

- Principle #1: The draft plan forecast for Connect SoCal shall be adopted by the Regional Council at the jurisdictional level, thus directly reflecting the employment, population and household growth projections derived from local input and previously reviewed and approved by SCAG's local jurisdictions. The draft plan growth forecast maintains these projected jurisdictional growth totals, meaning further growth is not reallocated from one local jurisdiction to another.

- Principle #2: The draft plan forecast at the Transportation Analysis Zone (TAZ) level is controlled to be within the density ranges of local general plans or input received from local jurisdictional in this most recent round of review.

- Principle #3: For the purpose of determining consistency for California Environmental Quality Act (CEQA) streamlining, lead agencies such as local jurisdictions have the sole discretion in determining a local project's consistency with the Plan.

- Principle #4: TAZ level data or any data at a geography smaller than the jurisdiction is included in the draft plan forecast only to conduct the required modeling analytical work and is therefore, only advisory and non-binding as SCAG's sub-jurisdictional forecasts are not formally adopted as part of the Plan.

Table 3.14-8
2019-2045 Population, Households, and Employment Projections in the SCAG Region

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

Source: Southern California Association of Governments (SCAG). 2019. Connect SoCal.

3.14.2 REGULATORY FRAMEWORK

3.14.2.1 Federal

Federal Uniform Act (URA) (1970)

The Federal Uniform Act (Uniform Relocation Assistance and Real Property Acquisition Policies Act; 42 U.S. Code [USC] 61), passed by Congress in 1970, is a federal law that establishes minimum standards for federally funded programs and projects that require the acquisition of real property (real estate) or displace persons from their homes, businesses, or farms. The Uniform Act's protections and assistance apply to the acquisition, rehabilitation, or demolition of real property for federal or federally funded projects.[8]

Department of Housing and Urban Development Act

The Department of Housing and Urban Development Act created the U.S. Department of Housing and Urban Development (HUD) as a Cabinet-level agency. HUD is responsible for national policy and programs that address housing needs in the U.S. HUD is responsible for enforcing fair housing laws. HUD plays a major role in supporting homeownership by underwriting homeownership for lower- and moderate-income families through its mortgage insurance programs.[9]

Fixing America's Transportation Act (FAST)

The Fixing America's Surface Transportation (FAST) Act (Pub. L. No. 114-94), enacted in 2015, builds on the changes to federal transportation planning law made by MAP-21.[10] It was the first long-term surface transportation authorization enacted in a decade that provides long-term funding certainty for surface transportation. The FAST Act authorizes $305 billion over fiscal years 2016 through 2020 for highway improvements, highway and motor vehicle safety, public transportation, motor carrier safety, hazardous materials safety, rail, and research, technology, and statistics programs. The FAST Act maintains the focus on safety, keeps intact the established structure of the various highway-related programs, continues

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8 U.S. Code. *42 USC Ch. 61: Uniform Relocation Assistance and Real Property Acquisition Policies for Federal and Federal Assisted Programs*. Available online at: https://uscode.house.gov/view.xhtml?path=/prelim%40title42/chapter61&edition=prelim, accessed August 29, 2019.

9 Federal Register. *Housing and Urban Development Department*. Available online at: https://www.federalregister.gov/agencies/housing-and-urban-development-department, accessed August 29, 2019.

10 The Moving Ahead for Progress in the 21st Century Act (MAP-21) was enacted in 2012 (PL 112-141).

efforts to streamline project delivery, and provides a dedicated source of federal dollars for freight projects.[11]

Federal Planning Regulations, Title 23 CFR 450.322(e)

This federal regulation requires that in development of the regional transportation plan that the related local Metropolitan Planning Organization (MPO) validate data utilized in preparing other existing modal plans (such as transit providers long range plans) for providing input to the regional transportation plan. In updating the plan, the MPO shall base the update on the latest available estimates and assumptions for population, land use, travel, employment, congestion, and economic activity. The MPO shall approve transportation plan contents and supporting analyses produced by a transportation plan update. [12]

3.14.2.2 State

SB 375- The Sustainable Communities and Climate Protection Act of 2008

Senate Bill 375 (SB 375) focuses on aligning transportation, housing, and other land uses to achieve regional greenhouse gas (GHG) emission reduction targets established under the California Global Warming Solutions Act, also known as Assembly Bill No. 32 (AB 32). SB 375 requires California MPOs to develop a Sustainable Communities Strategy (SCS) as part of its Regional Transportation Plan (RTP), with the purposes of identifying policies and strategies to reduce per capita passenger vehicle-generated GHG emissions. In application, the SCS must identify the general location of land uses, residential densities, and building intensities within the region; identify areas within the region sufficient to house all the population of the region; identify areas within the region sufficient to house an eight-year projection of the regional housing need; identify a transportation network to service the regional transportation needs; gather and consider the best practically available scientific information regarding resources areas and farmland in the region; consider the state housing goals; set forth a forecasted development pattern for the region; and allow the regional transportation plan to comply with the federal Clean Air Act (CAA) of 1970 (42 USC. § 7401 *et seq.*) (Gov. Code, § 65080, subd. (b)(F)(2)(B)), of which, when integrated with the transportation network, and other transportation measures and policies will reduce the GHG from automobiles and light duty trucks to achieve, if there is a reasonable way to do so, the GHG emission reduction targets approved by the California Air Resources Board (ARB). If the SCS does not achieve the

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11 Federal Highway Administration. *Fixing America's Surface Transportation Act*. Available online at: https://www.fhwa.dot.gov/fastact/, accessed August 29, 2019.

12 Electronic Code of Regulations. *Title 23: Highways, Part 450 – Planning and Assistance and Standards*. Available online at: https://www.ecfr.gov/cgi-bin/text-idx?SID=4f4c8515fcb6873787857e30df84a31b&mc=true&node=pt23.1.450&rgn=div5#se23.1.450_1322, accessed August 29, 2019.

GHG emission targets set by ARB, an Alternative Planning Strategy (APS) must be developed to demonstrate how the targets could be achieved.

SB 375 also imposes a number of new requirements on the regional housing needs process. Prior to SB 375, the regional transportation plan and regional housing needs processes were not required to be coordinated. SB 375 now synchronizes the schedules of the RHNA (as discussed in more detail below) and RTP processes every eight years. The RHNA also allocates housing units within the region consistent with the development pattern included in the SCS.

Regional Housing Needs Assessment

The California Legislature developed the RHNA process (Govt. Code § 65580 *et seq.*) in 1977 to address the serious affordable housing shortage in California. The California Department of Housing and Community Development (HCD) in consultation with each council of governments determines each region's existing and projected housing need.[13] HCD must meet and consult with each council of governments, including SCAG, regarding the assumptions and methodology to be used by HCD to determine the region's housing need.[14] HCD's determination is based on population projected produced by the Department of Finance and regional population forecasts used in preparing regional transportation plans.[15]

In consultation with HCD, each council of governments must develop and adopt a methodology for distributing the existing and projected regional housing need to cities, counties, and cities and counties within the region.[16] The council of government then adopts a final regional housing need plan that allocates a shore of the regional housing need to each city, county, or city and county.[17]

Local government must address their allocated share of housing needs of all economic segments of the community through their housing elements. [18] Local governments must adopt a housing element as part of their general plan. Unlike the rest of the general plan, where updates sometimes occur at intervals of 20 years or longer, under previous law the housing element was required to be updated as frequently as needed and no less than every five years. Under SB 375, this period has been lengthened to eight years and timed so that the housing element period begins no less than 18 months after adoption of the

13 Govt. Code § 65584(b).

14 Govt. Code § 65584.01(b).

15 Govt. Code § 65584.01(a).

16 Govt. Code § 65584.04.

17 Govt. Code § 65584(b).

18 California Legislative Information. *Article 10.6. Housing Elements [65580 – 65589.11].*.

regional transportation plan, to encourage closer coordination between housing and transportation planning. SB 375 also changes the implementation schedule required in each housing element. Previous law required the housing element to contain a program which set forth a five-year schedule to implement the goals and objectives of the housing element. The new law instead requires this schedule of actions to occur during the eight-year housing element planning period, and requires each action have a timetable for implementation.[19]

The purpose of the housing element is to identify the community's housing needs, state the community's goals and objectives with regard to housing production, rehabilitation, and conservation to meet those needs. In addition, the housing element defines the related policies and programs that the community will implement in order to achieve the stated goals and objectives. This would be accomplished through the allocation of regional housing needs consistent with the Plan.[20]

In prior cycles, factors such as household growth and household income distribution were the primary factors considered in determining a jurisdiction's RHNA allocation. For the 6th RHNA cycle, SCAG plans to consider other factors in addition to household growth. These factors include transit accessibility, job accessibility, and indicators that influence a community's environmental, educational, and economic resource accessibility.

As discussed above in the discussion of SB 375, state law requires preparation of a RHNA allocation plan every eight years. SCAG's 6th Cycle RHNA quantifies the regional need for housing and then allocates the regional need to each jurisdiction for a planning period between October 2021 and October 2029. Local jurisdictions are required to plan and zone to accommodate their respective RHNA allocation (housing units) by income categories through the process of updating the Housing Elements of their General Plans. The RHNA does not necessarily encourage or promote growth, but rather allows communities to anticipate growth and address existing need, so that they can grow in ways that enhance quality of life, improve access to jobs, transportation and housing, and not adversely impact the environment. [21]

This region's 6th Cycle RHNA allocation plan consists of two measurements of housing need: (1) existing need and (2) future need for very-low income, low-income, moderate, and above-moderate income categories.

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

20 California Legislative Information. *Article 10.6. Housing Elements [65580-65589.11], Section 65580*.

21 SCAG. *Regional Housing Needs Assessment (RHNA) & Housing*. Available online at: https://www.scag.ca.gov/programs/Pages/Housing.aspx, accessed August 29, 2019.

The existing need assessment is based on data from the most recent US Census to measure ways in which the housing market is not meeting the needs of current residents. These variables include the number of households paying more than 30 percent of their income for housing, as well as overcrowding.

The future need for housing is determined primarily by the forecasted growth in households in a community, based on historical growth patterns, job creation, household formation rates, and other factors to estimate how many households will be added to each community over the projection period. The housing need for new households is then adjusted to account for an ideal level of vacancy needed to promote housing choice, maintain price competition, and encourage acceptable levels of housing upkeep and repair. The RHNA also accounts for units expected to be lost due to demolition, natural disaster, or conversion to non-housing uses. The sum of these factors including household growth, vacancy need and replacement need form the "projected need" assigned to each community. Per SB 375, the projected need's portion of the 6th Cycle RHNA will be consistent with the Connect SoCal for the comparable period.

SCAG's RHNA allocation plan considers how each jurisdiction might grow in ways that will decrease the over-concentration of low-income households. The need for new housing is distributed among income groups so that each community moves closer to the county income distribution.

Consistent with the state housing law, the primary objectives the 6th Cycle RHNA allocation plan are:

1. Increase the housing supply and mix of housing types, tenure and affordability within each region in an equitable manner
2. Promote infill development and socioeconomic equity, the projection of environmental and agricultural resources, and the encouragement of efficient development patterns
3. Promote an improved interregional relationship between jobs and housing
4. Allocating a lower proportion of housing need in income categories in jurisdictions that have a disproportionately high share in comparison to the county distribution
5. Affirmatively furthering fair housing

On October 15, 2019, SCAG received the Final Regional Determination from HCD.[22] On November 7, 2019, SCAG Regional Council approved a Draft RHNA Allocation Methodology for HCD's review. The Regional Council is scheduled to approve the Final RHNA Methodology in March 2020 and release the Draft RHNA Allocation by jurisdictions prior to adopt the Connect SoCal in April 2020.

[22] HCD issued its final RHNA determination for the SCAG region of 1.34 million total housing units among four income categories for SCAG to distribute among its jurisdictions from 2021-2029. As discussed above, this total need includes both existing need and projected need.

As discussed above, under Government Code Section 65080(b)(2)(B)(iii), the SCS element of Connect SoCal must identify areas within the region sufficient to house an eight-year projection of SCAG's regional housing need. SCAG's regional housing need for the 6th Cycle RHNA as determined by HCD captures existing and projected need. As such, the SCS must accommodate the projected need portion of the 6th Cycle RHNA. SCAG satisfies this requirement by using local input (including projected households) which projects growth at the jurisdictional level in the SCS as further discussed in the Plan's Demographics and Growth Forecast Technical Report. Therefore, the projected housing need's portion of the 6th Cycle RHNA is consistent with Connect SoCal for the RHNA planning period (October 2021 to October 2029) per SB 375 requirements. In addition, while the existing housing need portion of the 6th cycle RHNA is not included in the SCS growth forecast, the existing need portion will be allocated in a manner to support the goals of Connect SoCal through the RHNA process.[23]

Senate Bill No. 2

SB 2 (Chapter 633, Statutes of 2007) strengthens state housing element law (Government Code Section 65583) by ensuring that every jurisdiction identifies potential sites where new emergency shelters can be located without discretionary review by the local government. It also increases protections for providers seeking to open a new emergency shelter, transitional housing or supportive housing development, by limiting the instances in which local governments can deny such developments.[24]

California Relocation Assistance Act

The California Relocation Assistance Act (Government Code Section 7260 *et seq.*) establishes uniform policies to provide for the fair and equitable treatment of people displaced from their homes or businesses as a direct result of state and/or local government projects or programs. The California Relocation Assistance Act requires that comparable replacement housing be made available to displaced persons within a reasonable period of time prior to the displacement. Displaced persons or businesses are assured payment for their acquired property at fair market value. Relocation assistance in the form of

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23 Connect SoCal and this PEIR address reasonably foreseeable households in the SCAG region. The population and ***households*** are distributed in accordance with the growth forecast as described in Demographics and Growth Forecast Technical Report in the Plan. The RHNA is a separate planning requirement. It addresses the mandate to plan for ***housing units*** to implement planning policies. The difference between households and housing units is that households are occupied housing units. While HCD has issued its final RHNA determination for the SCAG region of 1.34 million total housing units, which includes both existing need and projected need, these units do not translate to households. As discussed above, SCAG has not yet approved the Final RHNA Methodology or developed its RHNA allocation. Furthermore, it is infeasible to predict if/when and how such housing units would be incorporated into housing elements and whether the housing elements will be implemented and converted to forecast growth.

24 California Legislative Information. *Senate Bill No. 2*.

advisory assistance and financial benefits would be provided at the local level. This includes aid in finding a new home location, payments to help cover moving costs, and additional payments for certain other costs.

Senate Bill 535: California Global Warming Solutions Act of 2006: Greenhouse Gas Reduction Fund (GGRF)

SB 535 was signed into law by Governor Brown on September 30, 2012. This bill sets aside cap and trade revenues to mitigate climate change in disadvantaged communities. The California EPA is the responsible agency for identifying disadvantaged communities for potential investment. The California Department of Finance must allocate 25 percent of the available moneys in the GGRF to projects that benefit disadvantaged communities and a minimum of 10 percent to projects located within disadvantaged communities.[25]

Homeowners and Private Property Protection Act

In 2008, California voters approved Proposition 99, the Homeowners and Private Property Protection Act, which amended the California Constitution so that local governments are prohibited from using eminent domain authority to acquire an owner-occupied residence for the purposes of conveying it to a private recipient, with limited exceptions. Proposition 99 applies only to owner-occupied residences but cities may still use eminent domain authority to convey multi-family and non-residential property to other private parties.[26]

3.14.2.3 Local

Housing Elements of County and City General Plans

The most comprehensive and detailed land use planning, including that for population, housing, and employment in the SCAG region, is provided by city and county General Plans, which local governments are required by state law to prepare as a guide for future development. As noted above, state law mandates that local governments adequately plan to meet the existing and projected housing needs of all economic segments of the community as discussed above. The housing element of a general plan illustrates strategies for future development and improvements to the area's housing stock, with specific goals for the short-term (see **Table 3.14-9, Summary of Housing Goals by County in the SCAG Region**). The housing element often includes programs to improve neighborhoods, provide adequate housing

25 California Legislative Information. *Senate Bill No. 535*.

26 LA Law Library. *Text of Proposed Laws, Proposition 99*. Available online at: http://www.lalawlibrary.org/pdfs/PROP_0608_99.pdf, accessed August 29, 2019.

sites, assist in the provision of affordable housing and promote fair and equal housing opportunities. Housing policy in the state rests largely upon the effective implementation of local general plans and, in particular, local housing elements.

Table 3.14-9
Summary of Housing Goals by County in the SCAG Region

County	County and City Policies and Ordinances
Imperial[a]	**Goal 1:** Ensure the availability of a variety of housing types for all income levels throughout the county. **Goal 2:** Encourage affordable housing developments by utilizing all available funding sources, offering developer incentives, and allowing a wide range of housing types to serve the housing needs of the county's labor force, special needs groups, and families of all income levels. **Goal 3:** Continue to facilitate the provision of housing suited to persons with special housing needs. **Goal 4:** Facilitate the provision of fair housing opportunities for all residents of Imperial County. **Goal 5:** Encourage the improvement, rehabilitation, and revitalization/ reinvestment of the county's existing residential neighborhoods. **Goal 6:** Promote sustainable development by encouraging the inclusion of energy conservation features in new and existing housing stock. **Goal 7:** Encourage and facilitate the regional coordination of public agencies and business organizations to maximize public and private sector resources that will support a vibrant community. **Goal 8:** Pursue actions to reduce regulatory constraints to housing that impede housing opportunities.
Los Angeles[b]	**Goal 1:** A wide range of housing types in sufficient supply to meet the needs of current and future residents, particularly for persons with special needs, including but not limited to low income households, seniors, persons with disabilities, large households, single-parent households, the homeless and at risk of homelessness, and farmworkers. **Goal 2:** Sustainable communities with access to employment opportunities, community facilities and services, and amenities. **Goal 3:** A housing supply that ranges broadly in housing costs to enable all households, regardless of income, to secure adequate housing. **Goal 4:** A housing delivery system that provides assistance to low- and moderate-income households and those with special needs. **Goal 5:** Neighborhoods that protect the health, safety, and welfare of the community, and enhance public and private efforts to maintain, reinvest in, and upgrade the existing housing supply. **Goal 6:** An adequate supply of housing preserved and maintained in sound condition, and located within safe and decent neighborhoods. **Goal 7:** An affordable housing stock that is maintained for its long-term availability to low- and moderate-income households and those with special needs. **Goal 8:** Accessibility to adequate housing for all persons without discrimination in accordance with state and federal fair housing laws. **Goal 9:** Planning for and monitoring the long-term affordability of adequate housing.
Orange[c]	**Goal 1:** An adequate supply of housing that varies sufficiently in cost, style, tenure, and neighborhood type to meet the economic and social needs of every existing and future resident of the county; and which provides sufficient housing opportunities to achieve a better jobs-housing balance for employees of businesses located in the unincorporated area. **Goal 2a:** To conserve and improve the condition of the existing housing stock, especially affordable housing. **Goal 2b:** Work cooperatively with cities and LAFCO to facilitate the annexation and revitalization of urbanized unincorporated islands. **Goal 3:** To promote equal housing opportunities for all persons without discrimination on the basis of race, religion, ethnicity, sex, age, marital status, disability, or household composition. **Goal 4:** Reduce residential energy use within the County. **Goal 5:** To encourage the provision of child care facilities in new affordable housing developments. **Goal 6:** To monitor changing circumstances and make adjustments to County programs as necessary to maximize progress toward established goals and objectives.
Riverside[d]	**Goal 1:** To assist in the development of adequate housing to meet the county's fair share of the region's housing needs for all

County	County and City Policies and Ordinances
	economic segments of the population, with an emphasis on lower-income households and households with special needs.
	Goal 2: To conserve and improve the condition of the housing stock, particularly affordable housing.
	Goal 3: To promote equal housing opportunities for all persons regardless of race, age, sexual orientation, religion, sex, etc.
	Goal 4: Establish adequate planning, administrative and fiscal tools to implement housing policies
	Goal 5: Reduce per capita residential energy use.
San Bernardino[e]	**Goal H-1:** A broad range of housing types in sufficient quantity, location, and affordability levels to meet the lifestyle needs of current and future residents, including those with special needs.
	Goal H-2: An efficient administrative process that recognizes the need for efficient and timely review of residential projects while also ensuring and valuing the need for quality design, environmental review, and planning.
	Goal H-3: Neighborhoods that protect the health, safety, and welfare of the community, and enhance public and private efforts in maintaining, reinvesting in, and upgrading the existing housing stock.
	Goal H-4: Assist in the development, maintenance, modernization, and preservation of affordable housing; provide assistance where feasible for residents to rent or purchase adequate housing in San Bernardino County.
	Goal H-5: Ensure an integrated planning and monitoring system whereby housing, employment, environmental, and other program data are integrated in a cohesive manner to implement the County's housing vision.
Ventura[f]	**Goal 1:** Monitor the rate and distribution of growth within the cities and unincorporated area of the County, and ensure that the population and dwelling unit forecasts of the County General Plan are periodically updated and are consistent with the cities' and County's General Plans and the ability to provide adequate public facilities and services.
	Goal 2: Ensure that the rate and distribution of growth within the County does not exceed the capacity of public facilities and services to meet the needs of the County's population and to protect the public health, safety, and welfare.
	Goal 3: Preserve the condition of the existing housing stock and the continuing affordability of currently affordable units.
	Goal 4: Continue and expand, where feasible, existing housing rehabilitation programs.
	Goal 5: Increase housing opportunities for households of all income levels, with special emphasis on lower-income households, senior citizens, mentally ill, single heads of household, large families, farmworkers, handicapped and homeless.
	Goal 6: Promote a diversity of housing types, tenure, and price.
	Goal 7: Promote housing opportunities for all persons regardless of race, religion, sex, marital status, age, ancestry, national origin, color, or socio-economic status by attempting to eliminate discrimination in housing through support of Federal, State and local fair housing laws and policies.
	Goal 8: Ensure that the Population and Housing Section of the County General Plan and new housing developments are consistent with the goals, objectives and policies of the various Area Plans and other County adopted plans and policies. Ensure that Area Plans are consistent with the goals, objectives and policies of the Population and Housing Section of the County General Plan.
	Goal 9: Ensure that the Population and Housing Section of the County General Plan is kept current by updating population data on an ongoing basis; by reassessing the goals, objectives and policies of the Population and Housing Section; and by evaluating the effectiveness of the Section's programs as specified by State law.

Sources:

a County of Imperial. 2013. 2014-2021 Housing Element. Available online at: http://www.icpds.com/CMS/Media/3_ImperialCountyHE_-FINAL_9-27-13.pdf, accessed November 5, 2019.

b County of Los Angeles. Los Angeles County Housing Element, 2014-2021. Available online at: http://planning.lacounty.gov/assets/upl/project/housing_element.pdf, accessed November 5, 2019.

c County of Orange. 2013. Housing Element. Available online at: https://www.ocgov.com/civicax/filebank/blobdload.aspx?blobid=33606, accessed November 5, 2019.

d County of Riverside. 2017. Riverside County Strategic Plan, Chapter 8- Housing Element 2017-2021. Available online at: https://planning.rctlma.org/Portals/14/genplan/general_Plan_2017/elements/OCT17/Ch08_Housing_100317.pdf?ver=2017-10-23-162929-533, accessed November 5, 2019.

e County of San Bernardino. County of San Bernardino 2013-2021 Housing Element. Available online at: http://www.sbcounty.gov/uploads/lus/pc/Draft%205th%20Cycle%20Housing%20Element%20County%20of%20San%20Bernardino%20-%202013-2021%20-%20Website.pdf*, accessed November 5, 2019.*

f County of Ventura. 2019. Ventura County General Plan Goals, Policies, and Programs. Available online at: https://docs.vcrma.org/images/pdf/planning/plans/Goals-Policies-and-Programs.pdf, accessed November 5, 2019.

Local Coastal Programs

The Local Coastal Programs (LCPs) are local planning tools to monitor development and permitting in coastal areas. There are three counties and 27 cities within the SCAG region with coastlines that are mandated to prepare LCPs as a result of the California Coastal Act of 1976.[27] The LCPs prepared by these local jurisdictions may contain goals and policies related to housing type, location, and affordability.[28]

3.14.3 ENVIRONMENTAL IMPACTS

3.14.3.1 Thresholds of Significance

For the purposes of this PEIR, SCAG has determined that adoption and/or implementation of the Plan would result in significant impacts to the region's population and housing resources, if either of the following would occur:

- Induce substantial unplanned population growth to areas of the region either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., by extending roads and other infrastructure); and/or

- Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

3.14.3.2 Methodology

The methodology for determining the significance of population and housing impacts compares the existing conditions to future (2045) conditions, as required in CEQA Section 15126.2(a).

The Plan includes transportation projects as well as land use and transportation strategies that may influence population, housing and employment growth and distribution. Forecasted land use patterns are developed to accommodate growth projections by identifying distribution and anticipated land uses that may allow for well-planned growth. SCAG holds growth projection numbers constant at the county and regional level, meaning that as the distribution of population, housing and employment changes, the total numbers remain constant. In sum, the Plan includes a growth forecast, land use and transportation strategies, and projected land use patterns which are integrated with the transportation network and

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27 California Legislative Information. *AB-976*.

28 California Coastal Commission. *Local Coastal Programs*. Available online at: https://www.coastal.ca.gov/lcps.html, accessed August 29, 2019.

investments (see Section 2.0, Project Description). This PEIR evaluates a range of feasible alternatives that consider the possibility of different growth patterns (see **Chapter 4.0, Alternatives**).

Although land use development would occur with or without the Plan, Connect SoCal has the potential to influence growth distribution patterns throughout the region, partially by encouraging new growth in existing urbanized areas and high-quality transit areas (HQTAs). To address this, the analysis in the PEIR covered overall impacts of transportation projects and anticipated land development patterns described in the Plan.

Transportation projects in the Plan were reviewed to identify those that may involve right-of-way (ROW) acquisition and the potential for displacement of homes and businesses. These projects that might require acquisition of right of way (ROW) were analyzed with a 500-foot buffer with a geographic information system (GIS) to generally identify locations within areas of residential land use that had the potential for large displacement of existing homes and businesses**.**

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

3.14.3.3 Impacts and Mitigation Measures

Impact POP-1 **Induce substantial unplanned population growth to areas of the region either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., by extending roads and other infrastructure).**

Significant and Unavoidable Impact – Mitigation Required.

The Plan includes land use strategies and transportation projects and supporting strategies that generally encourage population growth in urbanized areas and HQTAs. Land use strategies in the Plan include focusing growth near destinations and mobility options, promoting diverse housing choices, leveraging technology innovations, supporting implementation of sustainability policies, and promoting a green region. Implementation of these strategies may result in increased population densities in some urban

Due to the Plan's land use strategies that focus on compact development, there is potential to induce growth in some areas of the region although overall the Plan accommodates anticipated growth rather than inducing growth.

Transportation strategies included in the Plan such as TSM and complete streets would support increased density in existing urban areas by facilitating travel and would not be expected to induce population growth as these projects are growth accommodating and generally are aimed at improving the existing transportation networks.

Transportation projects such as new and expanded light and heavy rail projects, while not adding new homes or businesses directly, have the potential to create demand for new development around transit stations. However, many communities foresee these types of development, and plan for them accordingly.

Generally, most jurisdictions have started planning for this increase in density in urban areas and the Plan builds on local input (and is not intended to result in re-designation of areas where such re-designation is not approved by the local agency). However, there remains the potential for the Plan's strategies to influence population growth in areas where local general plans have not yet been updated to reflect such growth. Therefore, implementation of the Plan would have the potential to induce unplanned growth in some areas of the region resulting in a significant impact, requiring mitigation measures.

As discussed in **Section 2.0, Project Description**, as well as earlier in this section, the Plan's population, housing and employment growth forecast includes the projected population distribution that would occur in 2045 if the policies and investments included in the Plan were to be implemented. The growth forecast is based on local input, with a distribution of growth in urbanized areas, and within and around HQTAs, and other minor modifications at a regional policy level. The total SCAG region population is expected to increase by approximately 3.2 million persons by 2045. The land use development pattern of the Plan assumes a significant increase in small-lot, single-family, and multi-family housing that is expected to mainly occur in infill locations near transit infrastructure within HQTAs, including livable corridors[29] and neighborhood mobility areas.[30] In 2018, 55 percent of total housing units were single-family units and 45 percent were multi-family units. The Plan projects that in 2045, 39 percent of new homes in the SCAG region will be single-family units and 61 percent multi-family units.[31]

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29 Most Livable Corridors would be located within HQTAs.

30 Neighborhood mobility areas are conducive to active transportation and include a "complete streets" approach to roadway improvements to encourage replacing single- and multi-occupant automobile use with biking, walking, skateboarding, neighborhood electric vehicles and senior mobility device.

31 SCAG modeling SPM Output, September 13, 2019.

In 2045, 27 percent of households are anticipated to be large-lot single-family units, 23 percent small-lot single-family units, 8 percent townhome units, and 42 percent multi-family units.[32] Government Code Section 65080(b)(2)(B)(ii) requires that the RTP/SCS must accommodate all the population of the region, including all economic segments of the population, over the course of the planning period of the regional transportation plan. In accordance with requirement, this projected housing mix would help the region accommodate the projected housing needs over the life of the Plan, especially housing at the lower income categories.

As mandated by State Housing Law as part of the periodic (every eight years) process of updating local housing elements of the General Plan, SCAG is responsible for the allocation of regional housing need to jurisdictions in the region. As discussed in the Regulatory Framework above, SCAG is in the process of developing its 6th cycle RHNA Allocation Plan, which is expected to be adopted in 2020. The current RHNA Allocation Plan, which will cover the planning period from October 2021 through October 2029, is planned for adoption by SCAG's governing body, Regional Council, in October 2020.[33] As discussed above, local jurisdictions are required to plan and zone to accommodate their respective RHNA allocation (housing units). Communities may use the RHNA in land use planning, prioritizing local resource allocation, and in deciding how to address identified existing and future housing needs resulting from population, employment, and household growth.[34]

Implementation of the Plan's land use development pattern would accommodate 48 percent of the region's future household growth and 59 percent of the future employment growth in HQTAs,[35] while keeping jurisdictional totals consistent with local input. It moves the region towards more compact, mixed-use development with a variety of housing types leading to more opportunities for walking and biking, more transit use, and shorter auto trips. Additionally, the integrated transportation investments and land use strategies in the Plan would influence economic (jobs) and household growth in some areas, such as HQTAs, and could remove some obstacles to growth in other parts of the region. Specifically, improved accessibility and connectivity potentially gained from transportation investments in the Plan could facilitate population and economic growth in areas of the region that are currently not developed or underdeveloped. Therefore, implementation of the Plan would have a potential to indirectly induce unplanned growth in some areas of the SCAG region, requiring the consideration of mitigation measures.

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32 SCAG modeling SPM Output, September 13, 2019.

33 Southern California Association of Governments. *Regional Housing Needs Assessment (RHNA) & Housing*. Available online at: http://www.scag.ca.gov/programs/pages/housing.aspx, accessed September 3, 2019.

34 Ibid.

35 SCAG modeling, SPM Output, October 1, 2019.

Mitigation Measures

SCAG Mitigation Measures

SMM-POP-1: SCAG shall promote the Sustainability Program which will provide technical assistance to local jurisdictions that support local planning and implementation of the Connect SoCal Plan. The program recognizes sustainable solutions to local growth challenges and will result in local plans that promote sustainability through the integration of transportation and land use. For more information please visit: http://sustain.scag.ca.gov/Documents/Sustainable%20Communities%20Program%20Guidelines.pdf.

SMM-POP-2: SCAG shall provide technical assistance to local governments, transit agencies and developers within the region to build housing capacity to compete in the statewide Affordable Housing Sustainable Communities (AHSC) grants program. The AHSC program is one of the few state funding opportunities to address housing shortages within the state. For more information please visit: http://ahsc.scag.ca.gov/Pages/Home.aspx.

SMM-POP-3: SCAG shall host summits that addresses the housing crisis and provides solutions to build more housing. Examples include the 2016 Housing Summit (http://www.scag.ca.gov/SiteAssets/HousingSummit/index.html) and the Eighth Annual Economic Summit (https://www.scag.ca.gov/calendar/Pages/8thEconomicSummit.aspx).

SMM-POP-4: SCAG shall continue to produce the biennial Local Profile reports for all member jurisdictions in the SCAG region for the purpose of data and information sharing. The Local Profiles reports provide a variety of demographic, economic, education, housing, and transportation information that local jurisdictions can utilize like project and program planning. For more information about the most recently release 2019 Local Profiles, please visit: http://www.scag.ca.gov/DataAndTools/Pages/LocalProfiles.aspx.

Level of Significance after Mitigation

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

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

Impact POP-2 Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

Significant and Unavoidable Impact – Mitigation Required.

The construction of transportation projects that require expansion of existing or designation of new ROWs have the potential to result in the displacement of existing people and housing, necessitating the construction of replacement housing, thereby constituting a potentially significant impact. In general, transportation projects included in the Plan would attempt to use existing ROWs to the maximum extent feasible. However, the development of some highway, arterial, transit and rail projects included in the Plan would result in the disturbance and/or loss of residential and business uses. Connect SoCal includes system expansion projects, such as new freeway lane miles and new transit track miles, which have the potential to result in the loss of land currently used for residential and business purposes. In past regional transportation plans, SCAG has envisioned a system of truck-only lanes extending from the San Pedro Bay Ports to downtown Los Angeles along the I-710, connecting to an east-west segment, and finally reaching the I-15 in San Bernardino County (the East-West Freight Corridor). However, in March 2018, Metro Board of Directors selected Alternative 5C as the Locally Preferred Alternative for the I-710 Corridor project. This alternative reduced the extent of the truck-only lanes of the project, terminating at Del Amo Boulevard, south of SR-91 and well short of downtown Los Angeles connection to the East-West Freight Corridor along SR-60. Overall, the I-710 corridor project would add one lane in each direction between Long Beach and the SR-60 Freeway.[36] Based on analysis by Metro and Caltrans, Alternative 5C would acquire 109 homes and 158 businesses to expand the freeway, resulting in the displacement of an estimated 436 people.[37] Additional goods movement projects included in the Plan, such as grade separations, also have the potential to displace homes or businesses, as many of the areas where grade separations are proposed would be in developed urban areas.

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36 Metro The Source. *710 project OK'd but widening deferred.* March 1, 2018. Available online at: https://thesource.metro.net/2018/03/01/board-approves-alternative-for-710-but-defers-decision-on-widening/, accessed October 28, 2019.

37 Los Angeles Times. *Metro staff support a $6-billion widening of the 710 Freeway.* February 13, 2018. Available online at: https://www.latimes.com/local/lanow/la-me-710-freeway-south-20180213-story.html, accessed October 28, 2019.

Geographic information systems (GIS) was used to analyze where major freeway, rail, and transit projects, such as those described above, would intersect areas used for residential development. A 500-foot potential impact zone was drawn around the freeway, rail and transit projects in the Plan to compute the number of acres that could potentially be affected by the construction and operation of major transportation projects in the Plan.

Table 3.14-10, Potential Displacement of Existing Residential and Commercial Land Uses (in Acres), shows the results of the analysis with the potential acreage of these affected areas by county.

Displacement of housing was assessed by evaluating the location of major transportation projects in relation to surrounding land uses and community development. Highway and transit/rail extensions and major interchange projects were assumed to have a higher potential to disrupt or divide existing communities since they would involve the creation of new roadways. Highway widening and other projects along established transportation rights-of-way were assumed to have a lower potential to divide or disrupt existing communities and neighborhoods. As shown in the table, a total of 20,138 homes or businesses could be affected by the Plan's transportation projects. The analysis is based on general descriptions of transportation projects listed in the Plan and is regional and programmatic in nature.

Table 3.14-10
Potential Displacement of Existing Residential and Commercial Land Uses (in Acres)

Land Use	County						Total
	Imperial	Los Angeles	Orange	Riverside	San Bernardino	Ventura	
Commercial and services	64	1,369	635	821	874	532	4,295
General office	6	468	269	284	359	130	1,516
Industrial	3	2,203	208	719	570	193	3,895
Mixed commercial and industrial	-	8	0.7	131	30	7	179
Mixed residential	-	111	-	5	34	11	160
Mixed residential and commercial	-	237	78	59	75	133	581
Mobile homes and trailer parks	13	157	62	199	71	53	555
Multi-family residential	3	697	391	389	222	121	1,823
Rural residential	-	208	-	301	192	0.5	702
Single-family residential	35	3,258	1,018	983	880	260	6,434
Total	**123**	**8,716**	**2,662**	**3,890**	**3,307**	**1,441**	**20,138**

Source: SCAG, 2019

In total, the Plan includes approximately 6,346 new lane miles including freeways, toll roads, major and minor arterials, collectors, high-occupancy toll (HOT), and high-occupancy vehicle (HOV) lanes.[38] These transportation facilities including freeways, toll roads, major and minor arterials, collectors, high-occupancy toll (HOT), and high-occupancy vehicle (HOV) lanes could displace homes and businesses in the region, constituting a significant impact requiring the consideration of mitigation measures.

Communities may be affected by the implementation of land use strategies included in Connect SoCal, that may influence infill development with the potential for displacement of substantial amounts of existing housing necessitating the construction of replacement housing elsewhere. The Plan includes land use strategies that would target the region's growth in the next 25 years into HQTAs, urban areas, and more walkable, mixed-use communities. Supported by other public amenities and transit services, housing in these areas tends to command higher premiums and may be attractive to more affluent residents and unaffordable to current residents in these areas. This phenomenon contributes to gentrification and displacement[39] that has occurred in parts of Los Angeles in recent years, including Hollywood, Venice, Echo Park, and Koreatown. As a result, existing housing in some communities in the region may be displaced and replaced with higher density housing, in particular within HQTAs. The proposed land use patterns are anticipated to accommodate 48 percent of the region's future household growth in HQTAs.[40]

As local governments seek to provide the region's population with housing and jobs in areas with active transportation opportunities or transit amenities, it is anticipated that changes would occur in existing communities. As such, the potential for "gentrification," or the displacement of lower-income residents, could occur if new development brings higher-income residents into a neighborhood. Neighborhood residents in areas of low income and/or enclaves of marginalized minorities may not benefit from planned transit investment, stations, and other amenities (e.g., walkways and bikeways) that come with this new neighborhood revitalization. More affluent and less diverse residents have the potential to displace them because new development near transit areas could be popular and unaffordable. Hence, the potential to directly or indirectly induce substantial population growth and displace a community in such an area could occur.

Concerns about indirect displacement of people have been raised regionwide, even where no changes to land use designations or zoning are planned. The rising cost of housing is currently a concern throughout much of the SCAG region and is reflective of the shortage of housing and stagnant incomes. The Los

38 Southern California Association of Governments, 2019

39 Southern California Association of Governments, Connect SoCal, 2019 p. 54.

40 SCAG modeling, 2019.

Angeles-Long Beach-Anaheim metro area is considered the most cost-burdened housing market in the nation with 46 percent of renters and owners being cost burdened. As set forth by the Department of Housing and Urban Development, those who spend between 30 to 49 percent of their income on housing costs are considered cost-burdened.[41] As population growth continues to outpace the production of housing units, the existing supply of housing is in higher demand which leads to higher rents/prices. This occurrence may result in displacement of renters and the need for people to move from their present location to an area further from their jobs. But there is no substantial evidence that there is a reasonable method to predict how many people may potentially be displaced over the Plan horizon. Additionally, there is no industry standard methodology available to forecast transportation, air, noise or other impacts associated with people who relocate as result of pricing pressures.

Local jurisdictions, including the City of Los Angeles, are evaluating and implementing responses to help relieve pressures on housing supply (e.g., Affordable Housing Linkage Fee, Accessory Dwelling Units Ordinance, Unapproved Dwelling Unit Ordinance, etc.). As properties are redeveloped, there could be temporary displacement of housing units due to the separation of time between removal and replacement of housing. This impact would be temporary, is expected to be spread over the timeframe of the Plan and would be offset by overall increases in housing development under the Plan.

Displacement of low-income renters is also a concern but it is generally a social and economic impact, which is not an impact analyzed under CEQA unless it results in an indirect physical impact.[42] An impact from displacement and/or gentrification is only an impact under CEQA if it results in a physical impact to the environment. As identified in Appendix G, those physical impacts could be from construction of new housing. It may also be from transportation or other impacts related to people driving longer distances. As noted above, there is currently no methodology for estimating the number of people who would relocate and identifying where they would relocate to.

In conclusion, despite the proposed land use strategies that could influence more housing development in urbanized areas, the Plan would have the potential to displace substantial amounts of existing housing, necessitating the construction or replacement of housing elsewhere, requiring the consideration of mitigation measures.

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41 Long Beach Post. *Harvard: LA-Long Beach-Anaheim metro is most cost-burdened housing market in the nation.* Available online at: https://lbpost.com/longbeachize/addison-harvard-metro-housing-cost-burdened-2019, accessed October 28, 2019.

42 *Porterville Citizens for Responsible Hillside Dev. v City of Porterville* (2007) 157 CA4th 885, 903 (claimed impact of new homes on existing home values is economic impact).

Mitigation Measures

SCAG Level Mitigation Measure

See **SMM-POP-4**.

SMM-POP-5: SCAG shall assist cities to identify funding and financing opportunities and potential partnerships for public infrastructure improvements for transit-oriented development and other smart growth projects.

Project Level Mitigation Measures

PMM-POP-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce the displacement of existing housing, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

a) Evaluate alternate route alignments and transportation facilities that minimize the displacement of homes and businesses. Use an iterative design and impact analysis where impacts to homes or businesses are involved to minimize the potential of impacts on housing and displacement of people.

b) Prioritize the use existing ROWs, wherever feasible.

c) Develop a construction schedule that minimizes potential neighborhood deterioration from protracted waiting periods between right-of-way acquisition and construction.

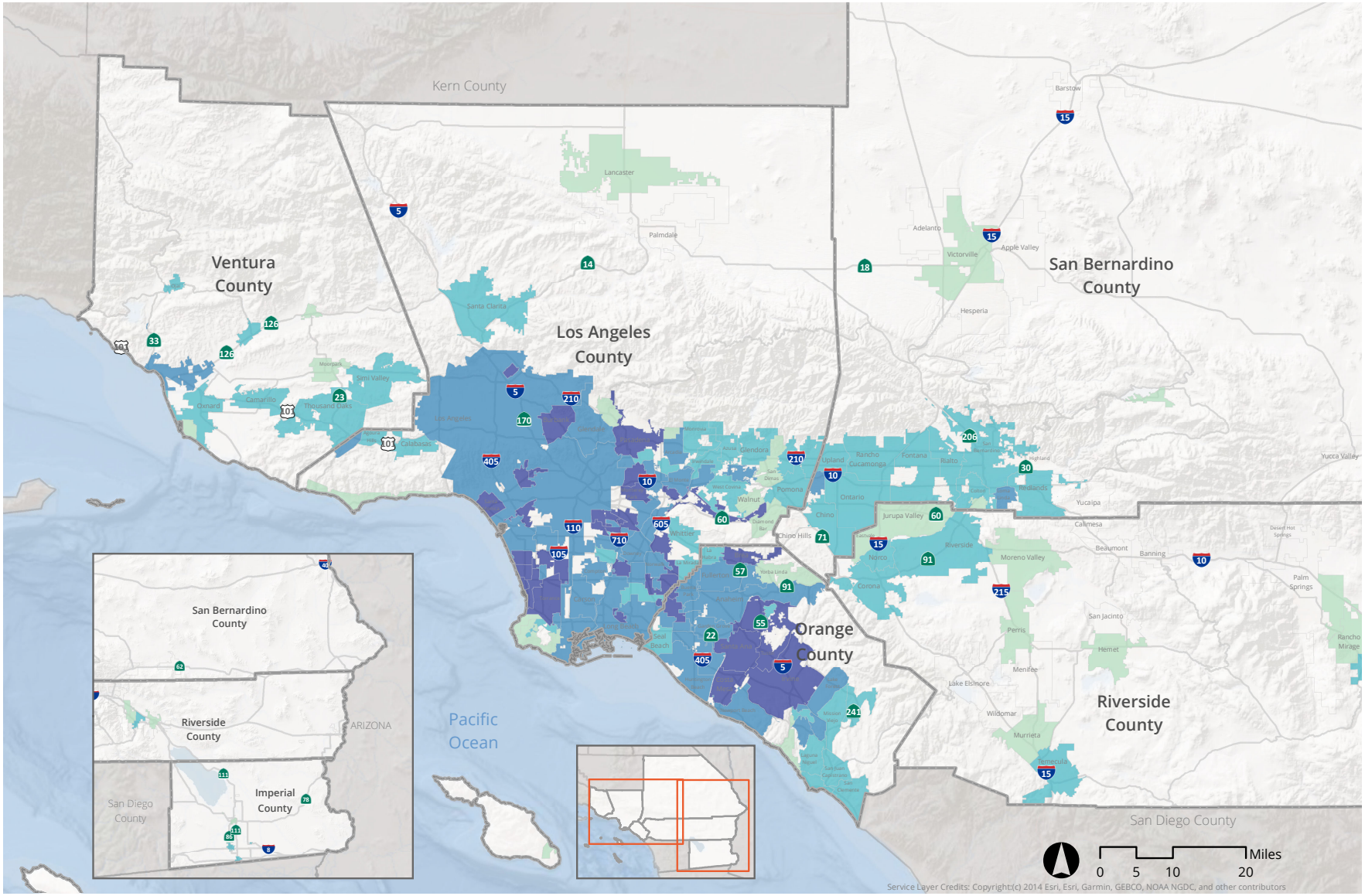
d) Review capacities of available urban infrastructure and augment capacities as needed to accommodate demand in locations where growth is desirable to the local lead Agency and encouraged by the SCS (primarily TPAs, where applicable).

e) When General Plans and other local land use regulations are amended or updated, use the most recent growth projections and RHNA allocation plan.

Level of Significance after Mitigation

As discussed above, regulations and policies would reduce impacts, but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing

regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and SCAG's inability to require project-level mitigation measures, this PEIR finds impacts related to displacement of existing housing to be significant and unavoidable.



SOURCE: SCAG, 2019

FIGURE **3.14-1**

IMPACT SCIENCES

Employment Density in the SCAG Region

1329.001•11/19

3.14.4 Sources

American FactFinder. 2017. *2017 Population Estimates.* Available online at: https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml, accessed January 29, 2018.

Bureau of Labor Statistics, *The Employment Situation—August 2019.* Available online at: https://www.bls.gov/news.release/pdf/empsit.pdf, accessed September 16, 2019.

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3.15 PUBLIC SERVICES

This section of the Program Environmental Impact Report (PEIR) describes the existing public services within the SCAG region, identifies the regulatory framework with respect to laws and regulations that affect public services, and analyzes the potential impacts of the Connect SoCal Plan ("Connect SoCal"; "Plan"). In addition, this PEIR provides regional-scale mitigation measures as well as project-level mitigation measures to be considered by lead agencies for subsequent, site-specific environmental review to reduce identified impacts as appropriate and feasible. Other fire protection considerations are addressed in **Section 3.20, Wildfire,** in addition emergency access is addressed in **Section 3.17, Transportation, Traffic, and Safety,** and emergency response and evacuation plans are addressed in **Section 3.9, Hazards and Hazardous Materials.**

3.15.1 DEFINITIONS

County Offices of Emergency Services (OES): The County OESs provide emergency management and preparedness services to the unincorporated areas of the six counties within the SCAG region. Each OES is responsible for alerting and notifying appropriate agencies when disaster strikes, coordinating all agencies that respond, ensuring resources are available and mobilized in times of disaster, developing plans and procedures for response to and recovery from disasters, and developing and providing preparedness materials for the public. These responders include fire departments, police and sheriff department, hospitals, ambulance services, and transportation agencies. Coordination among public and private agencies within various cities and counties make the most use of all available resources in the event of any emergency. While each city and county has its own security procedures, the policies are generally similar. Mutual Aid agreements between cities, counties, and private organizations help to maximize resources and reduce the human suffering associated with disaster situations.

Federal Emergency Management Agency (FEMA): FEMA is a federal agency that has served America since 1979 to support U.S. citizens and first responders to ensure that the nation works together to build, sustain, and improve its capacity to prepare for, protect against, respond to, recover from, and mitigate all hazards.[1] FEMA coordinates the federal government's role in preparing for, preventing, mitigating the effects of, responding to, and recovering from all domestic disasters, whether natural or man-made, including acts of terror. FEMA is part of the DHS.

Governor's Office of Emergency Services (Cal OES): Cal OES is the state agency charged with the responsibility to assist local government in preparing for and responding to any type of natural or

[1] Federal Emergency Management Agency. *About the Agency*. Available online at: http://www.fema.gov/about-agency, accessed March 27, 2019.

manmade disaster in California. Cal OES protects the lives and property, build capabilities, and supports communities for a resilient California. Cal OES has six goals relevant to public services: (1) anticipate and enhance prevention and detection capabilities to protect the state from all hazards and threats; (2) strengthen California's ability to plan, prepare for, and provide resources to mitigate the impacts of disasters, emergencies, crimes, and terrorist events; (3) effectively respond to and recover from both human-caused and natural disasters; (4) enhance the administration and delivery of all state and federal funding, and maintain fiscal and program integrity; (5) develop a united and innovative workforce that is trained, experienced, knowledgeable, and ready to adapt and respond; and (6) strengthen capabilities in public safety communication services and technology enhancements.[2]

Joint Field Office (JFO): A temporary Federal facility established locally to provide a central point for Federal, State, local, and tribal executives with responsibility for incident oversight, direction, and/or assistance to effectively coordinate protection, prevention, preparedness, response, and recovery actions. In the event of multiple incidents, multiple JFOs may be established at the discretion of the Secretary of Homeland Security.

Master Mutual Aid Agreements (MAA): FEMA encourages federal, state, local, and tribal governments to enter into agreements to assist one another. Immediately following the 1994 Northridge earthquake, city and county emergency managers in the CalOES coastal, southern, and inland regions developed a coordinated emergency management concept called the Emergency Managers Mutual Aid (EMMA) system. The purpose of EMMA is to support disaster operations in affected jurisdictions by providing professional emergency management personnel from unaffected areas to support local jurisdictions, Operational Areas, and regional emergency operations during proclaimed emergencies; providing a system, including an organization, information, and forms necessary to coordinate the formal request, reception, assignment, and training of assigned personnel; establishing a structure to maintain this document (the Emergency Managers Mutual Aid Plan) and its procedures; providing for the coordination of training for emergency managers, including Standardized Emergency Management System (SEMS/NIMS) training, emergency management course work, exercises, and disaster response procedures; and promoting professionalism in emergency management.[3]

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2 Governor's Office of Emergency Services. *About Cal OES*. Available online at: https://www.caloes.ca.gov/Cal-OES-Divisions/About-Cal-OES, accessed August 20, 2019.

3 Governor's Office of Emergency Services. 2012. *State of California Emergency Management Mutual Aid Plan*. Available online at: https://www.caloes.ca.gov/PlanningPreparednessSite/Documents/EMMA%20PlanAnnexes%20A-F,%202012.pdf, accessed August 20, 2019.

National Incident Management System/Standardized Emergency Management System (NIMS): The NIMS is a tool for states, counties and local jurisdictions to respond to catastrophic events through better communication and coordination. NIMS provides a consistent nationwide template to enable federal, state, local, and tribal governments and private sector and nongovernmental organizations to work together effectively and efficiently to prepare for, prevent, respond to, and recover from domestic incidents, regardless of cause, size, or complexity, including acts of catastrophic terrorism.[4]

National Preparedness System (NPS): The NPS, also a part of FEMA, is a part of NIM. The NPS is intended to be used by individuals, families, communities, the private and nonprofit sectors, faith-based organizations, and local, state, tribal, territorial, insular area, and federal governments to achieve the National Preparedness Goal.[5]

Transportation Management Centers (TMCs): The California Department of Transportation (Caltrans), in conjunction with the California Highway Patrol (CHP), has created TMCs to rapidly detect and respond to incidents while managing the resulting congestion. For the SCAG region, Caltrans Districts 7, 8, 11, and 12 all have TMCs. [6]

Transportation Security Administration (TSA): The TSA is a component of the DHS and is responsible for security of the nation's transportation systems. The TSA is responsible for security at airports in the SCAG region. With state, local, and regional partners, the TSA oversees security for highways, railroads, buses, mass transit systems, and ports.[7] A vast majority of its resources are dedicated to aviation security and is primarily tasked with screening passengers and baggage.

Unified Coordination Group (UCG): Unified Coordination Group (UCG) is a temporary federal multi-agency coordination center established locally to facilitate field-level domestic incident management activities related to prevention, preparedness, response and recovery when activated by the Secretary of Homeland Security. The JFO provides a central location for coordination of federal, state, local, tribal, nongovernmental and private-sector organizations with primary responsibility for activities associated with threat response and incident support.[8]

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4 FEMA. 2017. *National Incident Management System.* Available online at: https://www.fema.gov/media-library-data/1508151197225-ced8c60378c3936adb92c1a3ee6f6564/FINAL_NIMS_2017.pdf, accessed August 20, 2019.

5 FEMA. 2019. *National Mitigation Framework*. Available online at: https://www.fema.gov/national-mitigation-framework, accessed August 20, 2019.

6 Caltrans. *Caltrans Near Me.* Available online at: https://dot.ca.gov/caltrans-near-me, accessed August 20, 2019.

7 Transportation Security Administration. *Surface Transportation*. Available online at: https://www.tsa.gov/for-industry/surface-transportation

8 FEMA. *Glossary*. Available online at: https://emilms.fema.gov/IS822/glossary.htm#U, accessed August 20, 2019.

United States Coast Guard: The Coast Guard is both a federal law enforcement agency and a military force that operates as part of the DHS in times of peace to enforce the nation's laws at sea, protecting the marine environment, guarding the nation's vast coastlines and ports, and performing vital lifesaving missions. In times of war, or at the direction of the president, the Coast Guard serves as part of the Navy Department, defending the nation against terrorism and foreign threats. Since September 2001, the United States Coast Guard has assumed a dynamic role in protecting major ports. In addition, more than 3,500 volunteer Coast Guard Auxiliary members assist in many Coast Guard mission areas, including Boating Safety and Search and Rescue.[9]

United States Department of Defense (DOD): In the case of a large-scale emergency, the DOD is authorized to provide resources when response and recovery requirements are beyond the capabilities of civilian authorities and these efforts do not interfere with the DOD's core mission or ability to respond to operational contingencies. Requests for Defense Support to Civilian Authorities (DSCA) are made through the local, county, and state authorities as a request for assistance to the federal coordinating official in the appropriate lead federal agency and is normally accompanied by, or submitted after a request from the governor for a disaster declaration from the president. The California National Guard may be activated as part of the DSCA and can provide law enforcement support, crisis management, and consequence management services. Activation of the National Guard for local support during emergencies is done by the governor via CalOES.[10]

United States Department of Homeland Security (DHS): The DHS was established after the September 11, 2001, terrorist attacks as an office to oversee and coordinate a comprehensive national strategy to safeguard the country against terrorism and respond to any future attacks.[11] In 2003, DHS formally became a Cabinet-level department to further coordinate and unify national homeland security efforts. The vision of DHS is to ensure a homeland that is safe, secure, and resilient against terrorism and other hazards.

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9 U.S. Coast Guard. *The Coast Guard: America's Oldest Maritime Defenders*. Available online at: https://www.gocoastguard.com/about-the-coast-guard/learn-the-history, accessed August 20, 2019.

10 U.S. Army Reserve. *Defense Support of Civil Authorities: Inside the Army Reserve*. Available online at: https://www.usar.army.mil/DSCA/, accessed August 20, 2019.

11 U.S. Department of Homeland Security. *Creation of the Department of Homeland Security*. Available online at: http://www.dhs.gov/creation-department-homeland-security, accessed March 27, 2019.

3.15.1 Fire Protection

3.15.1.1 ENVIRONMENTAL SETTING

3.15.1.1.1 Fire Protection Services

Fire protection within the SCAG region includes a variety of federal, state, county, city and local fire protection agencies. The primary fire protection services occur at the community level with city and county fire departments and fire protection districts providing this service. Also serving as fire protection services are a variety of volunteer fire companies. In addition, there are fire protection agencies that provide fire protection services within state and federal lands. These agencies include but are not limited to federal fire agencies (Bureau of Land Management, National Park Service, National Forest Service, Department of Defense, etc.), state forestry department, airport and harbor fire departments, and in some instances business sponsored fire departments (i.e., refineries). Each agency provides fire protection services within their own area of responsibilities, but they can call upon other agencies for fire support through mutual aid agreements. Generally, fire departments take proactive and preventative measures to provide fire suppression and emergency response services for all private, institutional, and public facilities within their area of responsibility.

Wildfires

Section 3.20, Wildfire, discusses in more detail the wildfire hazards and existing conditions within the SCAG region, as well as identifies the regulatory framework with respect to regulations that address wildfire and evaluates the significance of impacts that could result from the proposed Plan.

The wildfire season in southern California typically lasts six to eight months from summer to fall (although climate change has resulted in drier, hotter weather and longer fire seasons). Hazards arise from a combination of hot weather, the accumulation of dried vegetation, and low moisture content in the air. These conditions, if coupled with high winds and drought, can compound the risk and potential impact of a fire. Fires are usually classified as either urban fires or wildland fires. However, growth into rural areas has increased the number of people living in heavily-vegetated areas where wildlands meet urban development, also referred to as the wildland-urban interface. This trend is spawning a third classification of fires: the urban wildfire. A fire along the wildland-urban interface (as was seen recently in Ventura and Los Angeles counties with the Woolsey Fire) can result in major losses of property and structures.

Three major factors sustain wildfires and allow for predictions of a given area's potential to burn. These factors include fuel, topography, and weather. Certain areas in and surrounding the region are extremely

vulnerable to fires as a result of dense, grassy vegetation combined with a growing number of structures being built near and within rural areas. CAL FIRE has developed maps indicating fire hazard severity zones in each county across California.

Urban Fires

Urban fires occur in developed areas and include structural, chemical, and vehicular-related fires. Structural fires can result from mechanical failures, accidental occurrences, or arson. The building materials used in various structures can limit or be a catalyst for the spread of structural fires. Although structural fires can occur in any developed area, non-sprinklered commercial buildings in downtown areas and dwelling units in lower socio-economic areas appear to be more susceptible to fires, namely due to the age of the structures. Older structures are more susceptible to fire because they were built under older building standards and fire codes, are made from non-fire-resistive construction materials, and do not have internal sprinklers or other fire safety systems.

Urban-Wildland Fire

CAL FIRE has compiled a list of cities with Very High Fire Hazard Severity zones and has developed recommendations to local agencies for proper fire management within those areas. Within the SCAG region, Los Angeles County has 38 cities with such zones, Riverside County has 22, Orange County has 20, San Bernardino County has 15 and Ventura County has eight cities that CAL FIRE has recommended establishing Very High Fire Hazard Severity zones.[1]

Fire Protection Agencies

Fire suppression is the responsibility of various fire departments and districts, which often also employ paramedics for emergency medical services. The SCAG region has more than 100 county, city, or independent fire entities that provide fire prevention/suppression and emergency services throughout the area. Response times vary amongst the agencies, however urban areas usually maintain a standard around 6-minutes or less while response times in rural areas are around 10 minutes. County service covers unincorporated areas, independent fire districts, and municipalities that contract for fire protection and emergency services.

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1 CAL FIRE. 2019. *Fire Hazard Severity Zones Maps*. Available online at: https://osfm.fire.ca.gov/divisions/wildfire-prevention-planning-engineering/wildland-hazards-building-codes/fire-hazard-severity-zones-maps/ , accessed August 20, 2019.

Bureau of Land Management

The Bureau of Land Management (BLM) is a federal agency that manages the nation's subsurface mineral resources under the U.S. Department of the Interior. The land and minerals under BLM authority include, but are not limited to, forests, mountains, and rangelands.

BLM operates the Fire and Aviation program which works with state and field offices to provide a fire and aviation management program. BLM provides coordination with state offices to provide effective interagency activities and policy through the National Interagency Fire Center (NIFC) in Boise, Idaho. BLM's fire and aviation program has three organizational levels: (1) the national office which provides leadership and oversight, and develops policy, procedures and budgets for the fire and aviation program; (2) state offices which are responsible for coordinating policies and interagency activities within their state; and (3) field offices which are responsible for on-the-ground fire management and aviation activities, often partnering with other agencies to maximize rapid initial attack.[2]

BLM plays a primary role in the nation's wildland fire management efforts and undertakes a broad range of activities to protect the public, natural landscape, wildlife habitat, and recreational areas. BLM trains firefighters in fire suppression, preparedness, predictive services, vegetative fuels management, prescribed fire, community assistance and protection, and education.[3]

National Park Service

The National Park Service (NPS), a federal agency under the U.S. Department of the Interior, helps manage wildland fires in designated National Parks, such as Joshua Tree National Park. The NPS finds wildfires beneficial to ecosystems, but NPS fire staff are trained and equipped to aggressively put out an unwanted fire when it is necessary for resource protection or public safety.[4]

U.S. Forest Service

The National Forest Service (USFS) is a federal agency under the U.S. Department of Agriculture. Similarly, to the National Park Service, the USFS works with other agencies to manage wildland fires that

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2 U.S. Bureau of Land Management (BLM). *Fire and Aviation Program*. Available online at: https://www.blm.gov/programs/public-safety-and-fire/fire-and-aviation, accessed December 17, 2018.

3 Ibid.

4 National Park Service (NPS). 2018. About Us. Available online at: https://www.nps.gov/aboutus/index.htm, accessed December 17, 2018.

threaten lives, homes, communities, and natural and cultural resources.[5] The USFS provides assistance with fire protective services in wildland areas, including Angeles National Forest.

California Department of Forestry and Fire Protection (CAL FIRE)

CAL FIRE is an emergency response and resource protection department that protects lives, property, and natural resources from fire; responds to emergencies of all types, and protects and preserves timberlands, wildlands, and urban forests throughout the State of California, through cooperative efforts via contracts and agreements between state, federal, and local agencies to respond to emergencies including wildland and structure fires, earthquakes, floods, hazardous material spills, medical aids, and terrorist attacks.[6] CAL FIRE provides fire protection services to California's privately-owned wildlands and works in collaboration with counties and local governments to provide emergency services. CAL FIRE responds to medical aids; hazardous material spills; swiftwater rescues; search and rescue missions; civil disturbances; train wrecks; floods; earthquakes and more.[7]

Office of Emergency Services (OES)

The OES leads the Department of the Interior's emergency management efforts. The OES develops guidelines for emergency preparedness, response, recovery and mitigation to natural, man-made and technological disasters. The State of California has its own OES (Cal OES), which allows for similar efforts of emergency management on a relatively smaller scale.

CAL OES has three administrative regions, Inland, Coastal, and Southern. All of the counties within the SCAG region are located within the Southern Region. Cal OES coordinates disaster response between state agencies and local governments, and offers guidance and assistance for emergency preparedness, response and recovery. In addition, Cal OES manages Emergency Operations Centers (EOC) in various counties across the state and assists local governments in developing emergency plans.[8]

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5 U.S. Department of Agriculture (USDA). 2018. *U.S. Forest Service*. Available online at: https://www.fs.fed.us/, accessed January 5, 2018.

6 California Department of Forestry and Fire Protection (CAL FIRE). 2018. *What is CAL FIRE?* Available online at: https://www.fire.ca.gov/media/4925/whatiscalfire.pdf, accessed March 22, 2019.

7 California Department of Forestry and Fire Protection (CAL FIRE). *CAL FIRE Fire and Emergency Response*. Available online at: https://www.fire.ca.gov/media/4932/fireandemergencyresponse.pdf, accessed August 20, 2019.

8 California Office of Emergency Services (CAL OES). 2018. *Regional Operations*. Available online at: https://www.caloes.ca.gov/cal-oes-divisions/regional-operations, accessed January 5, 2019.

SCAG County Agencies

Imperial County

Fire protection in Imperial County is managed by the Imperial County Fire Department and OES. The County Fire Department maintains eight stations; these stations are located in the communities of Heber, Seeley, Ocotillo, Palo Verde, Niland, Winterhaven, and the City of the Imperial. Additionally, it contracts fire service with the cities of Brawley, Calipatria, Holtville, Westmorland, Salton City and Salton Sea Beach. Each County station is staffed with a captain, firefighter, and reserve firefighter, and has at least a Type I engine. Average response times are between 8 and 10 minutes.[9] In addition, the OES provides emergency management services for the County/Operational Area including its seven cities/towns and special districts.[10] Six cities in the county maintain their own fire departments.[11]

Los Angeles County

The Los Angeles County Fire Department (LACoFD) serves unincorporated areas of the County as well as 59 cities. In addition to emergency response, the LACoFD also conducts field and business inspections, maintains prevention data systems, reviews new plans and projects, and even serves filming and special events industries. The County is divided into three regions, further split into nine divisions and 22 battalions.[12] Response time goals for LACoFD are five minutes or less for urban areas, 8 minutes for suburban areas, and 12 minutes for rural areas. In addition to the County Fire Department, 20 cities in the County maintain their own fire departments.[13]

Orange County

The Orange County Fire Authority (OCFA) was created in 1995, under a Joint Power Authority established among the cities of Buena Park, Cypress, Dana Point, Irvine, Laguna Hills, Laguna Niguel, Lake Forest, La Palma, Los Alamos, Mission Viejo, Placentia, San Clemente, San Juan Capistrano, Seal beach, Stanton, Tustin, Villa Park, and Yorba Linda to provide fire prevention and emergency services to them and unincorporated areas within the County. The cities of Westminster, Laguna Woods, Rancho

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9 Imperial County. 1992. *General Plan Update Draft Environmental Impact Report.*

10 Imperial County. 2018. *Fire Department and Office of Emergency Services*. Available online at: http://www.co.imperial.ca.us/firedept/, accessed December 19, 2018.

11 FireDepartment.net. 2018. *California Fire Departments*. Available online at: https://beta.firedepartment.net/directory/california/, accessed December 19, 2018.

12 Los Angeles County. 2014. *2035 General Plan Update Draft Environmental Impact Report*. June. Available online at: http://planning.lacounty.gov/generalplan/ceqa, accessed August 20, 2019.

13 Ibid.

Santa Margarita, and Aliso Viejo also contract with the OCFA. There are 79 OCFA stations across the County and 12 cities maintain their own departments.[14,15]

Riverside County

Riverside County contracts with CAL FIRE for management of the Riverside County Fire Department (RCFD). The RCFD operates 94 fire stations across six service areas including 21 cities, although more than half of the stations are located in unincorporated areas. Additionally, the CalFire Riverside Unit serves portions of San Diego and Orange counties, and also operates 18 city fire departments and one community services district (CSD) fire department within Riverside County. The RCFD also assists various cities and communities under mutual and automatic aid agreements.[16]

San Bernardino County

The San Bernardino County Fire Department has a service area of more than 19,000 square miles and provides fire services to all 24 incorporated cities. The Fire Department maintains 65 active stations across six divisions and provides emergency response and fire protection and prevention services. The San Bernardino County Fire Department also manages hazardous waste programs, performs inspections and plan reviews, and assists with safety procedures at special events. The department is comprised of more than 1,000 personnel and maintains a variety of equipment such as boats, ambulances, Snow Cats, and a helicopter.[17]

Ventura County

The Ventura County Fire Protection District (VCFPD) provides fire prevention and suppression and rescue services. The VCFPD serves Camarillo, Moorpark, Ojai, Port Hueneme, Simi Valley and Thousand Oaks, as well as the unincorporated regions, including 860 square miles of forest reserve. The VCFPD is divided into four battalion areas and operates 31 fire stations across the County. The goal for average

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14 Orange County Fire Authority (OCFA). 2018. About Us. Available online at: https://www.ocfa.org/AboutUs/AboutOCFA.aspx#briefhistory, accessed December 19, 2018.

15 Orange County. 2018. *Fire Departments.* Available online at: http://www.ocgov.com/residents/law/safety/fire, accessed December 19, 2018.

16 County of Riverside. 2015. *General Plan Draft Environmental Impact Report.* January. Available online at: https://planning.rctlma.org/Zoning-Information/General-Plan/General-Plan-Amendment-No-960-EIRNo-521-CAP-March-2014/Draft-Environmental-Impact-Report-No-521, accessed August 20, 2019.

17 County of San Bernardino. 2018. *Annual Report*. Available online at: https://www.sbcfire.org/Portals/58/Documents/About/2017-18AnnualReport.pdf, accessed December 20, 2018.

response time for the District is under five minutes in urban areas and under seven minutes in rural areas.[18]

3.15.1.2 REGULATORY FRAMEWORK

3.15.1.2.1 Federal

Federal Emergency Management Act (FEMA)

FEMA's mission is to lead the effort to prepare the nation for all hazards and effectively manage federal response and recovery efforts following any national incident. FEMA also initiates proactive mitigation activities, trains first responders, and manages the National Flood Insurance Program and the U.S. Fire Administration.[19]

Disaster Mitigation Act of 2000

The Disaster Mitigation Act of 2000 (42 U.S.C. § 5121 note) was signed into law to amend the Robert T. Stafford Disaster Relief Act of 1988 (42 U.S.C. §5121-5207). Among other things, this new legislation reinforces the importance of pre-disaster infrastructure mitigation planning to reduce disaster losses nationwide, and is aimed primarily at the control and streamlining of the administration of federal disaster relief and programs to promote mitigation activities. Some of the major provisions of the Act include:

- funding pre-disaster mitigation activities;
- developing experimental multi-hazard maps to better understand risk;
- establishing state and local government infrastructure mitigation planning requirements;
- defining how states can assume more responsibility in managing the Hazard Mitigation Grant Program (HMGP); and
- adjusting ways in which management costs for projects are funded.

The mitigation planning provisions outlined in Section 322 of the Act establish performance based standards for mitigation plans and requires states to have a public assistance program (Advance Infrastructure Mitigation—AIM) to develop county government plans. The consequence for counties that

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18 Ventura County. 2005. *Draft Environmental Impact Report for Focused General Plan Update.* June. Available online at: https://www.cityofventura.ca.gov/DocumentCenter/View/2303/Final-EIR-for-the-2005-General-Plan-PDF?bidId=, accessed August 20, 2019.

19 FEMA. *About the Agency*. Available online at: https://www.fema.gov/about-agency, accessed August 20, 2019.

fail to develop an infrastructure mitigation plan is the chance of a reduced federal share of damage assistance from 75 percent to 25 percent if the damaged facility has been damaged on more than one occasion in the preceding ten-year period by the same type of event.[20]

3.15.1.2.2 State

California Constitution Article XIII Section 35

Section 35 of Article III of the California Constitution at subdivision (a)(2) provides: "The protection of the public safety is the first responsibility of local government and local officials have an obligation to give priority to the provision of adequate public safety services." Public safety services include fire protection. Section 35 of Article XIII of the California Constitution was adopted by the voters in 1993 under Proposition 172. Proposition 172 directed the proceeds of a 0.50 percent sales tax to be used exclusively for local public safety services. California Government Code (CGC) Sections 30051-30056 provide rules to implement Proposition 172. Section 30056 provides that cities are not allowed to spend less of their own financial resources on their combined public safety services in any given year compared to the 1992-93 fiscal year. Therefore, an agency is required to use Proposition 172 to supplement its local funds used on fire protection, as well as other public safety services. In City of Hayward v. Trustee of California State University (2015) 242 Cal. App. 4th 833, the court found that, Section 35 of Article XIII of the California Constitution requires local agencies to provide fire services and that it is reasonable to conclude that a lead agency will comply with that provision and ensure that public services are provided. (See City of Hayward v. Trustee of California State University [2015] 242 Cal. App. 4th 833, 847, stating "the city has a constitutional obligation to provide adequate fire protection services".)

California Fire Code

Title 24, Part 9 of the California Code of Regulations (CCR) is the California Fire Code. Title 24, Part 9 of the CCR sets forth regulations regarding building standards, fire protection and notification systems, fire protection devices such as fire extinguishers and smoke alarms, high-rise building standards, and fire suppression training. The 2019 California Fire Code is the incorporation of the 2018 International Fire Code of the International Code Council with necessary California amendments. Development under the proposed project would be subject to applicable regulations of the California Fire Code.[21]

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20 FEMA. 2000. *Disaster Mitigation Act of 2000*. Available online at: https://www.fema.gov/media-library-data/20130726-1524-20490-1678/dma2000.txt, accessed August 20, 2019.

21 International Code Council. *2019 California Fire Code, Title 24, Part 9*. Available online at: https://codes.iccsafe.org/content/CAFC2019, accessed August 20, 2019.

Title 8 California Code of Regulations Sections 1270 and 6773. In accordance with C.C.R., Title 8 Sections 1270 "Fire Prevention" and 6773 "Fire Protection and Fire Equipment," the California Occupational Safety and Health Administration (Cal OSHA) has established minimum standards for fire suppression and emergency medical services. The standards include, but are not limited to, guidelines on the handling of highly combustible materials, fire hose sizing requirements, restrictions on the use of compressed air, access roads, and the testing, maintenance, and use of all firefighting and emergency medical equipment.[22]

Title 14 California Code of Regulations Division 1.5. These regulations constitute the basic wildland fire protection standards of the California Board of Forestry. They have been prepared and adopted for the purpose of establishing minimum wildfire protection standards in conjunction with building, construction, and development in state recreation areas. Title 14 regulates that the future design and construction of structures, subdivisions, and developments in a state recreation area shall provide for basic emergency access and perimeter wildfire protection measures.[23]

Uniform Fire Code

The Uniform Fire Code (UFC) contains regulations relating to construction, maintenance, and use of buildings. Topics addressed in the code include fire department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, hazardous materials storage and use, provisions intended to protect and assist fire responders, industrial processes, and many other general and specialized fire-safety requirements for new and existing buildings and the surrounding premises.

California Health and Safety Code

State fire regulations are set forth in Sections 13000 *et seq.* of the California Health and Safety Code, which includes regulations for building standards (as set forth in the California Building Code), fire protection and notification systems, fire protection devices, and fire suppression training.[24]

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22 State of California Department of Industrial Relations. §6773. Fire Protection and Fire Fighting Equipment. Available online at: https://www.dir.ca.gov/title8/6773.html, accessed August 20, 2019.

23 Board of Forestry. *SRA Fire Safe Regulations, 2020: 14 CCR Division 1.5, Chapter 7 Fire Protection, Subchapter 2, Articles 1-5. SRA Fire Safe Regulations.* Available online at: https://bofdata.fire.ca.gov/media/8001/rule_plead.pdf, accessed August 20, 2019.

24 California Legislative Information. *Division 12. Fires and Fire Protection*. Available online at: https://leginfo.legislature.ca.gov/faces/codes_displayexpandedbranch.xhtml?tocCode=HSC&division=12.&title=&part=&chapter=&article=, accessed August 20, 2019.

Mutual Aid Agreements (MAA)

The Emergency Managers Mutual Aid (EMMA) system is a collaborated effort between city and county emergency managers in the OES in the coastal, southern, and inland regions of the state. EMMA provides service in the emergency response and recovery efforts at the Southern Regional Emergency Operations Center (REOC), local Emergency Operations Centers (EOCs), the Disaster Field Office (DFO), and community service centers. The purpose of EMMA is to support disaster operations in affected in affected jurisdictions by providing professional emergency management personnel. In accordance with the Master Mutual Aid Agreement, local and state emergency managers have responded in support of each other under a variety of plans and procedures. [25]

California Code of Regulations Division 2 Section 16

The State of California passed legislation creating the California Emergency Management Agency (Cal EMA) and authorizing it to prepare a Standard Emergency Management System (SEMS) program, which sets forth measures by which a jurisdiction should handle emergency disasters. Non-compliance with SEMS could result in the State withholding disaster relief from the non-complying jurisdiction in the event of an emergency disaster.

Cal EMA serves as the lead state agency for emergency management in the state. Cal EMA coordinates the state response to major emergencies in support of local government. The primary responsibility for emergency management resides with local government. Local jurisdictions first use their own resources and, as they are exhausted, obtain more from neighboring cities and special districts, the county in which they are located, and other counties throughout the state through the statewide mutual aid system. In California, the Standardized Emergency Management System (SEMS) provides the mechanism by which local government requests assistance. Cal EMA serves as the lead agency for mobilizing the state's resources and obtaining federal resources; it also maintains oversight of the state's mutual aid system.[26]

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25 Governor's Office of Emergency Services. 2012. *State of California Emergency Management Mutual Aid Plan*. Available online at: https://www.caloes.ca.gov/PlanningPreparednessSite/Documents/EMMA%20PlanAnnexes%20A-F,%202012.pdf, accessed August 20, 2019.

26 California Code of Regulations. *Chapter 1. Standardized Emergency Management System (SEMS).* Available online at: https://govt.westlaw.com/calregs/Browse/Home/California/CaliforniaCodeofRegulations?guid=IB04B06CEEA354CF78940961DF532ECAA&originationContext=documenttoc&transitionType=Default&contextData=(sc.Default), accessed August 20, 2019.

2018 Strategic Fire Plan for California

Strategic Fire Plans in California have been developed since the 1930s by the Board of Forestry and Fire Protection. The Plan is periodically updated to guide CAL FIRE in providing statewide fire protection of state responsibility areas. The 2018 Plan, an update to the 2010 Plan, reflects the effects of climate change and other environmental changes in the State. The 2018 Plan focuses on fire prevention and suppression, natural resource management, and the collaboration of fire protection and emergency service providers.[27]

California Vehicle Code 21806 VC

California Vehicle Code 21806 VC states that drivers in California must yield to emergency vehicles when they are using sirens and have at least one visible red light. This is to ensure that emergency vehicles safe and timely access for emergency vehicles as they respond to emergency calls.

3.15.1.2.3 Local

County and City General Plan Safety Elements and Public Services and Facilities Elements

In addition to federal and state regulations, cities and counties in the SCAG region also provide regulatory protection and advisement regarding public safety and associated public services. California law requires that a general plan include seven elements (land use, open space, conservation, housing, circulation, noise, and safety). Many jurisdictions incorporate policies related to public services into the Safety Element. Other jurisdictions choose to prepare a separate (optional) element dealing with public services and facilities issues.

California Code of Regulation Section 65302(g) specifically provides that a city may adopt the county's safety element if the county's element "is sufficiently detailed containing appropriate policies and programs for adoption by a city." The safety element must include methods to reduce the potential risk of fires, floods, earthquakes, landslides, and other hazards. Other locally relevant safety issues, such as emergency response, hazardous materials spills, and crime reduction, may also be included.[28] Some local jurisdictions have also incorporated their hazardous waste management plans into their safety elements. In addition, the safety element may be used to establish programs and policies that promote

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27 State Board of Forestry and Fire Protection. 2018. *2018 Strategic Fire Plan for California*. Available online at: https://osfm.fire.ca.gov/media/5590/2018-strategic-fire-plan-approved-08_22_18.pdf, accessed August 20, 2019.

28 California Legislative Information. 1965. *ARTICLE 5. Authority for and Scope of General Plan [65300-65303.4].*

neighborhood, institutional, governmental, and business safety. The safety element must identify and map urban fringe and rural-residential areas that are prone to wildfires, adequate evacuation routes and peak load water supplies to reduce fire hazards. The policies of the safety element form the basis of adopted fire safe ordinances and strategic fire defense system zoning. Several jurisdictions have also adopted a Public Services and Facilities Element that establishes goals, objectives, policies and standards for public services and utilities, including emergency response standards.

The safety elements and public services and facilities elements of the county general plans within the six-county SCAG region establish the following fire protection service standards at a County level:

Imperial County

Fire Response Standards: The Imperial County General Plan does not establish fire response standards for unincorporated areas.[29] Incorporated cities within Imperial County have established fire response standards. For instance, the City of El Centro's standard fire response time is approximately 7 to 10 minutes for emergencies and 10 to 15 minutes for non-emergencies.[30]

Los Angeles County

Fire Response Standards: According to the Safety Element of the Santa Clarita Valley Area Plan, the Los Angeles County Fire Department (LACFD) has adopted a goal of responding to calls in urban areas within five minutes, in suburban areas within eight minutes, and in rural areas within 12 minutes (Policy S3.3.1).[31] Incorporated cities within Los Angeles County have also established fire response standards.

Orange County

Fire Response Standards: In accordance with the Insurance Services Office (ISO) suggested standards, ultimate fire protection rating shall be maintained by Orange County's General Plan land use categories as follows: (1) ISO 3 for all urban developments including Residential (1C and 1B), Commercial (2A and 2B), Employment (3.0) and Public Facilities (4.0) which are within 5 miles from a fire station and less than 1,000 feet from a hydrant; and (2) ISO 4 for Rural Residential (1A) which are within 5 miles from a fire station and less than 100 feet from a hydrant. For areas greater than 5 miles or 1,000 feet, the ISO

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29 County of Imperial Planning & Development Services. *General Plan: Seismic and Public Safety Element*. Available at: http://www.icpds.com/?pid=837, accessed November 5, 2018.

30 City of El Centro. *El Centro General Plan: Safety Element.* Available at: http://www.cityofelcentro.org/userfiles/file/SafetyElement.pdf, accessed November 5, 2018.

31 County of Los Angeles Department of Regional Planning. *Santa Clarita Valley Area Plan, 2012.* Available at: http://planning.lacounty.gov/assets/upl/data/pd_santa-clarita-area-plan-2012.pdf, accessed November 5, 2018.

suggested standard is 9. Fire/paramedic facilities shall be sited in locations so as to assure efficient fire rescue and paramedic response for the service area. General criteria for site selection shall include:[32]

- Call response time: for 80 percent of the service area, first fire engine to reach the emergency scene within 5 minutes and paramedic to reach the scene within 8 minutes
- Land use compatibility: stations shall be located in commercial or industrial, or open space zones in order to avoid disturbance to residential areas wherever possible
- Street access: stations shall be located adjacent to arterial highways with controlled traffic signalization

Incorporated cities within Orange County have also established fire response standards.

Riverside County

Fire Response Standards: According to the Riverside County Fire Department Strategic Plan 2009-2029, the Riverside County Fire Department considers National Fire Protection Association (NFPA) Standard 1710 as a guideline for fire station location methodology, which calls for an engine company within 4 minutes of travel time to fire incidents and EMS calls, and a full first-alarm group within 8 minutes, all for a minimum of 90 percent of annual incidents.[33] Incorporated cities within Riverside County have also established fire response standards.

San Bernardino County

Fire Response Standards: The San Bernardino County Fire Department established fire response standards for unincorporated areas, depending on service area type. For example, the response goal for urban areas is less than 4 minutes for the first arriving unit and for rural areas the response goal is 10 minutes for the first arriving unit.[34] Incorporated cities within San Bernardino County have established fire response standards.

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32 OC Development Services. *Orange County General Plan: Chapter V. Public Services & Facilities Element.* Available at: http://www.ocpublicworks.com/ds/planning/generalplan, accessed November 5, 2018.

33 Management Partners, Incorporated. *Riverside County Fire Department Strategic Plan 2009- 2029.* Available at: http://www.rvcfire.org/stationsAndFunctions/AdminSppt/StrategicPlanning/Documents/StrategicPlan2009.pdf, accessed November 5, 2018.

34 San Bernardino County Fire Department. 2009. *Service Level and Deployment Goal Report*.

Ventura County

Fire Response Standards: The Ventura County Fire Protection District's goal is to maintain an average emergency response time under five minutes in urban areas and under seven minutes in rural areas.[35] Incorporated cities within Ventura County have also established fire response standards.

3.15.1.3 ENVIRONMENTAL IMPACTS

3.15.1.3.1 Thresholds of Significance

For the purposes of this PEIR, SCAG has determined that adoption and/or implementation of the Connect SoCal Plan would result in significant impacts to fire protection services, if the following could occur:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities, need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives.

3.15.1.3.2 Methodology

The methodology for determining the significance of impacts on fire services compares existing conditions to the expected future use of fire service under the Plan. The criteria above were applied to compare current conditions to future 2045 Plan conditions. The analysis of these impacts is programmatic at the regional level.

The need for or deficiency in adequate fire and emergency response services in and of itself is not a CEQA impact, but a social or economic impact. (*City of Hayward v. B'd of Trustees* (2015) 242 Cal.App. 4th 833, 843. In accordance with CEQA, this PEIR analysis focuses on the extent to which the Plan promotes growth patterns resulting in a need for additional fire protection services that results in the construction of new facilities or additions to existing facilities. The impact from that construction and/or facilities operation would result in a potential impact to the environment. An increase in population, by itself, would not increase demand for fire protection services and associated facilities. Fire protection service needs are dependent on various factors, including the size of the service population and the geographic area served, the number and types of calls for service, the characteristics of a project and its surrounding community as well as available existing facilities and staffing in an area. This PEIR, analyzes the potential for the Plan to result in the need for new fire protection service facilities (i.e., fire stations) and

35 Ventura County Planning Division. *Ventura County General Plan: Public Facilities & Services Appendix*. Available at: https://cdm16255.contentdm.oclc.org/digital/collection/p266301ccp2/id/546, accessed November 5, 2018.

the associated potential for construction and subsequent operation of such facilities to cause physical environmental impacts.

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

3.15.1.3.3 Impacts and Mitigation Measures

Impact PSF-1 **Result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities, need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives.**

Significant and Unavoidable Impacts - Mitigation Required.

Impacts to fire protection services are associated with the physical impacts that would occur as a result of construction and operation of new facilities. Service ratios and response times are tools jurisdictions use to determine the need for such facilities, but do not necessarily indicate a significant impact under CEQA. The ability to provide adequate fire protection services is dependent on numerous factors including staffing levels, mutual aid agreements, deployment strategies, and technological advances in equipment. In conformance with California Constitution Article XIII Section 35(a)(2), existing policies, procedures, and practices related to fire protection and emergency services, fire departments would maintain acceptable emergency response times through the provision of additional personnel and equipment as needed, as well as potentially constructing new or expanding existing fire and emergency response facilities.

As described above, fire and emergency services in the SCAG region are provided by numerous agencies within multiple jurisdictions. Depending upon the timing, location, and duration of construction activities, several of the proposed projects, including grade crossings, arterials, interchanges, and

auxiliary lanes, as well as development project construction could delay emergency vehicle response times or otherwise disrupt delivery of emergency services.

Each jurisdiction has a methodology for determining appropriate response times, service ratios and needed facilities. As transportation projects and development projects are constructed, depending upon the timing, location, and duration of construction activities, projects, including grade crossings, arterials, interchanges, widenings, HOV and HOT lanes, as well as development projects could result in temporary changes in demand for fire services and fire vehicle response times.

The transportation projects included in the Plan that involve transit, passenger rail, and active transportation are concentrated in urban and suburban areas, including Palm Springs, Riverside, San Bernardino, Anaheim, Irvine, the Los Angeles Basin, the San Gabriel Valley, the San Fernando Valley, Santa Clarita, Palmdale, and Lancaster. As these urban and suburban areas increase in density, additional fire protection and emergency response services and associated facilities would be required to meet emergency response standards. Such increased density in these areas would have the potential to exceed the capacity of existing fire stations to provide adequate response, thus requiring either the expansion of existing stations to accommodate additional equipment and greater number of personnel or the construction of new stations, which are more strategically located and capable of reducing response time within a denser urban pattern of development. In addition, fire protection and emergency response services may need to be able to expand where development occurs in the wildland/urban interface in response to increased wildfire risk.

Construction activities associated with transportation and development projects may temporarily increase demand on fire protection and emergency medical services. Construction activities could potentially expose combustible materials (e.g., wood, plastics, sawdust, coverings, and coatings) to fire risks from machinery and equipment sparks, exposed electrical lines, chemical reactions in combustible materials and coatings and lighted cigarettes. However, in compliance with Cal-OSHA requirements, construction managers and personnel for individual development projects would be trained in emergency response and fire safety operations. Additionally, fire suppression equipment (e.g., fire extinguishers) specific to construction are required to be maintained on individual development sites.

By closing off one or more lanes of a roadway, response times could temporarily and intermittently increase as fire vehicles take longer routes due to construction activity. The closure of lanes could also potentially cause traffic delays and inhibit access when responding to service calls. Generally, impacts to emergency response vehicles during construction activities are reduced through adherence to roadway encroachment permits. Traffic control plans are typically required to further reduce impacts on traffic which would also reduce impacts to fire and emergency response vehicles. Refer to **Section 3.17,**

Transportation, Traffic, and Safety, for Mitigation Measures **SMM-TRA-1**, **PMM-TRA-1**, and **PMM-TRA-2**, which pertain to issues of this nature. These impacts would be brief in nature and would be unlikely to result in a determination by a jurisdiction that new facilities would be required. Therefore, construction impacts would be less than significant.

By 2045, the Plan area would grow by approximately 3.2 million people with 60 percent of new homes and 73 percent of new jobs in Growth Priority Areas which are primarily areas that are currently developed. As such, existing facilities and services could become overburdened during the lifetime of the Plan.

While the Plan would increase traffic on local roadways, there is no direct relationship between increased travel delay and emergency response times; California State law requires that drivers yield the right-of-way to emergency vehicles and remain stopped until the emergency vehicles have passed (CVC 21806). The impact on response times and overall fire service is not proportional to increasing traffic (see **Section 3.17, Transportation, Traffic and Safety)**. Generally, multi-lane arterial roadways allow emergency vehicles to travel at higher speeds and permit other traffic to maneuver out of the path of the emergency vehicle. On congested roadways, multi-lane arterial roadways with continuous center left-turn lanes facilitate emergency access when the thru lanes experience delays.

In some cases, depending on the pattern of development, it could be necessary to construct new facilities to maintain adequate response times, equipment, and personnel. While construction of fire protection facilities does not typically result in substantial environmental impacts,[36] the location, size, design, and proximity to sensitive receptors of new facilities are currently unknown. Construction and operation of fire stations could have impacts similar to other development projects analyzed throughout this PEIR, including impacts to aesthetics, air quality, noise, cultural resources, and utilities. Noise impacts of emergency service provider facilities, which are unique to this type of operation, can affect nearby sensitive receptors but such impacts are unpredictable at this time. In any event, construction of these facilities would comply with all applicable, laws, regulations, and ordinances, and mitigation measures would be required to address any potentially significant impacts.

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36 Fire protection facilities are generally anticipated to be located on infill lots that are between 0.5 and 1 acre in size. In urbanized areas new facilities would not involve expansion of the urban sphere beyond current boundaries and, thus, there would be no need for new or expanded infrastructure. As an example, in the City of Los Angeles, there are four basic configurations for fire stations, the typical standard fire/paramedic station consists of a 15,250-square foot building on a parcel that is approximately one acre. Based on the urban location and the relatively small size of typical facilities, the construction of a new fire facility or expansion of an existing facility would likely qualify for an infill exemption or result in less–than-significant impacts with standard regulatory compliance measures and design features.

While the PEIR analyzes anticipated effects of regional transportation projects and growth related to air quality, noise, traffic, utilities, and other environmental impact areas, given the increased growth as well as densified development (e.g., more families living and/or working there), implementation of Connect SoCal could affect the need for construction of new or physically altered fire protection and emergency response facilities in order to maintain acceptable service ratios. Although the location and size of such facilities is not yet known, impacts could occur, requiring the consideration of mitigation measures.

Mitigation Measures

SCAG Mitigation Measures

See **SMM PSP-1** through **SMM PSP-4.**

SMM PSF-1): SCAG shall assist planners, first responders, and recovery teams in a supporting role, in three key areas, before a major emergency and during the recovery period:

- Provide a policy forum to help develop regional consensus and education on security policies and emergency responses.
- Assist in expediting the planning and programming of transportation infrastructure repairs from major disasters.
- Encourage integration of transportation security measures into transportation projects early in the project development process by leveraging SCAG's relevant plans, programs, and processes, including regional ITS architecture. An example includes SCAG's participation in the development of the Southern California Catastrophic Earthquake Preparedness Plan.[37]

SMM PSF-2: SCAG shall facilitate minimizing future impacts to fire protection services through information sharing regarding Fire-wise Land Management (data regarding fire-resistant vegetation, fire-resistant materials, locations where development is potentially hazardous in regard to wildfire, and management of brush and other fire risks in the immediate vicinity of development in areas with high fire threat) with county and city planning departments.

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37 California Emergency Management Agency, *Southern California Catastrophic Earthquake Response Plan*, December 2010 https://www.caloes.ca.gov/PlanningPreparednessSite/Documents/SoCalCatastrophicConops(Public)2010.pdf, accessed October 31, 2019.

Project Mitigation Measures

See **PMM-PSP-1.**

Level of Significance After Mitigation

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

3.15.1.4 SOURCES

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3.15.2 Police Protection

3.15.2.1 ENVIRONMENTAL SETTING

3.15.2.1.1 Police Protection Services

Law enforcement is provided by a variety of federal, state, county, city, and other local law enforcement agencies. Primary law enforcement is at the community level, with city police and County Sheriff's departments providing this service. Additionally, there are more specialized law enforcement agencies that assist in law enforcement at the community or resource level. These specialized agencies include, but are not limited to State Highway Patrol, School Police, Airport Police, Transit Police, Park Rangers (federal, state, County, and City), and a wide variety of federal agencies (FBI, ATF, etc.). In general, law enforcement agencies provide first response to all emergencies, perform preliminary investigations, and provide basic patrol services in their service area.

California Highway Patrol (CHP)

The California Highway Patrol (CHP) is a statewide law enforcement agency with jurisdiction over all highways and city roads. CHP officers are responsible for responding to car crashes, disabled vehicles, and other impediments to traffic flow. Although its primary mission is related to transportation, the CHP has broad enforcement power over state law.

Imperial County

Imperial County receives police protection from the Imperial County Sheriff's Office (ICSO), headquartered in El Centro. Substations are located in Niland, Ocotillo, Palo Verde, Salton City, and Winterhaven. The ICSO employs approximately 125 sworn officers and 95 personnel for an officer-to-resident ratio of about 1.5 sworn officers per 1,000 persons. The response time for priority and non-priority calls is approximately 10 to 12 minutes.[1] Additionally, each city in the County maintains its own police departments to serve their incorporated areas.

Los Angeles County

Law enforcement in Los Angeles County is provided by the Los Angeles Sheriff's Department (LASD), which is headquartered in the City of Los Angeles. With nearly 18,000 employees, LASD is the largest

[1] Imperial County. 1993. *Imperial County General Plan Environmental Impact Report*. Available at: http://www.icpds.com/CMS/Media/J-References,-Persons,-Agencies-Consulted.pdf, accessed Septermber 18, 2019.

sheriff's department in the U.S. LASD provides general law enforcement services to unincorporated Los Angeles County as well as contracted cities. Of the County's 88 municipalities, 42 contract with LASD for local police protection. LASD also provides services to 216 facilities, hospitals, and clinics, nine community college, the Metropolitan Transit Authority, and 37 Superior Courts. LASD desired officer-to-population ratio is one officer per 1,000 residents. The LASD's goal response time for emergency calls is 10 minutes or less.[2]

Orange County

The Orange County Sheriff-Coroner Department (OCSD) provides police services to unincorporated areas of Orange County as well as contracting cities of Aliso Viejo, Dana Point, Laguna Hills, Laguna Niguel, Laguna Woods, Lake Forest, Mission Viejo, Rancho Santa Margarita, San Clemente, San Juan Capistrano, Stanton and Villa Park. The OCSD headquarters are located in the City of Santa Ana. The department is split into five divisions: Noth, South, and West Operations Divisions, the Airport Divisionm, and the Harbor Patrol division. The OCSD is a large, multi-faceted law enforcement agency served by approximately 3,800 sworn and professional staff members and over 800 reserve personnel.[3] The OCSD provides first responder patrol services and hazardous devices services to all law enforcement agencies in the County.

Riverside County

The Riverside County Sheriff's Department provides community policing and operates the County's correctional facilities. The Department is headquartered in the City of Riverside and provides services to the unincorporated areas of the County as well as the cities of Calimesa, Canyon Lake, Coachella, Eastvale, Indian Wells, Jurupa Valley, Lake Elsinore, La Quinta, Menifee, Moreno Valley, Morongo Indian Reserve, Norco, Palm Desert, Perris, Rancho Mirage, San Jacinto, Temecula, Wildomar. The Department employs approximately 4,500 people, roughly 2,300 of which are sworn personnel. There are nine Sheriff Department stations throughout the County and five adult correction or detention centers. The Department has established a staffing requirement of one sworn officer per 1,000 population.[4]

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2 Los Angeles County. 2014. *General Plan Update Draft Environmental Impact Report*. Available at: http://planning.lacounty.gov/assets/upl/project/gp_2035_deir.pdf, accessed September 9, 2019.

3 Orance County Sheriff's Department. *About OCSD*. Available online at: http://www.ocsd.org/about_ocsd, accessed September 18, 2019.

4 County of Riverside. 2014. *County of Riverside Environmental Impact Report for the 2014 General Plan*. March.

San Bernardino County

The San Bernardino County Sheriff's Department (SBCSD) polices the largest geographical county in the nation. It serves over 2.1 million residents across 15 patrol stations. SBCSD employs over 3,800 employees and utilizes over 1,800 volunteers. The SBCSD also maintains three correctional facilities: the West Valley Detention Center in Rancho Cucamonga; the Glen Helen Rehabilitation Center, a two unit, male and female-inmate facility in Devore; and, the Central Rehabilitation Center that houses federal inmates for the United States Marshall Service located in the City of San Bernardino.[5]

Ventura County

The Ventura County Sheriff's Office provides primary law enforcement services in unincorporated areas of Ventura County and the contract cities of Ojai, Thousand Oaks, Camarillo, Moorpark and Fillmore. This jurisdiction makes up almost 95 percent of the County's land area and approximately half of the population. The Department is divided into seven divisions, based on location, and is headquartered at 800 South Victoria Avenue in the City of Ventura. The Sheriff's Office employees approximately 1,250 personnel, including allocations for more than 740 sworn positions.

3.15.2.2 REGULATORY FRAMEWORK

3.15.2.2.1 State

All law enforcement agencies within the State of California are organized and operate in accordance with the applicable provisions of the California Penal Code. This code sets forth the authority, rules of conduct, and training for peace officers. Under state law, all sworn municipal and county officers are state peace officers.

California Constitution, Article XIII Section 35.

Section 35 of Article XIII of the California Constitution was adopted by the voters in 1993 under Proposition 172. It directed the proceeds of a 0.50 percent sales tax to be used exclusively for local public safety services, including police. CGC §§30051-30056 provide rules to implement Proposition 172. Section 30056 provides that a city is not allowed to spend less of its own financial resources on its combined public safety services in any given year compared to its 1992-93 fiscal year. Therefore, an agency is required to use Proposition 172 to supplement its local funds used on police protection, as well as other

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5 San Bernardino County Sheriff's Department. 2017. *2017 Annual Report* Available online at: http://wp.sbcounty.gov/sheriff/wp-content/uploads/sites/17/2017-annual-report_reduced.pdf, accessed August 28, 2019.

public safety services. As discussed in the Regulatory Framework" for Fire Protection and Emergency Services, in the *City of Hayward v. Trustee of California State University* (2015) 242 Cal. App. 4th 833, the court found that, Section 35 of Article XIII of the California Constitution requires local agencies to provide fire services and that it is reasonable to conclude that a lead agency will comply with that provision and ensure that public services are provided. It is reasonable to analogize that a similar analysis would apply to police services as Section 35 of Article XIII includes a responsibility for cities to give priority to public safety services, which includes police services. See the "Regulatory Framework" for Fire Protection and Emergency Services, above, for further discussion.

California Penal Code

All law enforcement agencies within the State of California are organized and operated in accordance with the applicable provisions of the California Penal Code. This code sets forth the authority, rules of conduct, and training for peace officers. Under state law, all sworn municipal and county officers are state peace officers.

California Emergency Services Act

In 2008, Governor Schwarzenegger signed AB 38, the California Emergency Services Act, which merged the duties, powers, purposes, and responsibilities of the Governor's Office of Emergency Services and the Governor's Office of Homeland Security into a new cabinet-level agency, the California Emergency Management Agency (Cal EMA).[6] Cal EMA is responsible for assuring the state's readiness to respond to and recover from natural, human-made, and war-caused emergencies, and for assisting local governments in their emergency preparedness, response, and recovery efforts. The legislation authorizes Cal EMA to prepare a Standard Emergency Management System (SEMS) program, which sets forth measures by which a jurisdiction should handle emergency disasters.[7] Non-compliance with SEMS could result in the State withholding disaster relief from the non-complying jurisdiction in the event of an emergency disaster.

Cal EMA serves as the central contact point in the state for any emergency or imminent disaster. It coordinates the notification of appropriate state administering agencies that may be required to respond, as well as the emergency activities of all state agencies in the event of an emergency. In doing so, Cal EMA does not focus on security specifically, but rather more broadly on addressing all potential incidents

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6 California Legislative Information. *Assembly Bill No. 38*.

7 California Emergency Management Agency. *SEMS Guidelines.* Available online at: https://www.caloes.ca.gov/PlanningPreparednessSite/Documents/12%20SEMS%20Guidelines%20Complete.pdf, accessed August 28, 2019.

that could impact the state, such as earthquakes, fires, floods, and terrorist attacks. Furthermore, Cal EMA coordinates with federal agencies, such as the DHS and FEMA, as well as other state and local agencies such as the CHP. California's vision, mission, and principles for emergency management, as well as goals and objectives are located in its publication "Strategic Plan 2010-2015 – Keeping California Safe."[8]

While Cal EMA serves as the lead State agency for emergency management and coordinates the State response to major emergencies in support of local government. The primary responsibility for emergency management resides with local government. SEMS provides the mechanism by which local government requests assistance from Cal EMA, and as such, Cal EMA maintains oversight of the State's mutual aid system. Cal EMA may task State agencies to perform work outside their day-today and statutory responsibilities and serves as the lead agency for obtaining federal resources.

13 California Code Regulations Division 2

Division 2 of Title 13 of the California Code Regulations (CCR) governs the operations of the California Highway Patrol.[9]

California Vehicle Code 21806 VC

California Vehicle Code 21806 VC states that drivers in California must yield to emergency vehicles when they are using sirens and have at least one visible red light. This is to ensure that emergency vehicles safe and timely access for emergency vehicles as they respond to emergency calls.

3.15.2.2.2 Local

County and Cities General Plan and Safety Elements

Local planning policies related to public services and recreation are established in each jurisdiction's general plan. In general, jurisdictions have policies in place that state that public services must be provided at the same time (or in advance of) need for that service. In addition to these general policies,

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8 California Emergency Management Agency. 2015. *Strategic Plan 2014-2018*. Available online at: https://www.caloes.ca.gov/NewsMediaSite/Documents/Cal%20OES%20Strategic%20Plan%20Summary%20Booklet%20(FINAL).pdf, accessed March 22, 2019.

9 California Code of Regulations. *Division 2. Department of the California Highway Patrol.* Available online at: https://govt.westlaw.com/calregs/Browse/Home/California/CaliforniaCodeofRegulations?guid=IDC5A8260D46811DE8879F88E8B0DAAAE&originationContext=documenttoc&transitionType=Default&contextData=(sc.Default), accessed August 28, 2019.

jurisdictions may have more specific policies tailored to performance objectives, such as those outlined below.

Policies and strategies for police protection services generally include language pertaining to the development of law enforcement programs to reduce and control crime, the planning of future law enforcement facilities concurrently with growth, and the prevention of crime through education. Many jurisdictions also have specific goals, such as a maintaining a certain ratio of sworn officers to citizens, reducing response times, or reducing the overall number of crimes in the community.

Applicable County General Plan elements regarding police protection are identified below.

Imperial County

Police Response Standards: The Imperial County General Plan does not establish police response standards for unincorporated areas.[10] However, individual jurisdictions have set standards, for instance, the El Centro Police Department's goal is to have 1.75 police officers per 1,000 population.[11]

Los Angeles County

Police Response Standards: To effectively and efficiently fulfill all of its functions, the Sheriff's Department requires a staff level of one deputy sheriff per each 1,000 population.[12] Incorporated cities within Los Angeles County have also established police response standards.

Orange County

Police Response Standards: The adequacy of Sheriff service for land use proposals is determined through the Environmental Impact Report (EIR), Fiscal Impact Report (FIR), and Annual Monitoring Report (AMR) review processes.[13] Incorporated cities within Orange County have also established police response standards.

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10 County of Imperial Planning & Development Services. *General Plan: Seismic and Public Safety Element*. Available online at: http://www.icpds.com/?pid=837, accessed November 5, 2018.

11 City of El Centro. *El Centro General Plan: Safety Element.* Available online at: http://www.cityofelcentro.org/userfiles/file/SafetyElement.pdf, accessed November 5, 2018.

12 County of Los Angeles Department of Regional Planning. *General Plan: Chapter 12: Safety Element*. Available online at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan-ch12.pdf, accessed November 5, 2018.

13 OC Development Services. *Orange County General Plan: Chapter V. Public Services & Facilities Element.* Available online at: http://www.ocpublicworks.com/ds/planning/generalplan, accessed November 5, 2018.

Riverside County

Police Response Standards: The Riverside County Sheriff's Department has established a goal of maintaining 1.5 sworn officers per 1,000 population, as recommended by the International City Managers' Association (Riverside County Integrated Project (RCIP)).[14,15] According to EIR No. 441 for the 2003 RCIP General Plan, the Riverside County Sheriff's Department has established the following criteria for its staffing requirements in unincorporated areas of Riverside County:[16]

- One sworn officer per 1,000 population (Mitigation Measure 4.15.C for EIR No. 441 specifies the use of a 1.5-officer per 1,000 population standard for new development mitigation purposes)
- One supervisor and one support staff employee per seven officers
- One patrol vehicle per three sworn officers
- One school resource officer per school

Incorporated cities within Riverside County have also established police response standards. For instance, the City of Riverside endeavors to provide minimum response times of seven minutes on all Priority 1 calls and 12 minutes on all Priority 2 calls (Policy PS-7.5).[17]

San Bernardino County

Police Response Standards: The San Bernardino County General Plan does not establish police response standards for unincorporated areas.[18] Incorporated cities within San Bernardino County have established police response standards.For example, the City of Redlands desires a respone time of 4-5 minutes.[19]

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14 California Public Utilities Comission. *Devers-Mirage 115 kV Subtransmission System Split Project (A.08-01-029) Draft Environmental Impact Report.* Available online at: https://www.cpuc.ca.gov/Environment/info/esa/devers-mirage/deir/Devers-MirageDEIR.pdf, accessed November 5, 2018.

15 Riverside County Integrated Project. 2003. *General Plan Final Program Environmental Impact Report.* State Clearinghouse No. 2002051143. Available online at: http://planning.rctlma.org/Portals/0/genplan/content/eir/volume1.html, accessed November 5, 2018.

16 Ibid.

17 City of Riverside. *Riverside General Plan 2025: Public Safety Element.* Available online at: http://www.riversideca.gov/planning/gp2025program/GP/10_Public_Safety_Element.pdf, accessed August 28, 2019.

18 County of San Bernardino Land Use Services Division. 2007. *County of San Bernardino 2007 General Plan*. Available online at: http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGP.pdf, accessed November 5, 2018.

19 City of Redlands. 2017. *City of Redlands General Plan 2035*. Available online at: https://www.cityofredlands.org/sites/main/files/file-attachments/gp2035.pdf, accessed September 9, 2019.

Ventura County

Police Response Standards: The Ventura County General Plan does not establish police response standards for unincorporated areas.[20] Incorporated cities within Ventura County have established police response standards. For instance, the City of Fillmore has established a desired level of one patrol officer per 1,000 population.[21]

3.15.2.3 ENVIRONMENTAL IMPACTS

3.15.2.3.1 Thresholds of Significance

For the purposes of this PEIR, SCAG has determined that adoption and/or implementation of the Plan would result in significant impacts to police protection services, if any of the following would occur:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered police facilities, need for new or physically altered police facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives.

3.15.2.3.2 Methodology

The methodology for determining the significance of impacts on public services compares existing conditions to the expected future use of police services under the Plan. A review of existing police facilties was conducted to determine the potential need for new or expanded facilities. This analysis was undertaken at the regional level and appropriately does not include details for each jurisdiction within the region. The criteria above were applied to compare current conditions to future 2045 Plan conditions. The analysis of these impacts is programmatic at the regional level.

The need for or deficiency in adequate police services in and of itself is not a CEQA impact, but a social or economic impact (*City of Hayward v. B'd of Trustees* [2015] 242 Cal.App. 4th 833, 843). In accordance with CEQA, this PEIR analysis focuses on the extent to which the Plan promotes growth patterns resulting in a need for additional police services that results in the construction of new facilities or additions to existing facilities. The impact from that construction and/or facilities operation would result in a potential impact to the environment. An increase in population, by itself, would not increase demand for police protection

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20 Ventura County Planning Division. 2015. *Ventura County General Plan: Public Facilities & Services Appendix*. Available online at: https://docs.vcrma.org/images/pdf/planning/plans/GENERAL-PLAN-Public-Facilities-Services-Appendix.pdf, accessed November 5, 2018

21 City of Fillmore, California. 1998. *General Plan 1988-2010 – Chapter VII: Public Facilities Element*. Available at: http://www.fillmoreca.com/home/showdocument?id=187, accessed November 5, 2018.

services and associated facilities. Police service needs are dependent on various factors, including the size of the service population and the geographic area served, the number and types of calls for service, the characteristics of a project and its surrounding community as well as available existing facilities and staffing in an area. This PEIR, analyzes the potential for the Plan to result in the need for new police protection facilities (i.e., police stations) and the associated potential for construction and subsequent operation of such facilities to cause physical environmental impacts.

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

3.15.2.3.3 Impact and Mitigation Measures

Impact PSP-1 **Result in substantial adverse physical impacts associated with the provision of new or physically altered police facilities, need for new or physically altered police facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives.**

Significant and Unavoidable Impacts - Mitigation Required.

Impacts to police protection services are associated with the physical impacts that could occur as a result of construction and operation of new facilities. Service ratios and response times are one tool jurisdictions use to determine the need for such facilities, but do not necessarily indicate a significant impact under CEQA.

New LRT and commuter rail routes/extensions in Los Angeles, Orange, Riverside, and San Bernardino counties, as well as transit-related projects, would involve the development of new transit stations. Operation of these new transit stations would require public protective security services. In some cases, such as with Metro, the governing transit authority, provides security as an element of the project, which would reduce the need for public protective security services. Overall, the Plan's strategies to encourage increased transit use could also result in an increased need for protective security services.

The Plan also includes transportation projects and land use strategies that focus new growth in HQTAs and encourage more walkable, mixed-use communities. According to the Plan, it is projected that approximately 48 percent of the new household growth and 59 percent of the new employment growth would be planned in HQTAs. These HQTAs are concentrated in suburban and urban areas, including Palm Springs, Riverside, San Bernardino, Anaheim, Irvine, the Los Angeles Basin, the San Gabriel Valley, the San Fernando Valley, Santa Clarita, Palmdale, and Lancaster. As these areas experience more people working and living there, additional police services would be required. As a result, the Plan would have a potential to increase the need for public protective services, usually in proportion to densified environment. This would likely increase the staffing of sworn officers and create a potential need to construct new stations to ensure acceptable levels of service that would have the potential to result in physical alterations and related significant effects on the environment. As discussed in **Section 3.15.1 Public Services, Fire**, it is also the case that the construction of police protection facilities does not typically result in substantial environmental impacts, however the location, size, design, and proximity to sensitive receptors of new facilities are currently unknown.

Police services are provided by several agencies within multiple jurisdictions. Local agencies are required to determine the degree of impact to police services and comply with county and city requirements to protect public safety.

While the Plan would increase traffic on local roadways, there is not a direct relationship between predicted travel delay and emergency response times as California State law requires that drivers yield the right-of-way to emergency vehicles and remain stopped until the emergency vehicles have passed (CVC 21806). Generally, multi-lane arterial roadways allow emergency vehicles to travel at higher speeds and permit other traffic to maneuver out of the path of the emergency vehicle. On congested roadways, multi-lane arterial roadways with continuous center left-turn lanes facilitate emergency access when the thru lanes experience delays. Additionally, several jurisdictions can re-signal timing remotely for police operations during planned events, such as special events.

In some cases, depending on the pattern of development, it could be necessary to construct new facilities to maintain adequate response times, equipment, and personnel. Construction of police protection facilities themselves may not result in environmental impacts (depending on the size of the facility). In planning new facilities, local jurisdictions take in to account growth projections.

Construction sites can pose an attractive nuisance with respect to vandalism and theft. Depending upon the timing, location, and duration of construction activities, several of the proposed transportation projects, including grade crossings, arterials, interchanges, HOT lanes, HOV lanes, and auxiliary lanes, as well as development project construction, could delay police vehicle response times or otherwise delay

the response of police services. By closing off one or more lanes of a roadway, response times could temporarily and intermittently increase as police vehicles take longer routes due to construction activity. The closure of lanes could also potentially cause traffic delays and ultimately inhibit access when responding to service calls. Generally, police response times during project construction are reduced through adherence to road encroachment permits. Traffic control plans are typically required to further reduce impacts on traffic which would also reduce impacts to police response.

Noise impacts of police stations, which are unique to this type of operation, can affect nearby sensitive receptors but such impacts are unpredictable at this time since the location and design of new police stations, as well as the proximity to sensitive receptors, are currently unknown. In any event, construction of these facilities would comply with all applicable, laws, regulations, and ordinances, and mitigation measures would be required to address any potentially significant impacts.

While the PEIR analyzes anticipated effects of regional transportation and growth related to air quality, noise, traffic, utilities, and other environmental impact areas, given the increased growth as well as densified development, the Plan could contribute to the need for construction of new or physically altered police facilities in order to maintain acceptable service ratios. Although the location and size of such facilities is not yet known, and impacts could occur, requiring the consideration of mitigation measures.

Mitigation Measures

SCAG Mitigation Measures

See **SMM PSF-1.**

SMM PSP-1 SCAG shall facilitate minimizing future impacts to library services through cooperation, information sharing, and regional program development as part of SCAG's ongoing regional planning efforts, such as web-based planning tools for local government including CA LOTS, and other GIS tools and data services, including, but not limited to Map Gallery, GIS library, and GIS applications, and promote acceptable service ratios regarding library services.

SMM PSP-2: SCAG shall help to enhance the region's ability to deter and respond to acts of terrorism, human-caused or natural disasters through regionally cooperative and collaborative strategies. SCAG shall work with local officials to develop regional consensus on regional transportation safety, security, and safety security policies.

SMM PSP-3: SCAG shall help to enhance the region's ability to deter and respond to terrorist incidents, human-caused or natural disasters by strengthening relationship and coordination with transportation. This will be accomplished by the following:

- SCAG shall work with local officials to develop regional consensus on regional transportation safety, security, and safety security policies.
- SCAG shall encourage all SCAG elected officials are educated in NIMS.
- SCAG shall work with partner agencies, federal, state and local jurisdictions to improve communications and interoperability and to find opportunities to leverage and effectively utilize transportation and public safety/security resources in support of this effort.

SMM PSP-4: SCAG shall encourage and provide a forum for local jurisdictions to develop mutual aid agreements for essential government services during any incident recovery.

Project Mitigation Measures

PMM PSP-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects of constructing new emergency response facilities, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

a) Coordinate with emergency response agencies to ensure that there are adequate governmental facilities to maintain acceptable service ratios, response times or other performance objectives for emergency response services and that any required additional construction of buildings is incorporated in to the project description.

b) Where current levels of services at the project site are found to be inadequate, provide fair share contributions towards infrastructure improvements, as appropriate and applicable, to mitigate identified CEQA impacts.

c) Project sponsors can and should develop traffic control plans for individual projects. Traffic control plans should include information on lane closures and the anticipated flow of traffic during the construction period. The basic objective of each traffic control plan (TCP) is to permit the contractor to work within the public right of way efficiently and effectively while maintaining a safe, uniform flow of traffic. The construction work and the public traveling through the work zone in vehicles,

bicycles or as pedestrians must be given equal consideration when developing a traffic control plan.

Level of Significance After Mitigation

As discussed above, regulations and policies would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and SCAG's inability to require project-level mitigation measures, this PEIR finds impacts related to the need for new or physically altered police facilities could be significant and unavoidable even with implementation of mitigation.

3.15.2.4 SOURCES

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3.15.3 Schools

3.15.3.1 ENVIRONMENTAL SETTING

Counties and cities within the SCAG region provide public education facilities and services to residents including elementary schools, middle schools, secondary schools, postsecondary schools, and colleges/universities, as well as special and adult education. Additional discussion of schools is provided in **Sections 3.3, Air Quality**, and **3.11, Land Use and Planning**.

3.15.3.1.1 California Department of Education

The California Department of Education (CDE) oversees the state's public school system, which provides education to more than six million children and young adults in more than 10,000 schools. CDE and the State Superintendent of Public Instruction are responsible for enforcing education law and regulations; and for continuing to reform and improve public elementary school programs, secondary school programs, adult education, some preschool programs, and child care programs.

Although the California public school system is subject to state requirements, the CDE relies on local control for the management of school districts. In allocating resources among the schools of the district, school district governing boards and district administrators must follow the law, but also set the educational priorities for their schools. As of the 2018-2019 school year, there were more than 1,030 school districts in California.[1]

3.15.3.1.2 Educational Facilities

According to the California Department of Education, there are approximately three million students enrolled in schools in the SCAG region, ranging from kindergarten to 12th grade, with over 141,000 teachers (see **Table 3.15.3-1, Kindergarten through Grade 12 Enrollment and Teachers in the SCAG Region for the 2017–2018 School Year**). The number of public K–12 school districts range from a low of 19 in Imperial County to a high of 80 in Los Angeles County, with a corresponding range of schools from a low of 74 in Imperial County to over 2,300 in Los Angeles County (see **Table 3.15.3-2, Public and Private Schools in the SCAG Region**). Three counties have University of California campuses, and all but one county have one or more California State University campuses (see **Table 3.15.3-2**).

1 California Department of Education. 2019. *Fingertip Facts on Education in California*. Available online at: https://www.cde.ca.gov/ds/sd/cb/ceffingertipfacts.asp, accessed August 28, 2019.

Table 3.15.3-1
Kindergarten through Grade 12 Enrollment and Teachers in the SCAG Region for the 2017–2018 School Year

County	Enrollment K–12	Teachers
Imperial	37,716	1,763
Los Angeles	1,492,652	73,737
Orange	485,835	21,438
Riverside	428,992	19,301
San Bernardino	403,137	18,680
Ventura	137,758	6,502
SCAG Region	**2,986,090**	**141,421**
California	**6,220,413**	**306,261**

Source:
California Department of Education. 2019. Data Quest. Available online at: https://dq.cde.ca.gov/dataquest/, accessed January 14, 2019.

Table 3.15.3-2
Public and Private Schools in the SCAG Region

County	Public Schools[1]		UC System[2]	Cal State System[3]	Private Schools (Active)	
	Districts	Schools			K–12	College
Imperial	19	74	—	—	11	—
Los Angeles	80	2,315	1	5	264	61
Orange	27	634	1	1	91	25
Riverside	23	515	1	—	69	5
San Bernardino	35	542	—	1	78	9
Ventura	20	210	—	1	34	4
SCAG Total	**204**	**4,290**	**3**	**8**	**547**	**104**

Source:
1 California Department of Education. 2019. California School Directory. Available online at: https://www.cde.ca.gov/SchoolDirectory/, accessed January 14, 2019.
2 University of California. 2018. Campuses. Available online at: http://www.universityofcalifornia.edu/campuses/welcome.html, accessed January 14, 2019.
3 California State University. Accessed August 2019. The 23 Outstanding Campuses of the CSU. Available at: https://www2.calstate.edu/attend/campuses, accessed August 28, 2019.

Imperial County

Imperial County has 19 school districts, 11 private schools, three charter academies, and a community college, Imperial Valley College. Enrollment within the districts ranges from 9,200 students to 81 students. Within the County, 11 school districts have recently passed bond measures that will support new gymnasiums, classrooms, science labs, swimming pools, and three entirely new schools.[2] Additionally, San Diego State University has a satellite campus in Imperial County, located in Calexico.

Los Angeles County

Los Angeles County Office of Education is the largest regional education agency in the U.S. and serves as an intermediary between the local school districts and the California Department of Education. The County is served by 80 school districts.[3] As with all of California, the districts operate independently of the County government and elected governing school boards are responsible for budgeting and decision-making.

Orange County

The Orange County Department of Education is comprised of 27 K-12 school districts, four community college districts, one alternative school, and a special education school. There are more than 600 public schools and 20,000 educators serving more than 500,000 students. Although almost all of the Orange County schools are experiencing growth, the fastest growing districts are within South County: Saddleback Valley Unified School District and Capistrano Unified School District. The Orange County Department of Education also promotes a childcare program, offering before- and after school care for children of working parents, as well as youth and teen programs.[4]

Riverside County

Within Riverside County, the Riverside County Office of Education (RCOE) provides educational and administrative support services to the 23 school districts and nearly 430,000 students living in the County. Beyond acting as an intermediary between the State and local school districts, the RCOE also supports or directly provides a variety of specialized needs, such as Special Education for the severely handicapped,

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2 Imperial County Office of Education (ICOE). 2018. *2017- 2018 ICOE Annual Yearbook.* Available online at: https://indd.adobe.com/view/147cbdb7-1874-432c-8a96-3fd7f03f81ed, accessed March 27, 2019.

3 Los Angeles County Office of Education. *Public Schools Directory, Los Angeles County School Districts*. Available online at: https://schooldirectory.lacoe.edu/los-angeles-county-public-schools-directory.aspx, accessed August 28, 2019.

4 Orange County Department of Education. *About OCDE*. Available online at: https://ocde.us/AboutOCDE/Pages/default.aspx, accessed August 28, 2019.

Head Start, Migrant Education, Alternative Education through independent study, Community Schools and Juvenile Court Schools and Career Technical Education programs designed to teach workforce skills aiding future employment. The RCOE reports 515 school sites, including 18 charter schools, and employs approximately 19,000 teachers and non-teaching school employees.[5]

San Bernardino County

The San Bernardino County Superintendent of Schools manages approximately 403,000 students across more than 500 schools in 35 districts.[6,7,8] The County also has six Special Education Local Plan Areas, and five regional occupational programs.[9,10] The County Board of Supervisors exercises direct control over the County School System, which is under the jurisdiction of the State Board of Education.

Ventura County

The Ventura County Office of Education (VCOE) oversees the County's 20 public school districts, which serve nearly 138,000 K-12 students. The VCOE also promotes court and community schools, as well as special education facilities. The primary role of the office is to promote quality educational services to all students by providing leadership, support, assistance, and coordination to school districts and County operated programs through the provisions of administrative, educational, fiscal and clerical services. In addition, the District provides professional development opportunities for teaching staff and hosts countywide academic competitions including the spelling bee, mock trail, and academic decathlon.[11]

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5 Riverside County Office of Education. 2019. *2019 Report to the Community*. Available online at: https://www.rcoe.us/content/uploads/2019/03/Community-Annual-Report_2019.pdf, accessed August 28, 2019.

6 Education Data Partnership. *San Bernardino County*. Available online at: https://www.ed-data.org/county/San-Bernardino/, accessed August 28, 2019.

7 National Center for Educational Statistics. *Search for Public Schools*. Available online at: https://nces.ed.gov/ccd/schoolsearch/school_list.asp?Search=1&InstName=&SchoolID=&Address=&City=&State=&Zip=&Miles=&County=San+Bernardino&PhoneAreaCode=&Phone=&DistrictName=&DistrictID=&SchoolType=1&SchoolType=2&SchoolType=3&SchoolType=4&SpecificSchlTypes=all&IncGrade=-1&LoGrade=-1&HiGrade=-1, accessed August 28, 2019.

8 San Bernardino County Superintendent of Schools. *School Districts Information*. Available online at: https://www.sbcss.k12.ca.us/index.php/2011-10-26-18-00-05, accessed August 28, 2019.

9 California Department of Education. 2019. *California Special Education Local Plan Areas*. Available online at: https://www.cde.ca.gov/sp/se/as/caselpas.asp, accessed August 28, 2019.

10 Regional Occupational Program. *ROP Course Offerings*. Available online at: https://www.sbcrop.org/apps/pages/index.jsp?uREC_ID=427614&type=d&pREC_ID=933195, accessed August 28, 2019.

11 Ventura County Office of Education. *Schools*. Available online at: https://www.vcoe.org/Schools, accessed August 28, 2018.

3.15.3.2 REGULATORY FRAMEWORK

3.15.3.2.1 Federal

Elementary and Secondary Education Act of 1965 (ESEA) and Every Student Succeeds Act (ESSA) of 2015

Since the Elementary and Secondary Education Act (ESEA) of 1965 (Public Law 89-10) was signed into law by President Lyndon B. Johnson, local school districts throughout the nation have received federal monies through grants to state educational agencies to improve the quality of elementary and secondary education. ESEA also offered new grants to districts serving low-income students and for text and library books, created special education centers, and created scholarships for low-income collect students. In 2002, Congress reauthorized ESEA and President George W. Bush signed the law under a new name: No Child Left Behind (NCLB). In 2015, President Obama reauthorized ESEA and improved upon the NCLB to focus on fully preparing all students for success in college and careers. The ESSA upholds critical protections for disadvantaged students, includes statewide assessments to measure progress, increases access to high-quality preschool and furthers goals to close achievement gaps and increase equity and positive outcomes for all students.[12]

3.15.3.2.2 State

California Government Code Section 65995

California Government Code Section 65995 is found in Title 7, Chapter 4.9 of the California Government Code. California Government Code Section 65995 authorizes school districts to collect impact fees from developers of new residential and commercial/industrial building space. Senate Bill 50 (SB 50) amended Government Code Section 65995 in 1998. Under the provisions of SB 50 schools can collect fees to offset costs associated with increasing school capacity as a result of development. The development that would occur within the SCAG region between now and 2044 would be subject to applicable fees determined by the local school districts per California Government Code Section 65995. The local school districts determine fees in accordance with California Government Code Section 65995 which can be adjusted every two years. The maximum fees authorized under SB 50 apply to zone changes, general plan amendments, zoning permits and subdivisions. The provisions of SB 50 are deemed to provide full and

12 Social Welfare History Project. *Elementary and Secondary Education Act of 1965*. Available online at: https://socialwelfare.library.vcu.edu/programs/education/elementary-and-secondary-education-act-of-1965/, accessed August 28, 2019.

complete mitigation of school facilities impacts, notwithstanding any contrary provisions in CEQA or other State or local laws. [13]

Assembly Bill 2926

In 1986, Assembly Bill No. 2926 (Statutes of 1986, ch. 887) (AB 2926) authorized the levy of statutory development fees, as well as placed a cap on the number of fees that could be levied, on new residential and commercial/industrial development in order to pay for school facilities. Its overall purpose was to enable school districts to impose developer fees to pay for new school construction (Government Code 53080).[14]

California Education Code

School facilities and services are subject to the rules and regulations of the California Education Code and governance of the State Board of Education (SBE). The SBE is the 11-member governing and policymaking body of the California Department of Education (CDE) that sets K–12 education policy in the areas of standards, instructional materials, assessment, and accountability.[15] The CDE and the State Superintendent of Public Instruction are responsible for enforcing education law and regulations; and for continuing to reform and improve public elementary school, secondary school, and childcare programs, as well as adult education and some preschool programs. The CDE's mission is to provide leadership, assistance, oversight, and resources so that every Californian has access to an education that meets world-class standards. The core purpose of the CDE is to lead and support the continuous improvement of student achievement, with a specific focus on closing achievement gaps.[16]

California Department of Education

The CDE is the government agency responsible for public education throughout the state. The department oversees funding, and student testing and achievement levels for all state schools. A sector of the CDE, the California State Board of Education is the governing and policy making sector

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13 California Legislative Information. *Chapter 4.9. Payment of Fees, Charges, Dedications, or Other Requirements Against a Development Project [65995-65998], Section 65995*. Available online at: https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=GOV&sectionNum=65995, accessed August 28, 2019.

14 California Legislative Information. *Article 4. Miscellaneous [53060-53087.8], Section 53080*. Available online at: https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=GOV&sectionNum=53080., accessed August 28, 2019.

15 California State Board of Education. *State Board of Education*. Available online at: https://www.cde.ca.gov/be/, accessed August 28, 2019.

16 California State Board of Education. *Vision, Mission, and Goals*. Available online at: https://www.cde.ca.gov/be/ag/ag/vmgoals.asp, accessed August 28, 2019.

responsible for education policies regarding standards, instructional materials, assessment, and accountability. CDE's mission is to provide leadership, assistance, oversight, and resources so that every Californian has access to an education that meets world-class standards. The core purpose of CDE is to lead and support the continuous improvement of student achievement, with a specific focus on closing achievement gaps.

Class Size Reduction Kindergarten-University Public Education Facilities Bond Act of 1998

Proposition 1A, the Class Size Reduction Kindergarten-University Public Education Facilities Bond Act of 1998 (Ed. Code, §§ 100400–100405) is a school construction funding measure that was approved by the voters on the November 3, 1998 ballot. The Act created the School Facility Program where eligible school districts may obtain state bond funds.[17]

Leroy Greene School Facilities Act of 1998

The Leroy Greene School Facilities Act of 1998 (Ed. Code, §§ 17070.10-17079.30) eliminated the ability of cities and counties to require full mitigation of school impacts and replaced it with the ability for school districts to assess fees directly to offset the costs associated with increasing school capacity as a result of new development. The Act states that payment of developer fees is "deemed to be complete and full mitigation" of the impacts of new development.[18]

Community Facilities Act of 1982, as amended

The Community Facilities Act of 1982 (Section 53324 of the Government Code), also commonly known as the Mello-Roos Act, enables certain public agencies to designate a Mello-Roos Community Facilities District, which allows for the financing of public improvements and services. These include basic infrastructure, police protection, fire protection, ambulance services, schools, parks, libraries, museums, and other cultural facilities. Mello-Roos Community Facilities Districts are usually created to finance improvements and services when no other funding sources are available and require a two-thirds majority vote of residents living within the proposed boundaries. They are used especially often (but not exclusively) in new development areas. Upon approval, a special tax lien is placed against each property

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17 Legislative Analyst's Office. 1998. *Proposition 1A Class Size Reduction Kindergarten – University Public Education Facilities Bond Act of 1998*. Available online at: https://lao.ca.gov/ballot/1998/1A_11_1998.htm, accessed August 28, 2019.

18 California Legislative Information. *Chapter 12.5. Leroy F. Greene School Facilities Act of 1998*. Available online at: https://leginfo.legislature.ca.gov/faces/codes_displayexpandedbranch.xhtml?tocCode=EDC&division=1.&title=1.&part=10.&chapter=12.5.&article=, accessed August 28, 2019.

in the district, and residents pay a special tax each year. This tax is not based on property value, but on formulas that take into account physical characteristics such as square footage and structure size.[19]

3.15.3.2.3 Local

School Districts

Although the California public school system is under the policy direction of the Legislature, the California Department of Education relies on local control for the management of school districts. In allocating resources among the schools of the district, school district governing boards and district administrators must follow the law, but also set the educational priorities for their schools. In addition, some jurisdictions issue bonds to finance school construction.

General Plans

Local planning policies related to education services are established in each jurisdiction's general plan. In general, jurisdictions have policies in place that state that public services must be provided at the same time (or in advance of) need for that service. In addition to these general policies, jurisdictions may have more specific policies tailored to performance objectives.

3.15.3.3 ENVIRONMENTAL IMPACTS

3.15.3.3.1 Thresholds of Significance

For the purposes of this PEIR, SCAG has determined that adoption and/or implementation of the proposed Plan would result in significant impacts to educational facilities, if the following could occur:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered school facilities the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios or other educational performance factors.

3.15.3.3.2 Methodology

The methodology for determining the significance of impacts on public services compares existing conditions to the expected future use of schools under the Plan. The criteria above were applied to compare current conditions to future 2045 Plan conditions. The analysis of these impacts is programmatic at the regional level, as such impacts for individual schools or school districts is not determined.

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19 California Tax Data. *What is Mello-Roos?* Available online at: https://www.californiataxdata.com/pdf/Mello-Roos2.pdf, accessed November 5, 2018.

In *Goleta Union School District v Regents of University of California (1995)* 37 CA 4th 1025, the court held that school overcrowding is a social impact and does not require analysis in an EIR and mitigation, unless the overcrowding is linked to physical environmental effects (such as new school construction). However, the law is somewhat unclear on how to analyze impacts from school facilities. The legal practice guide, "Practice under the California Environmental Quality Act" by the Continuing Education of the Bar, provides the following discussion on impacts to schools:

State and local agencies may not deny either legislative or adjudicative approvals on the basis of a refusal to pay fees in excess of those limits (Government Code Section 65995).

The statutes also significantly limit the application of CEQA to school facilities impact issues. The fees set forth in Government Code Section 65996 constitute the exclusive means of both "considering" and "mitigating" school facilities impacts of projects (Government Code Section 5996(a)).

Because the statute states that the statutory fees are the exclusive means of considering, as well as mitigating, school impacts, it limits not only the mitigation that may be required but also the scope of impact review in CEQA documents and the findings for school impacts.

In *Chawanakee Unified School District v County of Madera* (2011) 196 CA 4th 1016, the court held that because the methods in the statute are the exclusive means of "considering" impacts on schools, an EIR need not describe and analyze a development's impacts on schools. Consistent with this view:

- Once the statutory fee is imposed, the impact should be determined to be mitigated because of the provision that the statutory fees constitute full and complete mitigation (Government Code Section 65995(b)); and

- It should not be necessary to adopt a statement of overriding considerations for school facilities impacts when the statutory fee is assessed, because the impact is deemed as a matter of law to be adequately mitigated (Government Code Section 65995(b)).

The *Chawanakee* court also ruled that the reach of the statute is limited to impacts "on" schools and does not extend to impacts on the non-school physical environment, even though they may be "related" to schools in some way. The implications of this ruling are uncertain, however, because the court did not consider the effect of Government Code Section 65995(b), which states that the statute provides full school facilities mitigation notwithstanding CEQA, or of Government Code Section 65995(c), which defines a school facility as "any school-related consideration relating to a school district's ability to accommodate enrollment."

Based on the above and the uncertainty created by the *Chawanakee* decision related to impacts to non-school property from the construction of school facilities, for purposes of this PEIR, an impact on schools would occur if the Plan promotes growth patterns resulting in the need for and/or the provision of new or physically altered public school facilities, the construction of which would cause significant environmental impacts in order to maintain classroom sizes or other performance objectives. The determination of whether there is a significant impact related to schools is based on whether a significant impact would result from the construction of new or expanded school facilities on non-school property. This PEIR analyzes the potential for the Plan to result in the need for new school facilities and the associated potential for construction and subsequent operation of such facilities to cause physical environmental impacts.

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

3.15.3.3.3 Impact and Mitigation Measures

Impact PSS-1 **Result in substantial adverse physical impacts associated with the provision of new or physically altered educational facilities, need for new or physically altered educational facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives.**

Significant and Unavoidable Impacts - Mitigation Required.

Population is anticipated to increase by approximately 3.2 million people over the lifetime of the Plan (with or without the Plan); some of this population increase would include school age children.[20]

[20] Southern California Association of Governments. Profiles of Imperial County, Los Angeles County, Orange County, Riverside County, San Bernardino County, and Ventura County. Available at: http://www.scag.ca.gov/DataAndTools/Pages/LocalProfiles.aspx

According to SCAG's Demographics and Growth Technical Report, the share of children will decline by 2.48 percent, but school age children will continue to make up a large share of the overall population.

Based on the 2018 enrollment of approximately 3 million students in the SCAG region (approximately 16 percent of an overall 2018 population of 19.1 million), and considering the projected growth scenario for 2045, the number of children enrolled in K-12 schools is anticipated to increase by approximately 558,000 students.[21,22] The land use strategies included in the Plan direct new growth to existing urbanized communities within the SCAG region. For example, as projected by the Plan, HQTAs are planned to accommodate 48 percent of the region's future housing unit growth. It is anticipated that this increase in population and households in existing communities and HQTAs would require construction or expansion of new schools in the region to accommodate the increased growth and densified development (e.g., more families living and/or working there). However, it is important to note that some public schools have experienced declines in enrollment as a result of changing demographics and/or as a result of parents choosing a private education. For example, according to the Superintendent's 2019-20 Final Budget Report, the largest district in the region, Los Angeles Unified School District (LAUSD), is expecting enrollment to decrease across its schools; LAUSD states that this is due to several factors, including the reduced birth rate in Los Angeles County and the increasing cost of living, including housing, in southern California.[23]

School standards, performance measures, and related policies are set for public schools in school district long-range plans. To meet increased demand, existing schools would likely need additional facilities and other resources to maintain adequate educational standards. In some cases, depending on the pattern of development, it could be necessary to construct new schools as has been the case in Orange County's Saddleback Valley Unified School District. Such construction could have impacts on aesthetics, air quality, cultural resources, noise, transportation, as well as public services and utilities.

It is assumed that if new or expanded schools are determined to be necessary at some point in the future, such facilities could occur in proximity to residential uses.[24] Depending on the location of new schools, if

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21 Southern California Association of Governments. Profiles of Imperial County, Los Angeles County, Orange County, Riverside County, San Bernardino County, and Ventura County. Available at: http://www.scag.ca.gov/DataAndTools/Pages/LocalProfiles.aspx

22 Assuming the percent of school age children within the SCAG region remains constant at 15.5 percent, the increase in the number of students would be approximately 558,000 students, or 15.5 percent of the anticipated increase of 3.6 million people for the SCAG region over the lifetime of the Plan.

23 Los Angeles Unified School District. 2019. *2019-20 Superintendent's Final Budget*. Available at: https://achieve.lausd.net/cms/lib/CA01000043/Centricity/Domain/123/19_2019-20%20District%20Enrollment%20Trends%2005-17-19%20combined%20rev.pdf, accessed October 30, 2019.

24 As allowed under Section 53094 of the California Government Code, the LAUSD Board of Education has, by resolution, exempted many schools from complying with local zoning regulations.

they are determined to be needed, impacts related to particular locations could occur; however, such impacts are too speculative to assess without information as to design, location and proximity to the population to be served. Further, any significant impacts that could result from the unique characteristics of a specific project site, or specific characteristics of a given school (e.g. night lighting and performance spaces) would be speculative at this time. The construction of these facilities would be subject to project-specific CEQA review. While the PEIR analyzes anticipated effects of regional transportation and growth related to air quality, noise, traffic, utilities, and other environmental impact areas, given the increased growth as well as densified development the Plan could contribute to substantial adverse physical impacts associated with the construction and subsequent operation of new or physically altered school facilities in order to maintain acceptable service ratios. Although the location and size of such facilities is not yet known, impacts could occur, requiring the consideration of mitigation measures.

Mitigation Measures

SCAG Mitigation Measure

SMM PSS-1: SCAG shall facilitate minimizing future impacts to school services through cooperation, information sharing, and regional program development as part of SCAG's ongoing regional planning efforts, such as web-based planning tools for local government including CA LOTS, and other GIS tools and data services, including, but not limited to, Map Gallery, GIS library, and GIS applications, and direct technical assistance efforts to promote school planning efforts.

Project Mitigation Measures

PMM PSS-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects of constructing new or physically altered school facilities, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

a) Where construction or expansion of school facilities is required to meet public school service ratios, require school district fees, as applicable.

Level of Significance After Mitigation

As discussed above, regulations and policies would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing

regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and the lack of project specific-detail, including project components and locations, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts related to the need for new or physically altered school facilities could be significant and unavoidable even with implementation of mitigation.

3.15.3.4 SOURCES

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3.15.4 Library Services

3.15.4.1 ENVIRONMENTAL SETTING

American Library Association

In the mid 1960's, the American Library Association (ALA) established library standards for public libraries. The ALA recommends service criteria of 0.5 square feet of library space and 2.5 volumes per capita. Many jurisdictions have not identified individual service criteria and utilize the ALA recommendations to meet the demand for library services in an area.

Imperial County

The County of the Imperial Free Library was founded in 1912 and serves County residents in unincorporated areas, as well as in the cities of Calipatria, Holtville, and Westmorland. There are currently four branches located in Salton City, Calipatria, Heber, and Holtville. The library facilities offer services for children and teens, such as homework assistance, education games, and college scholarship databases.[1] Many incorporated cities within Imperial County also provide library services.

Los Angeles County

The County of Los Angeles Public Library is one of the largest public library systems in the U.S. The system maintains 86 libraries across seven library planning areas. The system is equipped with 7.5 million books, in addition to magazines, newspapers, government publications, reference materials, audio-visual media, adult, teen and children programs, downloadable e-books, computers, and internet access. The County guidelines regarding facilities are a minimum of 0.5 gross square foot and 2.75 items (books and other library materials) per capita.[2] Many incorporated cities within Los Angeles County also provide their own library services.

Orange County

The Orange County Public Library provides library service to the unincorporated areas of Orange County plus the cities of Aliso Viejo, Brea, Costa Mesa, Cypress, Dana Point, Fountain Valley, Garden Grove, Irvine, Laguna Beach, Laguna Hills, Laguna Niguel, Laguna Woods, Lake Forest, La Habra, La Palma, Los Alamitos, Rancho Santa Margarita, San Clemente, San Juan Capistrano, Seal Beach, Stanton,

1 Imperial County, California. *Welcome to the Imperial County Free Library*. Available online at: https://www.co.imperial.ca.us/Library/, accessed August 28, 2019.

2 County of Los Angeles. 2015. *Los Angeles County General Plan*. Available at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan.pdf, accessed September 9, 2019.

Tustin, Villa Park, and Westminster. The library system operates 33 branch library facilities, which contain approximately 2.5 million volumes, as well as periodicals, pamphlets, audio and video recordings, graphics, maps, etc. The library system has determined a service standard of 0.2 square foot of library space per capita and it strives to locate facilities within a three mile radius of the communities they serve.[3] Within Orange County, many incorporated cities also provide library services.

Riverside County

Riverside County operates a library system of 36 libraries, two book mobiles, and a county museum. Library management offices are located in the City of Riverside while the bookmobiles travel to serve unincorporated communities in the Coachella Valley and in western Riverside County. In Fiscal Year 2018/2019, the County library had approximately 3.752 million visitors and issued 43,700 library cards.[4] Many incorporated cities within Riverside County also provide library services.

San Bernardino County

The San Bernardino County Library System (SBCL) maintains 32 branches, two book mobiles, and has an administration building in the City of San Bernardino.[5] The SBCL provides library resources such as books, internet, youth and adult literacy services, and braille institute services. The SBCL is available to unincorporated communities as well as 25 incorporated communities within the County. Combined, the branch facilities and administrative office total over 358,000 square feet of building area.[6] In addition, many incorporated cities within San Bernardino provide library services.

Ventura County

The Ventura County Library maintains 12 community branches across the County. The various branches provide services such as book and document loans, computer labs, meeting rooms, homework assistance, and STEAM events. The County Library also provides an adult literacy program and tutors, as well as an eLibrary.[7] The Ventura County Library maintains over 300,000 print books, as well as a variety of music,

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3 Orange County. *General Plan Chapter V: Public Services & Facilities Element*. Available at: https://www.ocgov.com/civicax/filebank/blobdload.aspx?blobid=8639, accessed September 9, 2019.

4 County of Riverside. *Fiscal Year 2019/19 Recommended Budget*. Available online at: https://countyofriverside.us/Portals/0/Government/Budget%20Information/18-19/FY18-19_Recommended_Budget_@2018-05-25_ELECTRONIC_VERSION.pdf, accessed August 28, 2019.

5 San Bernardino County. *Library About Us*. Available online at: http://www.sbclib.org/Information.aspx, accessed August 28, 2019.

6 County of San Bernardino. *San Bernardino Countywide Plan Draft Environmental Impact Report*. Available online at: http://countywideplan.com/wp-content/uploads/2019/06/Ch_000_TITLE-PAGE.pdf, accessed September 18, 2019.

movies, TV shows, magazines, toys, instruments, and sketch books.[8] In the Fiscal Year 2018-2019, the County Library circulated over 554,000 physical and digital items, issued 12,000 library cards, and held over 5,000 events.[9] Library services are also provided by many incorporated cities within Ventura County.

3.15.4.2 REGULATORY FRAMEWORK

3.15.4.2.1 State

Community Facilities Act of 1982, as amended

The Community Facilities Act of 1982 (Section 53324 of the Government Code), also commonly known as the Mello-Roos Act, enables certain public agencies to designate a Mello-Roos Community Facilities District, which allows for the financing of public improvements and services. These include basic infrastructure, police protection, fire protection, ambulance services, schools, parks, libraries, museums, and other cultural facilities. Mello-Roos Community Facilities Districts are usually created to finance improvements and services when no other funding sources are available, and require a two-thirds majority vote of residents living within the proposed boundaries. They are used especially often (but not exclusively) in new development areas. Upon approval, a special tax lien is placed against each property in the district, and residents pay a special tax each year. This tax is not based on property value, but on formulas that take into account physical characteristics such as square footage and structure size.[10]

3.15.4.2.2 Local

Developer Impact Fees

One primary source for financing library facilities within the SCAG region and across the state is developer impact fees. These fees reduce impacts of residential developments; generally, developers can construct new library facilities or pay impact fees to the library to mitigate the impacts from a specific project. Fees vary depending on the jurisdiction in which the project is located.

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7 Ventura County Library. 2019. *Services Available*. Available online at: https://www.vencolibrary.org/services, accessed August 28, 2019.

8 Ventura County Library. 2019. *System-Wide Stats*. Available online at: https://www.vencolibrary.org/stats, accessed August 28, 2019.

9 Ventura County Library. *Fiscal Year 2018-2019*. Available online at: https://www.vencolibrary.org/sites/default/files/VCLCanva_Infographic_FY18-19.png, accessed August 28, 2019.

10 California Tax Data. *What is Mello-Roos?* Available online at: https://www.californiataxdata.com/pdf/Mello-Roos2.pdf, accessed November 5, 2018.

3.15.4.3 IMPACTS AND MITIGATION MEASURES

3.15.4.3.1 Thresholds of Significance

For the purposes of this PEIR, SCAG has determined that adoption and/or implementation of the proposed Plan would result in significant impacts to library facilities, if the following could occur:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered library facilities, need for new or physically altered library facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives.

3.15.4.3.2 Methodology

The methodology for determining the significance of impacts on public services compares existing conditions to the expected future use of libraries under the Plan. The criteria above were applied to compare current conditions to future 2045 Plan conditions. Due to the size of the region, a detailed analysis of individual libraries and their capacity is not feasible. As such, the analysis focuses on region wide capacity and impacts. The analysis of these impacts is programmatic at the regional level.

The need for, or deficiency in, library facilities to serve residents is not in and of itself a CEQA impact, but a social or economic impact. (*City of Hayward v. B'd of Trustees* (2015) 242 Cal.App. 4th 833, 843). In accordance with CEQA, this PEIR analysis focuses on the extent to which the Plan's growth patterns result in a need for additional library facilities and the associated potential for construction and subsequent operation of such facilities to cause physical environmental impacts.

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

3.15.4.3.3 Impact and Mitigation Measures

Impact PSL-1 **Result in substantial adverse physical impacts associated with the provision of new or physically altered library facilities, need for new or physically altered library facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives.**

Significant and Unavoidable Impacts - Mitigation Required.

Population in the SCAG region is anticipated to increase by approximately 3.2 million people over the next 25 years, with or without the Plan. As discussed above, the counties within the SCAG region all have different service criteria for library services, with some counties not having set any at the time of this PEIR. Across the nation, public libraries have experienced significant growth in programming since 2012. The number of public programs offered per capita has jumped 27.5% while the number of programs attended per capita has risen 16.9%. The Public Library Association (PLA) is responding to this trend by offering relevant initiatives designed to help public libraries offer targeted programs around issues that matter most to patrons, including access to on-line resources and e-books. Currently, 100% of public libraries offer access to the internet; 98% offer free Wi-Fi; 90% help patrons with basic internet skills; 97% help people complete online government forms; 90% offer access to e-books.[11]

New transportation facilities, especially those in urban areas, could facilitate access to libraries and result in increased use of some libraries. In addition, the anticipated growth in population and households would increase the demand for library facilities, which may result in a need for new and/or expanded library facilities. As communities grow, the need for library facilities would be assessed by each local jurisdiction and additional facilities would be constructed as needed. Depending on the location of new libraries, if they are determined to be needed, impacts related to locations could occur; however, without information as to design, location and proximity to the population to be served, such impacts are too speculative to assess The construction of these facilities would be subject to project-specific CEQA review. While the PEIR analyzes anticipated effects of regional transportation and growth related to air quality, noise, traffic, utilities, and other environmental impact areas, given the increased growth as well as densified development (e.g., more families living and/or working there), the Plan could contribute to substantial adverse physical impacts associated with the construction of library facilities in order to maintain acceptable service ratios. Although the location and size of such facilities is not yet known, impacts could occur, requiring the consideration of mitigation measures.

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11 American Library Association, State of America's Libraries Report 2019, website: http://www.ala.org/news/state-americas-libraries-report-2019/public-libraries, accessed October 30, 2019.

Mitigation Measures

SCAG Mitigation Measure

SMM PSL-1 SCAG shall facilitate minimizing future impacts to library services through cooperation, information sharing, and regional program development as part of SCAG's ongoing regional planning efforts, such as web-based planning tools for local government including CA LOTS, and other GIS tools and data services, including, but not limited to Map Gallery, GIS library, and GIS applications, and promote acceptable service ratios regarding library services.

Project Mitigation Measure

P**MM PSL-1:** In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects of construction of new or altered library facilities, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

a) Where construction or expansion of library facilities is required to meet public library service ratios, require library fees, as appropriate and applicable, to mitigate identified CEQA impacts.

Level of Significance After Mitigation

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

3.15.4.4 SOURCES

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County of Riverside. *Fiscal Year 2019/19 Recommended Budget*. Available online at: https://countyofriverside.us/Portals/0/Government/Budget%20Information/18-19/FY18-19_Recommended_Budget_@2018-05-25_ELECTRONIC_VERSION.pdf, accessed August 28, 2019.

County of San Bernardino. *2006 General Plan Program Final Environmental Impact Report and Appendices SCH#2005101038*. Available online at: http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FinalEIR2007.pdf, accessed August 28, 2019.

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San Bernardino County. *Library About Us*. Available online at: http://www.sbclib.org/Information.aspx, accessed August 28, 2019.

Ventura County Library. 2019. *Services Available*. Available online at: https://www.vencolibrary.org/services, accessed August 28, 2019.

Ventura County Library. 2019. *System-Wide Stats*. Available online at: https://www.vencolibrary.org/stats, accessed August 28, 2019.

Ventura County Library. *Fiscal Year 2018-2019*. Available online at: https://www.vencolibrary.org/sites/default/files/VCLCanva_Infographic_FY18-19.png, accessed August 28, 2019.

3.16 PARKS AND RECREATION

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

3.16.1 ENVIRONMENTAL SETTING

3.16.1.1 Definitions

Definitions of terms used in the regulatory framework, characterization of baseline conditions, and impact analysis for recreation are provided.

Recreation Level of Service (LOS):[1] In the context of recreation of recreational service, LOS refers to the amount of "service" each park, open land, trail, or other facility provides to its constituents.[2] Conventional recreation and park LOS analysis—often called the "NRPA standards" method because it was published by the National Recreation and Parks Association (NRPA)—is based on capacity only. NRPA standards suggest providing a certain number of facilities or acres of parkland per 1,000 population. The County of Los Angeles General Plan[3] and Orange County General Plan[4] have established a standard for parklands of four acres of local parkland and six acres of regional parkland per 1,000 county residents in unincorporated areas; the Imperial County General Plan[5] has established a standard of five net acres of overall parkland per 1,000 county residents in unincorporated areas; the San Bernardino County General Plan[6] has established a standard of 14.5 acres of undeveloped lands and/or

1 It should be noted that LOS may also refer to a transportation metric when discussing traffic impacts, however for the purposes of this section of the PEIR, LOS refers to the amount of "service" each park, open land, trail, or other facility provides to its constitutes.

2 National Recreation and Parks Association. *NRPA Parks Metrics* Available online at: https://www.nrpa.org/publications-research/ParkMetrics/, accessed March 29, 2019.

3 Los Angeles County Department of Regional Planning. 2015. *Los Angeles County General Plan Adopted October 6, 2015: Chapter 10: Parks and Recreation Element*. Available online at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan.pdf, accessed August 19, 2019.

4 Orange County Public Works Development Services. 2015. *General Plan: Chapter VII. Recreation Element*. Available online at: http://ocplanning.net/civicax/filebank/blobdload.aspx?blobid=24960, accessed August 19, 2019.

5 Imperial County Planning & Development Services Department. 2008. *Parks and Recreation Element*. Available online at: http://www.icpds.com/CMS/Media/Parks-&-Recreation-Element-(2008).pdf, accessed August 19, 2019.

6 San Bernardino County Land Use Services. 2007. *County of San Bernardino 2007 General Plan*. Available online at: http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGP.pdf, accessed August 19, 2019.

trails per 1,000 county residents and 2.5 acres of regional parkland per 1,000 county residents; and Ventura County has not established numeric parkland standards.

Because park needs and definitions vary among jurisdictions, the following description are provided for informational purposes. The definitions below are not intended to define all parkland in the region, but rather, are intended to provide general guidance about different types of parks that can be found in the region.

Local Park: According to the Los Angeles County General Plan**,** a park that is considered to serve the local community (within a two-mile service radius of the park) is generally 20 acres or less in size.[7,8] Further, the Los Angeles County General Plan has refined local parks into the following categories:[9]

Park Node: Park nodes are small pieces of open space that serve as public destinations, connections, and community defining spaces. Examples include plazas, rest areas, playgrounds, landmarks, public art installations, etc.

Size: One-quarter acre or less
Service Area: No service radius area

Pocket Park: Pocket parks are less than three acres in size and serve residential or business areas within a quarter mile radius or within walking distance. Passive park amenities include picnic areas and seating areas. Active park amenities include children's play apparatus.

Size: Less than three acres
Service Area: Up to one-quarter mile radius of the park

Neighborhood Park: The common objective of all neighborhood parks is to bring people together to recreate and socialize close to home. Passive park amenities include informal open play areas, children's play apparatus, group picnic areas with overhead shelters, and barbecues. Active park amenities include practice sports fields, basketball, tennis, and

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7 Los Angeles County Department of Regional Planning. 2015. *Los Angeles County General Plan Adopted October 6, 2015: Chapter 10: Parks and Recreation Element*. Available online at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan.pdf, accessed July 7, 2019.

8 Orange County Public Works Development Services. 2015. *General Plan: Chapter VII. Recreation Element*. Available online at: http://ocplanning.net/civicax/filebank/blobdload.aspx?blobid=24960, accessed March 27, 2019.

9 Los Angeles County Department of Regional Planning. 2015. *Los Angeles County General Plan Adopted October 6, 2015: Chapter 10: Parks and Recreation Element*. Available online at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan.pdf, accessed July 7, 2019.

volleyball courts. Park facilities typically include public restrooms, and onsite parking and information kiosks.

Size: Three to 10 acres
Service Area: One-half mile radius of the park

Community Park: Community parks that are located in residential neighborhoods serve both the needs of the community park service radius and neighborhood park service radius. The amenities programmed into a community park are focused on meeting the needs of several neighborhoods or large sections of the community. Passive park amenities include informal open play areas, children's play apparatus, family and group picnic areas with overhead shelters, and barbecues; active sports activities including light sports fields, basketball courts and tennis courts, aquatics complexes, skate parks, soccer arenas, roller hockey, community gardens, and dog parks; and park facilities including public restrooms, concession buildings, community buildings, maintenance buildings, and on-site parking and information kiosks.

Size: 10 to 20 acres
Service Area: 1 to 2-mile radius around the park

Regional Park: A park greater than 20 acres in size is generally considered a regional park. A regional park may have a service radius of over 25 miles.[10,11] For instance, the Los Angeles County General Plan has refined regional parks into the following categories:[12]

Community Regional Park: Community regional parks protect and conserve natural resources, preserve open spaces, and provide recreational facilities that are not available in neighborhood or community parks. Passive park amenities include open play areas, children's play apparatus, group picnic areas with overhead shelters, and barbecues. Active sports activities include lighted sports fields, basketball courts, and tennis courts. Additional amenities include multiple sports facilities, aquatics centers, fishing lakes, community buildings, gymnasiums, and scenic views and vistas. Park facilities typically include public restrooms, concession buildings, community buildings, maintenance buildings, and on-site parking and information kiosks.

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10 Ibid.

11 Orange County Public Works Development Services. 2015. *General Plan: Chapter VII. Recreation Element*. Available online at: http://ocplanning.net/civicax/filebank/blobdload.aspx?blobid=24960, accessed March 27, 2019.

12 Los Angeles County Department of Regional Planning. 2015. *Los Angeles County General Plan Adopted October 6, 2015: Chapter 10: Parks and Recreation Element*. Available online at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan.pdf, accessed July 7, 2019.

Size: 20 to 100 acres

Service Area: Up to 20-mile radius around the park

Regional Park: Regional Parks include unique areas such as lakes, wetlands, auditoriums, water bodies, and campgrounds, in addition to the active recreational facilities offered in community and community regional parks. Many of the recreation activities are associated with experiencing the natural environment. A regional park may also perform important ecological and environmental functions, including serving as wildlife habitats. Passive park amenities include group picnic areas with overhead shelters and barbecues. Additional park amenities include lakes, wetlands, auditoriums, water bodies for swimming, fishing and boating, and sports fields.

Size: Greater than 100 acres

Service Area: 25-mile or greater radius around the park

Special Use Facility: Special use facilities are generally single purpose facilities that serve greater regional recreational or cultural needs. Passive features include wilderness parks, nature preserves, botanical gardens, and nature centers. Active uses include performing arts, water parks, golf driving ranges, and golf courses.

Size: No size criteria

Service Area: No assigned service radius area

Trails/Linear Parks: SCAG,[13] Los Angeles County,[14] and San Bernardino County[15] define trails as linear parks that provide community access to increased health and fitness activities in the increasingly urbanized region.

Multi-Benefit Parks*:* According the Los Angeles County General Plan, multi-benefit parks and open spaces are created through collaborative efforts among city, county, state, and federal agencies; private organizations; schools; private landowners; and industries. These parks are characterized as having more than one function and contributing to multiple program goals. There are a number of applications of multi-benefit parks including: utility corridors and flood protection basins that can serve as areas for active or passive recreation; school sites located adjacent to parks that can share facilities, such as parking

13 SCAG. 2016. *2016-2040 RTP: Active Transportation Appendix*. Available online at: http://scagrtpscs.net/Documents/2016/final/f2016RTPSCS_ActiveTransportation.pdf, accessed September 4, 2019.

14 Los Angeles County Department of Regional Planning. 2015. *Los Angeles County General Plan Adopted October 6, 2015: Chapter 10: Parks and Recreation Element*. Available online at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan.pdf, accessed August 19, 2019.

15 San Bernardino County Land Use Services. 2007. *County of San Bernardino 2007 General Plan*. Available online at: http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGP.pdf, accessed August 19, 2019.

and park amenities; watershed areas that can protect critical wildlife habitats, preserve open space, provide trails for recreation, and contribute to water conservation objectives; and water districts, where trails can be located adjacent to flood protection channels and trailhead parks.[16]

School Sites: According the Los Angeles County General Plan, the County works with school districts to organize, promote, and conduct joint recreational and educational programs. These community recreation agreements are a form of joint-use agreement, where either a school or park facility may be put to some recreational use by the other party in exchange for some facility improvement and/or maintenance. A park does not have to be adjacent to a school (i.e., share a common boundary) for an agreement to be viable.[17]

City Parks and Facilities: According the Los Angeles County General Plan, city parks and facilities that are located close to the borders of the unincorporated areas are enjoyed by city and County residents alike. Similarly, local County parks that are located within or close to the borders of cities provide recreational amenities for both populations.[18]

Private Recreational Facilities: According the Los Angeles County General Plan, private recreational facilities play an important role in meeting recreational needs. The network of private recreational facilities consists of churches, health and fitness clubs, and other organizations that offer a variety of programs and facilities.[19]

Greenways: According the Los Angeles County General Plan, greenways provide a linear area along natural corridors, and often follow features such as rivers, man-made waterways, drainage channels, and utility easements. Greenways can accommodate various modes of uninterrupted pedestrian travel on pathways, including walking, jogging, and bicycling, and can include recreation areas and natural landscape features.[20]

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16 Los Angeles County Department of Regional Planning. 2015. *Los Angeles County General Plan Adopted October 6, 2015: Chapter 10: Parks and Recreation Element.* Available online at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan.pdf, accessed July 7, 2019.

17 Ibid.

18 Ibid.

19 Ibid.

20 Ibid.

Within the SCAG region, parks are classified into several subgroups: neighborhood, community, city, as well as specialized recreation areas, regional recreational areas, state and federal recreation areas, and open space areas.[21]

Neighborhood Park: A park or playground developed primarily to serve the recreational needs of citizens living within a 0.5-mile radius of the park. These facilities include pocket parks and neighborhood playgrounds.[22]

Community Park: A larger park or facility developed to meet the park and recreational needs of those living or working within a one to two-mile radius. Community parks may have a variety of playing fields and community recreation facilities.[23]

City Park: A park having a wide range of improvements not usually found in neighborhood and community parks and designed to meet the recreational needs of the entire city population. Recreational facilities might include a nature area, golf course, zoo, pool, skateboarding parks, playing fields, or structures like gymnasiums, community centers, and public or private educational institutions. Parks may also be themed, such as a park dedicated to the agricultural heritage of the area.

Specialized Recreation Area: A recreation area or facility devoted to a very specific activity or use, such as a linear park, golf courses, or soccer parks.

Regional Recreation Area: Regional recreation areas provide access to significant ecological, cultural, or historical features or unique facilities that attract visitors from throughout the entire region (including incorporated and unincorporated areas). Regional recreation areas may be composed of one large site or several sites located in proximity that together provide a significant recreation area for the region. These parks may include areas of significant natural resources, as well as more developed activity sites. Regional recreation areas may be supported by a wide variety of specialized facilities such as indoor recreation centers, large group picnic areas, special event facilities/festival space, and campgrounds.

State and Federal Recreation Areas: A park maintained by state or federal agencies and typically providing recreational opportunities like camping, hiking, bird watching, rafting, boating, and fishing. Many parts of the region have vast areas covered by state or federal parkland.

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21 California Department of Parks and Recreation. *Find a Park by County*. Available online at: http://www.parks.ca.gov/parkindex, accessed July 25, 2019.

22 Los Angeles County Department of Regional Planning. 2015. *Los Angeles County General Plan Adopted October 6, 2015: Chapter 10: Parks and Recreation Element.* Available online at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan.pdf, accessed September 16, 2019.

23 Ibid.

Open Space Areas: Open space refers to lands that are generally unimproved and used for resource conservation and/or the managed production of resources. Open space is comprised of both designated open space and "de facto" open space. Designated open space is land that has been left undeveloped by design. Other land is deemed open space not by design, but because the land is not involved in a productive use, or in the case of agricultural lands, the land is consumed by a productive use that contributes to the visual quality of the land or provides wildlife habitat.

3.16.1.2 Existing Conditions

The diverse natural resources located in the six counties within SCAG's jurisdiction provide a wide range of recreational opportunities for residents and tourists alike. Resources range from small neighborhood parks featuring playground equipment and sports fields to vast expanses of wilderness with hiking trails, rafting, and camping. In addition to parks for active recreation, the SCAG region also has a diversity of open space areas. The SCAG region contains approximately 150 miles of coastline, four national forests, two national parks, and several national wildlife refuges. There are 48 California state parks, 268 county parks, and over 3,300 city parks and open space areas in the SCAG region.[24,25] These lands are governed by a variety of agencies, including municipal park departments, independent park districts, counties, cities, community service districts, and federal and state agencies.

Open Space and Recreation Lands in the SCAG Region

Public parks and open space serve all of the residents in the SCAG region, as well as tourists and visitors. The variety of landscapes within the SCAG region allows for a broad range of parks and recreational facilities, many of which are quite unique. The multitude of parks and associated facilities make the SCAG region an ideal area for outdoor exploration and draw many tourists and visitors to the area. An effective regional transportation system would increase accessibility to such destinations, for tourists and residents alike. Improved access to outdoor spaces would benefit the overall health and well-being of residents, as well as public education and environmental awareness. **Table 3.16-1, Recreational Areas and Protected Open Space by County (Acres)**, shows California Protected Areas (CPAs), lands owned in fee, from small parks to large wilderness areas, in each SCAG county by acreage.

Each city and county within the SCAG region has a general plan containing an open space and/or parks and recreation element. Each element describes specific rules, regulations, and current conditions of

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24 California Department of Parks and Recreation. *Find a Park by County.* Available online at: http://www.parks.ca.gov/parkindex, accessed October 24, 2018.

25 GreenInfo Network. 2016. *California Protected Areas: Data Portal.* Available online at: http://www.calands.org/, accessed October 29, 2018.

various local parks and recreation facilities to maximize recreational benefits within each jurisdiction. Based on the information found in the various county plans, Orange County and Los Angeles County have a deficiency in local parkland. Los Angeles, Orange, and San Bernardino counties have established regional parkland standards, which they currently meet. Imperial County also meets its combined local and regional parkland standard. Further detail regarding the condition of parks, recreation, and open space in counties within the SCAG region is described below.

Table 3.16-1
Recreational Areas and Protected Open Space by County (Acres)

County	Total Acres
Imperial County	1,575,196
Los Angeles County	906,082
Orange County	152,486
Riverside County	2,857,963
San Bernardino County	8,492,573
Ventura County	645,734
Total	**14,630,034**

Source:
GreenInfo Network. 2018. CPAD: California Protected Areas: Data Portal. Available online at: https://data.cnra.ca.gov/dataset/california-protected-areas-database-2018a, accessed June 20, 2019.

Imperial County

Imperial County is a predominantly agricultural area and approximately 50 percent of County lands are undeveloped and under federal jurisdiction. A recreation designation covers the largest area of any land use in the County.[26] The County maintains approximately 1,575,196 acres of regional parkland and protected open space, 97 percent of which is open access land. Two and a half percent of protected land has no public access and less than one percent has restricted access, where the public can only enter with a permit. This total includes parkland owned by the federal, state, county, and city as well as special district, nonprofit, private, and joint parkland.[27] The Imperial County General Plan has established a standard of five net acres of overall parkland per 1,000 residents in unincorporated areas. With a total

26 Imperial County. 1993. *General Plan Environmental Impact Report, Update.* Available online at: http://www.icpds.com/?pid=829, accessed March 27, 2019.

27 Ibid.

population of 207,682 in 2019, there are approximately 7,585 protected acres per 1,000 inhabitants, which is significantly higher than the set overall standard.[28]

Imperial County contains the Ocotillo Wells and Heber Dunes State Parks as well as eight County parks.[29] County parks maintain sports courts and recreational facilities, trails, barbecues, and playgrounds and space for activities such as camping, boating, and fishing. The Heber Community Center is also operated by the County and includes a library, event area, kitchen, and sports courts. Ocotillo Wells is a State Vehicular Recreation Area (SVRA) and contains more than 85,000 acres of desert open for off-road exploration, recreation, and camping. The Heber Dunes State Park is also an SVRA; it is mostly utilized by all-terrain vehicle (ATV) riders. The 323 acres of parkland are exclusively for day utilization and no camping, shooting or hunting is allowed.

Los Angeles County

Los Angeles County has 906,082 acres of parkland, a majority of which is under the jurisdiction of the federal government.[30] This total includes parkland owned by the federal, state, county, and city as well as special district, nonprofit, private, and joint parkland.[31] The County maintains approximately 70,000 acres.[32] Over 92 percent of the total parkland is open access and less than one percent allows no public access. The Los Angeles County General Plan has established a standard of 4 acres of local parkland per 1,000 residents in the unincorporated areas and 6 acres of regional parkland per 1,000 residents of the total population in Los Angeles County. According to the General Plan (2015), the County has a substantial deficit in local parkland, providing approximately 0.6 acres of local parkland per 1,000 unincorporated residents but 7.02 acres of regional parkland per 1,000 residents (total), which is above the regional standard.[33]

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28 California Protected Areas (CPAD). 2018. *CPAD Statistics*. August. Available online at: https://data.cnra.ca.gov/dataset/california-protected-areas-database-2018a, accessed July 30, 2019.

29 Imperial County Planning and Development Services. 2018. *Parks and Recreation*. Available online at: https://www.co.imperial.ca.us/publicwork/index.asp?fileinc=parkscounty, accessed July 30, 2019.

30 California Protected Areas (CPAD). 2018. *CPAD Statistics*. August. Available online at: https://data.cnra.ca.gov/dataset/california-protected-areas-database-2018a, accessed July 30, 2019.

31 Ibid.

32 Los Angeles County Department of Regional Planning. 2015. *Los Angeles County General Plan Adopted October 6, 2015: Chapter 10: Parks and Recreation Element*. Available online at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan.pdf, accessed July 7, 2019.

33 Ibid.

Los Angeles County has 177 County parks and 24 state parks, the most of any county in the SCAG region.[34] Parks in Los Angeles include beaches, picnic areas, sports fields and courts, and hiking and camping opportunities. There are also multiple special use facilities, single purpose facilities serving greater regional recreational or cultural needs, such as the Hollywood Bowl.[35] Prominent parks in Los Angeles County include Santa Catalina Island Regional Park, Griffith Park, Topanga State Park, and the Antelope Valley Poppy Reserve.

Orange County

Orange County contains 152,486 acres of protected parkland, the majority of which is controlled on a federal or county level.[36] This total includes parkland owned by the federal, state, county, and city as well as special district, nonprofit, private, and joint parkland.[37] Orange County General Plan (2014) established parkland standards of 2.5 acres of local parkland per 1,000 residents in unincorporated areas and 6 acres of regional parkland per 1,000 residents.[38] With a total population of approximately 3,250,000 people,[39] the County provides about 46.9 acres of parkland per 1,000 residents, far surpassing regional parkland standards.

Orange County maintains 25 urban and wilderness parks, comprised of 60,000 acres including historical sites, beaches and harbors, and 150 miles of paved regional trails and 350 miles of off-road trails. Additionally, there are a host of local parks, beaches, and nature preserves.[40] Prominent parks include Laguna Coast Wilderness Park, Carbon Canyon Regional Park and Irvine Regional Park.

Riverside County

Riverside County has 2,857,963 acres of protected parkland, over 2.8 million of which are open access.[41] This total includes parkland owned by the federal, state, county, and city as well as special district,

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34 Los Angeles County Department of Parks and Recreation. Frequently Asked Questions. Available online at: http://parks.lacounty.gov/frequently-asked-questions/, accessed July 30, 2019.

35 Ibid.

36 California Protected Areas (CPAD). 2018. *CPAD Statistics*. December. Available online at: https://data.cnra.ca.gov/dataset/california-protected-areas-database-2018a, accessed July, 30 2019.

37 Ibid.

38 Orange County Public Works. *Orange County General Plan, Chapter VII Recreation Element*. Available online at: https://www.ocgov.com/civicax/filebank/blobdload.aspx?blobid=24960, accessed September 16, 2019.

39 SCAG modeling, 2019.

40 Orange County. 2018. *OC Parks Strategic Plan.* Available online at: http://www.ocparks.com/civicax/filebank/blobdload.aspx?BlobID=82682, accessed July 30, 2019.

41 California Protected Areas (CPAD). 2018. *CPAD Statistics*. December. Available online at: https://data.cnra.ca.gov/dataset/california-protected-areas-database-2018a, accessed July 30, 2019.

nonprofit, private, and joint parkland.[42] Regional parks in the area cover approximately 23,317 acres.[43] The County does not have set standards regarding parklands but the vast amount of open space, the second-most in the SCAG region, allow for approximately 1,161 acres of protected parkland per 1,000 residents based on a 2019 population of 2,460,000 people.[44] Riverside County parks include Joshua Tree National Park, Anza-Borrego State Park, and the Salton Sea State Recreation Area.

San Bernardino County

San Bernardino has the most open space and protected parkland out of all of the counties in the SCAG region. It maintains a total of 8,492,573 acres of protected parkland, 8,469,686 of which are open access.[45] This total includes parkland owned by the federal, state, county, and city as well as special district, nonprofit, private, and joint parkland.[46] The 2007 General Plan denotes a standard of 2.5 acres of regional parkland per 1,000 residents.[47] With a population of approximately 2,210,000 people,[48] the County provides about 3,830 acres of parkland per 1,000 residents, far surpassing regional parkland standards.

The San Bernardino Regional Parks Department operates a total of 8,515 acres of regional parks. Numerous County special districts operate local parks in many unincorporated communities of the County. These districts operate independently from the County government and are financed by local taxes within each respective district boundary. The County also includes wilderness areas that are mostly under the jurisdiction of the BLM, including the Sand to Snow National Monument and the Mojave Trails National Monument. [49]

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42 Ibid.

43 Riverside County. 2015. *County of Riverside General Plan Chapter 5: Multipurpose Open Space Element*. December. Available online at: https://planning.rctlma.org/Portals/14/genplan/general_Plan_2017/elements/OCT17/Ch05_MOSE_120815.pdf?ver=2017-10-11-102103-833, accessed July 30, 2019.

44 SCAG modeling, 2019.

45 California Protected Areas (CPAD). 2018. *CPAD Statistics*. December. Available online at: https://data.cnra.ca.gov/dataset/california-protected-areas-database-2018a, accessed July, 30 2019.

46 Ibid.

47 County of San Bernardino. 2019. *San Bernardino Countywide Plan Draft EIR*. June. Available online at: http://countywideplan.com/wp-content/uploads/2019/06/Ch_05-15-REC.pdf, accessed July 30, 2019.

48 SCAG modeling, 2019.

49 County of San Bernardino. 2019. *San Bernardino Countywide Plan Draft EIR*. June. Available online at: http://countywideplan.com/wp-content/uploads/2019/06/Ch_05-15-REC.pdf, accessed July 30, 2019.

Ventura County

Ventura County is home to 645,734 acres of protected parkland and open space.[50] This total includes parkland owned by the federal, state, county, and city as well as special district, nonprofit, private, and joint parkland.[51] The County maintains 13 regional parks, 23 county parks, and a multitude of beach front parks and marinas, and community parks. The County also operates the Hungry Valley SVRA, 18,780 acres between Los Angeles and Ventura counties that are open to vehicular use, trail use, and camping.[52] Ventura County does not specify parkland and open space standards but with a population of approximately 868,000 persons[53], the County provides roughly 743 acres of total parkland and open space per 1,000 residents.

3.16.2 REGULATORY FRAMEWORK

The federal government sets public recreation standards for protection of publicly owned recreation areas; scenic, historic, and recreational trails; national forests, and recreational fisheries from conversion to non-compatible land uses that may include transportation projects through the recreational resource. The state sets recreation standards for protection of public parkland and establishment of new parkland to meet the needs of a growing population as a result of development project. The provision of new parkland and recreational facilities is generally subject to local general plan policies.

3.16.2.1 Federal

Section 4(f) of the U.S. Department of Transportation Act of 1966 (U.S. DOT Act)

Section 4(f) of the U.S. DOT Act (Public Law 89-670) was enacted as a means of protecting publicly owned public parks, recreation areas, and wildlife/waterfowl refuges as well as historic sites of local, state, or national significance, from conversion to transportation uses.

The provision states that the Secretary of the U.S. DOT may approve a transportation project requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge, or land

50 California Protected Areas (CPAD). 2018. *CPAD Statistics*. December. Available online at: https://data.cnra.ca.gov/dataset/california-protected-areas-database-2018a, accessed July 30, 2019.

51 Ibid.

52 California State Parks. *Hungry Valley SVRA*. Available online at: http://www.ohv.parks.ca.gov/?page_id=1192, accessed September 17, 2019.

53 SCAG modeling, 2019.

from an historic site of national, state, or local significance (as determined by the federal, state, or local officials having jurisdiction over the park, recreation area, refuge or site) only if:[54]

- There is no feasible and prudent avoidance alternative to the use of land; and the action includes all possible planning to minimize harm to the property resulting from such use; or
- The Administration determines that the use of the property will have a de minimis impact.

National Trails System Act

The National Trails System Act (Public Law 90-543) was established by Congress in 1968 to establish a network of scenic, historic, and recreational trails. The act defined four categories of national trails: recreation trails, scenic trails, historic trails, and connecting or side trails. Trails within park, forest, and other recreation areas administered by the Secretary of the Interior or the Secretary of Agriculture or in other federally administered areas may be established and designated as "National Recreation Trails" by the appropriate Secretary.[55] Since the National Trails System Act was enacted, the list of qualifying national scenic trails and national historic trails has grown from the initial two trails (the Application National Scenic Trail and Pacific Crest National Scenic Trail) to the current list, which includes 11 national scenic trails and 19 historic trails. In addition, more than 1,000 national recreation trails have been designated nationwide, 91 of which are located in California.[56,57]

National Forests Land Management Plans

Each of the four Southern California national forests (Cleveland National Forest, Los Angeles National Forest, San Bernardino National Forest, and Los Padres National Forest) is included in the Southern California National Forests Vision. The Southern California National Forests Vision (forest plans) has created individual land management plans for each of the four Southern California national forests. The land management plans include strategic programmatic direction for managing the land in each national forest and its resources for the next 10 to 15 years. The plans include sections on resource management,

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54 U.S. Department of Transportation, Federal Highway Administration. *Environmental Review Toolkit: Section 4(f)*. Available online at: https://www.environment.fhwa.dot.gov/legislation/section4f.aspx, accessed November 6, 2018.

55 Government Publishing Office. 1968. *National Trails System Act: Public Law 90-543*. Available online at: https://www.govinfo.gov/content/pkg/STATUTE-82/pdf/STATUTE-82-Pg919.pdf, accessed August 20, 2019.

56 U.S. Department of the Interior National Park Service. 2019. *Reference Manual 45: National Trails System*. Available online at: https://www.nps.gov/policy/Reference_Manual_45.pdf, accessed August 20, 2019.

57 American Trails. *NRT Database*. Available online at: http://www.nrtdatabase.org/, accessed August 20, 2019.

public use and enjoyment, facilities operation and maintenance, commodity and commercial uses, and fire management.[58]

Executive Order 12962—Recreational Fisheries

The objective of Executive Order 12962, dated June 7, 1995, is the conservation, restoration and enhancement of aquatic systems to provide for increased recreational fishing. Under the executive order, federal agencies shall improve the quantity function, sustainable productivity and distribution of U.S. aquatic resources for recreational fishing opportunities by:[59]

- Developing and encouraging government-private sector partnerships
- Identifying recreational fishing opportunities
- Implementing sound aquatic conservation and restoration practices
- Providing access and promoting awareness
- Supporting outreach programs
- Implementing laws
- Establishing cost-share programs
- Evaluating the effects of federally funded, permitted, or authorized actions on aquatic resources and recreational fishing
- Assisting private landowners to conserve and enhance aquatic resources

Land and Water Conservation Fund Act, Section 6(f)(3)

Section 6(f)(3) of the Land and Water Conservation Fund Act (LWCF Act) of 1965 (16 U.S.C. § 460l et seq.) contains provisions to protect federal investments in park and recreation resources and the quality of those assisted resources. The law recognizes the likelihood that changes in land use or development may make park use of some areas purchased with LWCF Act funds obsolete over time, particularly in rapidly changing urban areas, and provides for conversion to other use pursuant to certain specific conditions.

Section 6(f)(3) states that no property acquired or developed with assistance under Section 6(f)(3) shall, without the approval of the Secretary, be converted to other than public outdoor recreation uses. The

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58 USDA. 2005. *Land Management Plan: Part 1 Southern California National Forests Vision*. Available online at: https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5166876.pdf, accessed August 20, 2019.

59 Government Publishing Office. 1995. *Executive Order 12962 of June 7, 1995*. Available online at: https://www.govinfo.gov/content/pkg/FR-1995-06-09/pdf/95-14407.pdf, accessed August 20, 2019.

Secretary shall approve such conversion only if he or she finds it to be in accordance with the then existing comprehensive statewide outdoor recreation plan and only upon such conditions as he or she deems necessary to assure the substitution of other recreation properties of at least equal fair market value and of reasonably equivalent usefulness and location.

This requirement applies to all parks and other sites that have been the subject of LWCF Act grants of any type, and includes acquisition of park land and development or rehabilitation of park facilities. If a transportation project would have an effect upon a park or site that has received LWCF Act funds, the requirements of Section 6(f)(3) would apply.[60]

3.16.2.2 State

Quimby Act of 1965

The Quimby Act was established by the California State Legislature in 1965 and codified as California Government Code Section 66477. The Quimby Act allows the legislative body of a city or county, by ordinance, to require the dedication of land or impose a requirement of the payment of fees in lieu thereof, or a combination of both, for park or recreational purposes as a condition to the approval of a tentative tract map or parcel map. Under the Quimby Act, requirements for parkland dedications are not to exceed three acres of parkland per 1,000 persons residing within a subdivision, and in-lieu fee payments shall not exceed the proportionate amount necessary to provide three acres of parkland, unless the amount of existing neighborhood and community parkland exceeds that limit.[61]

California Public Park Preservation Act of 1971

The primary instrument for protecting and preserving parkland is the State Public Park Preservation Act of 1971 (Pub. Resources Code, §§ 5400–5409). Under the Act, cities and counties may not acquire any real property that is in use as a public park for any non-park use unless compensation or land, or both, are provided to replace the parkland acquired. This provides no net loss of parkland and facilities.[62]

California Recreational Trails Plan of 2002

The California Department of State Parks (California State Parks) is a trustee agency that owns and operates all state parks and participates in land use planning that affects state parklands. Pursuant to

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60 National Park Service. 2015. *Land and Water Conservation Fund*. Available online at: https://www.nps.gov/subjects/lwcf/protection.htm, accessed August 20, 2019.

61 California Legislative Information. *AB-1191 Quimby Act.*

62 California Legislative Information. 1971. *Chapter 2.5. Preservation of Public Parks [5400-5409].*

California Public Resources Code Section 5070, the California Recreational Trails Act, California State Parks has prepared the California Recreational Trails Plan in 1978, which was updated in 2002, with reports highlighting progress on the plan that are submitted to the State Legislature every two years.[63] The California Recreational Trails Plan establishes 12 designated trail corridors that pass through the SCAG region with the intent of forming a statewide trail system that links mountain, valley, and coastal communities to recreational, cultural, and natural resources throughout the state.[64]

State Open Space Standards

State planning law (Government Code Section 65560) provides a structure for the preservation of open space by requiring every city and county in the State to prepare, adopt, and submit to the Secretary of the Resources Agency a "local open-space plan for the comprehensive and long-range preservation and conservation of open space land within its jurisdiction." The following open space categories are identified for preservation:[65]

- **Open space for public health and safety**, including, but not limited to, areas that require special management or regulation due to hazardous or special conditions.
- **Open space for the preservation of natural resources**, including, but not limited to, natural vegetation, fish and wildlife, and water resources.
- **Open space for resource management and production**, including, but not limited to, agricultural and mineral resources, forests, rangeland, and areas required for the recharge of groundwater basins.
- **Open space for outdoor recreation,** including, but not limited to, parks and recreational facilities, areas that serve as links between major recreation and open space reservations (such as trails, easements, and scenic roadways), and areas of outstanding scenic and cultural value.
- **Open space for the protection of Native American sites**, including, but not limited to, places, features, and objects of historical, cultural, or sacred significance such as Native American sanctified

63 California Department of Parks and Recreation. *Trails Plan – 2011 Progress Report*. Available at: http://www.parks.ca.gov/?page_id=25677, accessed November 6, 2018.

64 California Department of Parks and Recreation. *California Recreational Trails Plan Trail Corridors*. Available at: http://www.parks.ca.gov/?page_id=25680, accessed November 6, 2018.

65 California Legislative Information. 1970. *Article 10.5. Open Space Lands [65560-65570]*.

cemeteries, places of worship, religious or ceremonial sites, or sacred shrines located on public property (further defined in California Public Resources Code Sections 5097.9[66] and 5097.993[67]).

Mitigation Fee Act

The California Mitigation Fee Act, Government Code sections 66000, *et seq.*, allows cities to establish fees to be imposed on development projects for the purpose of mitigating the impact of development on a city's ability to provide specified public facilities. In order to comply with the Mitigation Fee Act a City must follow the following primary requirements: (1) Make certain determinations regarding the purpose and use of a fee and establish a nexus or connection between a development project or class of project and the public improvement being financed with the fee; (2) Segregate fee revenue from the General Fund in order to avoid commingling of capital facilities fees and general funds; (3) For fees that have been in the possession of a City for five years or more and for which the dollars have not been spent or committed to a project, the City must make findings each fiscal year.[68]

3.16.2.3 Local

Los Angeles County Significant Ecological Areas (SEAs)[69]

The Hillside Management and Significant Ecological Areas Ordinance was originally adopted in 1982 and most recently amended in 2019. Significant Ecological Areas (or SEAs) in LA County are designated as such due to their biological resources. These areas include undisturbed (or lightly disturbed) habitat of threatened or valuable species, or areas that support species movement, and are appropriately sized to support sustainable populations of the local species. The program is designed to conserve the diversity of biological resources in LA County through conservation and more stringent development rules. The SEA Ordinance outlines the review process and development standards for these areas to ensure biodiversity and ecosystems will not be negatively impacted by development. There are 21 SEAs in LA County per the 2035 General Plan published in 2015.

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66 California Legislative Information. 1976. *CHAPTER 1.75. Native American Historical, Cultural, and Sacred Sites [5097.9-5097.991].*

67 California Legislative Information. 2002. *CHAPTER 1.76. Native American Historic Resource Protection Act [5097.993-5097.994].*

68 California Legislative Information. 1987. *CHAPTER 5. Fees for Development Project [66000-66008].*

69 Los Angeles County. *Significant Ecological Areas Program*. Available online at: http://planning.lacounty.gov/site/sea/home/, accessed September 11, 2019.

Orange County Transportation Association Measure M2[70]

Also known as "OC Go," Measure M2 is a voter-approved sales tax extension of Measure M, which was approved in 1990. This program is the funding source for county transportation projects as well as the Freeway Environmental Mitigation Program in Orange County. The Freeway Environmental Mitigation Program funds natural lands acquisitions and in turn, qualifying transportation projects undergo a streamlined California Environmental Quality Act (CEQA) review process. Thirty million dollars for approximately 1,300 acres of land and $10 million on 350 acres of habitat restorations have been funded through Measure M2.

Ventura County Habitat Connectivity and Wildlife Corridor Ordinance

Formally adopted in May 2019, this ordinance establishes regulations for development on lands where animals travel between the Santa Monica Mountains National Recreation Area and the Los Padres National Forest. The ordinance includes restrictions on elements detrimental to species movement, such as fencing, certain types of lighting and development in riparian areas. To provide flexibility for compliance, exemptions are allowed for agricultural activities.

Ventura County Save Open Space and Agricultural Resources (SOAR)[71]

SOAR is a collection of voter initiatives to create City Urban Restriction Boundaries (CURB) in eight of the county's cities. With these initiatives, re-zoning natural or agricultural lands for development outside of a city's sphere of influence requires a majority vote approval from residents. In 2016, voters approved all of the initiatives for renewal, which extends the expiration date until 2050.

County and City General Plans

The most comprehensive land use planning, including that for recreational facilities, in the SCAG region is provided by county and city general plans, which local governments are required by state law to prepare as a guide for future development. The SCAG region spans six counties and 191 cities, all of which have general plans containing policies related to provision of recreational resources. Open space and recreation resources are normally addressed in two mandatory elements of the general plan: land use and open space. The land use element normally focuses on the distribution of recreation facilities and

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70 OCTA. *OC GO Local Tax Dollars at Work.* Available online at: http://octa.net/About-OC-Go/OC-Go-(2011-2041)/, accessed September 11, 2019.

71 Ventura County Resources Management Agency. *County of Ventura Measure (SOAR) Save Open space and Agricultural Resources Initiative – 2050.* Available online at: https://docs.vcrma.org/images/pdf/planning/ordinances/SOAR_Measure_C_2050.pdf

programs and an inventory of open space land, including those lands that provide opportunities for recreational activities. In contrast, the open space element focuses on open space for outdoor recreation including, but not limited to:

- Areas of outstanding scenic, historical, and cultural value
- Areas particularly suited for park and recreational purposes, including access to lakeshores, beaches, and rivers and streams
- Areas that serve as links between major recreational and open-space reservations, including utility easements, banks of rivers and streams, trails, and scenic highway corridors

The six county general plans address the majority of the regional open space, beyond that provided by the national forest, national parks, and wildlife refuges:

- **Imperial County:** Parks and Recreation Element[72] and Conservation and Open Space Element[73] of County General Plan
- **Los Angeles County:** Chapter 9: Conservation and Natural Resources Element[74] and Chapter 10: Parks and Recreation Element[75] of County General Plan
- **Orange County:** Chapter VI. Resources Element[76] and Chapter VII. Recreation Element[77] of County General Plan
- **Riverside County:** Chapter 5: Multipurpose Open Space Element and Chapter 10: Healthy Communities Element[78] of County General Plan

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72 County of Imperial Planning & Development Services. 2008. I*mperial County General Plan: Parks and Recreation Element*. Available online at: http://www.icpds.com/CMS/Media/Parks-&-Recreation-Element-(2008).pdf, accessed November 6, 2018.

73 County of Imperial Planning & Development Services. 2016. *Imperial County General Plan: Conservation and Open Space Element*. Available online at: http://www.icpds.com/CMS/Media/Conservation-&-Open-Space-Element-2016.pdf, accessed November 6, 2018.

74 Los Angeles County Department of Regional Planning. 2015. *General Plan 2035: Chapter 9: Conservation and Natural Resources Element*. Available online at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan-ch9.pdf, accessed November 6, 2018.

75 Los Angeles County Department of Regional Planning. 2015. *Los Angeles County General Plan Adopted October 6, 2015: Chapter 10: Parks and Recreation Element*. Available online at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan.pdf, accessed August 20, 2019.

76 Orange County Development Services. 2012. *General Plan: Chapter VI Resources Element*. Available online at: http://www.ocpublicworks.com/civicax/filebank/blobdload.aspx?blobid=40235, accessed November 6, 2018.

77 Orange County Public Works Development Services. 2015. *General Plan: Chapter VII. Recreation Element*. Available online at: http://ocplanning.net/civicax/filebank/blobdload.aspx?blobid=24960, accessed August 20, 2019.

- **San Bernardino County:** Chapter VI. Open Space Element[79] of County General Plan
- **Ventura County:** Resources Appendix[80] and Public Services and Facilities Appendix[81] of County General Plan

Each city in the SCAG region has its own respective general plan that helps provide guidance for the growth and development of the city and contains measures to maintain and/or enhance open space within each of the city's jurisdictions. Each city's general plan varies in level of detail and necessary measures to preserve open space. Although city general plans are not required to contain parks and recreation sections, cities often choose to include this section to provide measures to maintain and/or enhance city parks and recreation areas.

Additional plans and ordinances at the master plan level, city-level, and specific plan level may also apply within the SCAG region.

Zoning

City and county zoning codes provide the set of detailed requirements that implement general plan policies at the level of the individual parcel. Zoning codes present standards for different uses and identifies which uses are allowed in the various zoning districts of the jurisdiction. Since 1971, state law has required the city or county zoning code to be consistent with the jurisdiction's general plan.[82]

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78 Riverside County Planning Department. *Current General Plan Documents*. Available online at: https://planning.rctlma.org/ZoningInformation/GeneralPlan.aspx, accessed November 6, 2018.

79 County of San Bernardino Land Use Service Division. Amended 2014. *County of San Bernardino 2007 General Plan*. Available online at: http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGP.pdf, accessed November 6, 2018.

80 County of Ventura Resource Management Agency, Planning Division. 2005. *Ventura County General Plan: Resources Appendix*. Available online at: https://docs.vcrma.org/images/pdf/planning/plans/General-Plan-Resources-Appendix.pdf, accessed November 6, 2018.

81 County of Ventura Resource Management Agency, Planning Division. 2005. *Ventura County General Plan: Public Facilities & Services Appendix*. Available online at: https://docs.vcrma.org/images/pdf/planning/plans/GENERAL-PLAN-Public-Facilities-Services-Appendix.pdf, accessed November 6, 2018.

82 Governor's Office of Planning and Research. 2017. *State of California General Plan Guidelines*. Available online at: http://opr.ca.gov/docs/OPR_COMPLETE_7.31.17.pdf, accessed August 20, 2019.

3.16.3 ENVIRONMENTAL IMPACTS

3.16.3.1 Thresholds of Significance

For the purposes of this PEIR, SCAG has determined that the adoption and/or implementation of the Plan could result in significant adverse impacts to recreational resources, if the Plan would be considered to have the potential for significant impacts if it would:

- Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated;
- Result in substantial adverse physical impacts associated with the provision of new or physically altered park facilities, need for new or physically altered park facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, or other performance objectives;
- Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

3.16.3.2 Methodology

The Plan lists transportation projects and includes strategies for integrating land use development patterns with transportation investments that emphasize system preservation and enhancement, active transportation, mode choices, accessibility, and mobility. These land use distribution patterns are designed to accommodate the region's demographic growth projections. Although population growth and development are anticipated to occur even without Connect SoCal, this Plan includes regional transportation and land use strategies that may influence growth throughout the region. To address this, the analysis in this PEIR covers overall region-wide impacts of major transportation projects listed in the Plan as well as transportation and land use strategies described in the Plan.[83]

The need for or deficiency in adequate park facilities or library facilities to serve residents in the SCAG region is not in and of itself a CEQA impact, but a social or economic impact (*City of Hayward v. B'd of Trustees* (2015) 242 Cal.App. 4th 833, 843). However, pursuant to Appendix G of the *State CEQA Guidelines,* the determination of whether there is a significant impact related to parks or other recreational facilities is based on whether a significant impact could result from the construction and subsequent

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

operation of new or altered parks and/or recreational facilities or where existing park and recreational facilities would be substantially physically deteriorated as a result of the implementation of the Plan.

The methodology for determining the significance of recreation impacts compares the existing conditions to future (2045) conditions, as required in CEQA Section 15126.2(a). To assess potential impacts to recreation within the SCAG region, geographic information system (GIS) was used to analyze whether major highway, transit, and freight rail projects documented in the Plan would directly impact existing recreation resources. Baseline conditions were established for the acreage of local and regional parkland per 1,000 population in each county to determine existing park level of service, and the 2045 anticipated population growth forecast was used to calculate the quantity of parkland needed to meet future recreation needs.

The results of the GIS analysis determine whether major transportation projects included in the Plan could directly affect existing local and regional parkland in the SCAG region. Indirect impacts were evaluated based on the land development patterns after a review of the Plan's transportation and land use strategies, as well as the assumptions that protected recreational areas (such as national forests) would remain protected and new development would be encouraged away from natural habitat areas to be concentrated in existing urbanized areas such as high-quality transit areas (HQTAs) (near transit). .

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

3.16.3.3 Impacts and Mitigation Measures

Impact REC-1 **Potential to increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.**

Significant and Unavoidable Impact – Mitigation Required.

Transportation projects and growth under the Plan would have the potential to increase use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration would occur, constituting a potentially significant impact. The Plan's transportation improvements aim to accommodate the anticipated population increase of approximately 3.2 million persons over the lifetime of the Plan. The Plan may influence new growth, primarily within urbanized areas such as HQTAs and other livable corridors and centers. Therefore, it is possible that existing neighborhood parks and other recreational facilities would see an increase in usage, which, in turn, may result in substantial physical deterioration of facilities. It is also possible that as population in urban centers increases, there may be more demand for parks outside of HQTAs, particularly if HQTAs are not well served. As such, the Plan's overall improvement of the transportation network could also result in increased accessibility and demand on regional parks.

Park accessibility is defined in the Plan as the share of the population within a one- and two-mile travel buffer from a regional park or school; also the share of park acreage that can be reached within 30 minutes by automobile or 45 minutes by bus or all transit modes during the evening peak period. As demonstrated in **Figure 3.16-1 Regional Recreation and Open Space Areas within a 45-Mile Radius of 2045 HQTAs** and **Table 3.16-2 Acres of Regional Recreation and Open Space Areas within a 45-Mile Radius of HQTAs in 2045,** based on the assumption that a 45-minute drive would provide access to regional parks within a 30-mile radius around HQTAs, most of the SCAG region would be adequately served by regional parks in 2045.

Table 3.16-2
Acres of Regional Recreation and Open Space Areas within a 45-Mile Radius of HQTAs in 2045

	Imperial County[1]	Los Angeles County[2]	Orange County[3]	Riverside County[4]	San Bernardino County[5]	Ventura County[6]
Regional parkland standard (acres per 1,000 population)	n/a	6	6	n/a	2.5	n/a
2045 population[7]	281,200	11,677,200	3,534,600	3,251,700	2,815,000	947,500
Acres of Regional parkland/open space within 45-mile radius of 2045 HQTAs[8]	1,194,653.53	911,711.94	181,505.98	1,659,657.76	2,641,955.40	1,063,942.04
Acres regional parkland/ open space per 1,000 population within 45-mile radius of 2045 HQTAs	4,248.81	78.08	51.35	510.37	938.49	1,122.78
Regional parkland surplus/deficiency within 45-mileradius of 2045 HQTAs	**n/a**	**72.08 acre surplus**	**45.35 acre surplus**	**n/a**	**935.99 acre surplus**	**n/a**

Source:

1 *Imperial County Planning & Development Services Department. County General Plan: Parks and Recreation Element. Available online at: http://www.icpds.com/CMS/Media/Conservation-&-Open-Space-Element-2016.pdf, accessed September 5, 2019.*

2 *Los Angeles County Department of Regional Planning. March 2015. Public Review Draft March 2015 Text-Only Version: Los Angeles County General Plan. Available at: http://planning.lacounty.gov/assets/upl/project/gp_draft-march2015.pdf, accessed November 1, 2019.*

3 *Orange County Public Works Development Services. July 2014. General Plan: Chapter VII. Recreation Element. Available at: http://ocplanning.net/civicax/filebank/blobdload.aspx?blobid=24960., accessed November 1, 2019.*

4 *Riverside County Planning Department. 8 December 2015. Riverside County General Plan – Current. Available at: http://planning.rctlma.org/ZoningInformation/GeneralPlan.aspx, accessed November 1, 2019.*

5 *County of San Bernardino Land Use Service Division. Amended 24 April 2014. County of San Bernardino 2007 General Plan. Available at: http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGP.pdf, accessed November 1, 2019.*

6 *County of Ventura Resource Management Agency, Planning Division. Amended 8 May 2007. Ventura County General Plan: Public Facilities & Services Appendix. Available at: https://docs.vcrma.org/images/pdf/planning/plans/GENERAL-PLAN-Public-Facilities-Services-Appendix.pdf, accessed November 1, 2019.*

7 *SCAG modeling, 2019.*

8 *GreenInfo Network. Accessed November 2019. California Protected Areas Data Portal. Available at: http://www.calands.org/*

Local parks and urban areas are often overburdened in part because they are smaller and serve populated areas. As the land use strategies in the Plan emphasize compact development, it is possible that local parks could become overburdened. Accessibility to parks is also a public health concern and is addressed under Environmental Justice in the Plan. Urbanized areas, such as the low-income communities of Westlake and Southeast Los Angeles in the City of Los Angeles, are significantly park poor, with less than half an acre of park space per 1,000 residents.[84] Construction of transportation projects, as well as development in underutilized urban (opportunity) areas, as a result of land use strategies in the Plan would have the potential to impact recreational facilities both directly (through the acquisition of land)

84 Los Angeles Department of City Planning. March 2015. *Plan for a Healthy Los Angeles: A Health and Wellness Element of the General Plan*. Available at: http://planning.lacity.org/cwd/gnlpln/PlanforHealthyLA.pdf, accessed June 24, 2019.

and indirectly (through development of transportation projects, urban uses, and increasing use of existing parks).

There may be sufficient parkland available in 2045 in some areas, while other areas may see a substantial increase in population and/or existing parks/recreational facilities may be transformed into development. As a result, by 2045 some areas and parks could have a lower LOS as a result of increasing population with no associated increase in park area, and some communities could have fewer parks. These impacts are expected to disproportionately affect urban centers where land prices are high. All of which is expected to result in existing parks and recreational facilities experiencing increased use and associated physical deterioration or accelerated physical deterioration.

Many of the transportation projects included in the Plan are located in urbanized areas, and therefore, are not likely to result in direct significant impacts to undisturbed lands or large tracts of land designated as open space. Additionally, as described in the regulatory framework, designated parklands are well protected at the local, state, and federal level.

Land use strategies described in the Plan would target growth in urbanized areas such as HQTAs that provide walkable, bikeable, and/or transit-oriented land patterns. Although HQTAs account for only 3 percent of total land areas, they are projected to accommodate 48 percent of the region's future households and 59 percent of the future jobs in 2045 under the Plan.[85] While land use strategies included in the Plan encourage additional parks and other regional and local biking and walking amenities, many of the areas where density would be expected to increase are areas without sufficient park space, resulting in increased use and the accelerated deterioration of existing neighborhood parks and recreational facilities.

The Plan includes strategies for active transportation, including expansion of the regional greenway network, regional and local bikeway network, and short-trip strategies to improve sidewalk quality and use of complete streets when making roadway improvements. These strategies are integrated with land use patterns such as HQTAs, livable corridors, neighborhood mobility areas, as well as with innovative technologies such as neighborhood electric micro-mobility vehicles through scooter and bike share programs. While the Plan has the potential to result in a significant impact on existing neighborhood and regional parks or other recreational facilities, implementation of such strategies can facilitate the creation of new neighborhood and regional recreational facilities and opportunities.

Overall, implementation of transportation projects as well as the transportation and land use strategies in the Plan would have the potential to increase the use of existing neighborhood and regional parks and

85 SCAG SPM Model Output, September 13, 2019

other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated, resulting in a significant impact requiring mitigation measures.

Mitigation Measures

SCAG Mitigation Measure

See **SMM USWS-1.**

SMM REC-1: SCAG shall continue the commitment to analyze public health outcomes as part of the Regional Transportation Plan/Sustainable Communities Strategy (Plan). As part of the public health analysis for the Plan, SCAG shall continue to analyze resident access to parks and recreational facilities from a county level to help local jurisdictions to improve resident access to parks. SCAG shall communicate the impacts of the Plan through its Public Health Working group, and continue to support policy changes at the city and county level through educational programs.

Project Level Mitigation Measures

PMM REC-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects on the use of existing neighborhood and regional parks or other recreational facilities, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

a) Prior to the issuance of permits, where projects require the construction or expansion of recreational facilities or the payment of equivalent Quimby fees, consider increasing the accessibility to natural areas and lands for outdoor recreation from the proposed project area, in coordination with local and regional open space planning and/or responsible management agencies.

b) Prior to the issuance of permits, where projects require the construction or expansion of recreational facilities or the payment of equivalent Quimby fees, encourage patterns of urban development and land use which reduce costs on infrastructure and make better use of existing facilities, using strategies such as:

   i. Increasing the accessibility to natural areas for outdoor recreation

   ii. Utilizing "green" development techniques

iii. Promoting water-efficient land use and development

iv. Encouraging multiple uses, such as the joint use of schools

v. Including trail systems and trail segments in General Plan recreation standards

Level of Significance after Mitigation

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

Impact REC-2 **Result in substantial adverse physical impacts associated with the provision of new or physically altered park facilities, need for new or physically altered park facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, or other performance objectives.**

Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

Significant and Unavoidable Impact – Mitigation Required.

Implementation of the Plan would result in additional linear recreation facilities, including a regional greenway network, a regional bikeway network, and local bikeway networks, the construction of which might have an adverse physical effect on the environment. Furthermore, the Plan encourages increased residential and commercial development in HQTAs that may necessitate the construction or expansion of recreation facilities within or in nearby accessible locations to the HQTAs, which are typically urban areas. Development of recreation facilities benefits the community socially, economically and environmentally. Recreational facilities and programs can also promote public health. For example, San Bernardino County enacted the Vision 2B Active program to promote health and wellness in the county

by encouraging residents to increase their physical activity and connecting them to existing recreational programs, amenities, and activities.[86],[87]

As discussed in **Section 3.14, Population and Housing**, the total population in the SCAG region is expected to increase by approximately 3.2 million people by 2045, independent of the Plan. The land use framework of the Plan assumes an increase in small-lot, single- and multi-family housing that is expected to mainly occur in infill locations near transit infrastructure (HQTAs and transit priority areas [TPAs]), and transit-oriented communities. This increased density in urban areas will increase demand for parks and recreational facilities in these areas. Larger parks become increasingly difficult to provide as space is limited and land is expensive. When park development and expansion in urban areas occurs, it is beneficial but can also result in environmental impacts associated with construction and operation. Park construction, including the linear recreational facilities considered in the Plan, can result in noise and air quality impacts and park and recreational facility operation can also result in long-term noise and night lighting impacts. See **Section 3.3, Air Quality,** and **Section 3.13, Noise,** for a discussion of air quality and noise impacts from construction and mitigation to reduce these impacts. Therefore, this PEIR finds that potential construction and/or expansion of recreational facilities that may result from implementation of the Plan has the potential to result in a significant adverse impact, and mitigation measures are required.

Mitigation Measures

SCAG Mitigation Measure

See **SMM REC-1.**

Project Level Mitigation Measures

See **PMM REC-1, PMM AQ-2,** and **PMM NOISE-1.**

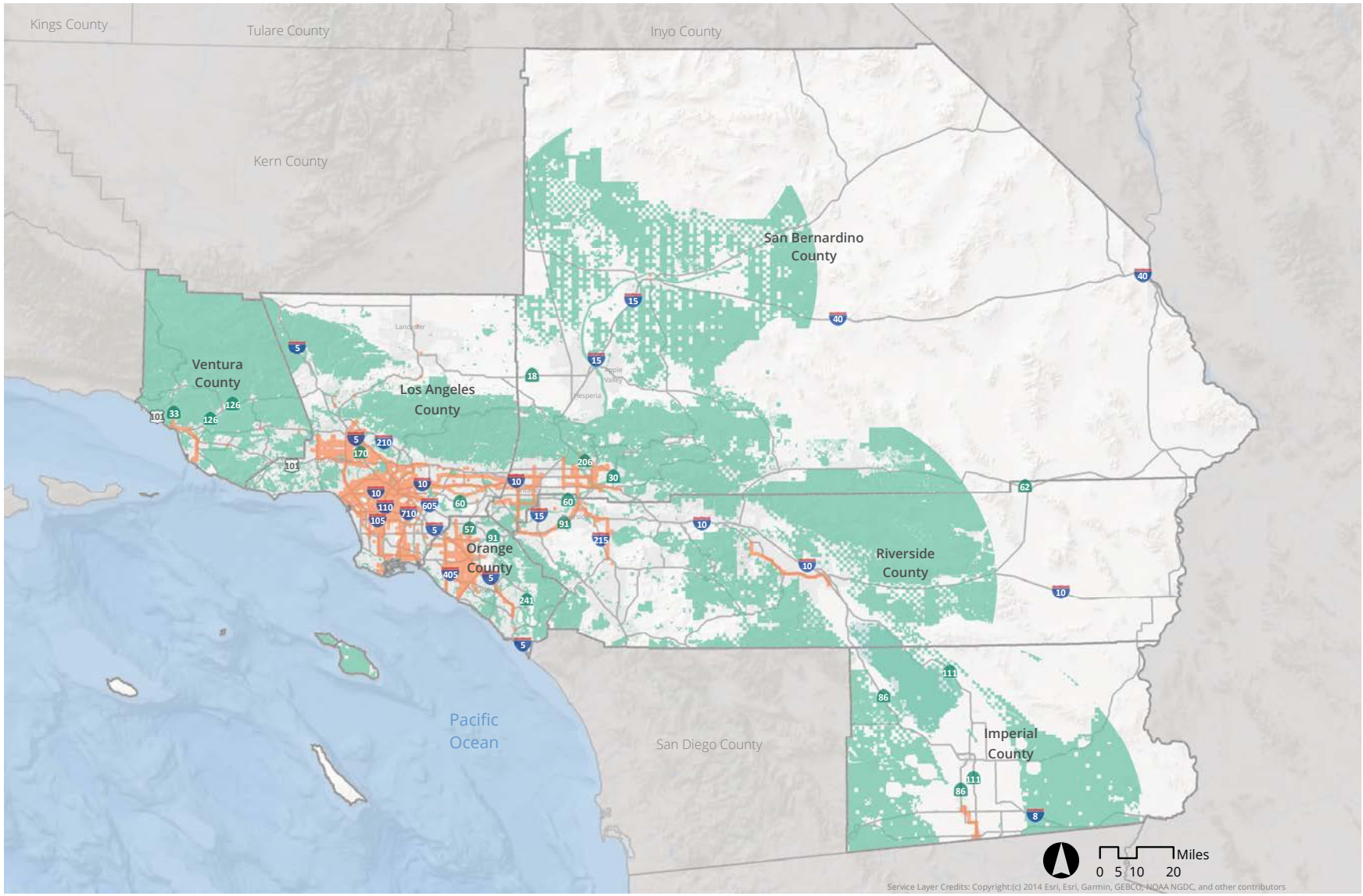
Level of Significance after Mitigation

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

86 SCAG. 2019. *Public Health Draft Technical Report*.

87 National Recreation and Park Association. *Why Parks and Recreation are Essential Public Services.* Available online at: https://www.nrpa.org/uploadedFiles/nrpa.org/Advocacy/Resources/Parks-Recreation-Essential-Public-Services-January-2010.pdf

project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and the lack of project specific-detail, including project components and locations, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts resulting from the construction and operation of parks could be significant and unavoidable even with implementation of mitigation.



Regional Recreation and Open Space Areas within a 45-Mile Radius of 2045 HQTAs

Recreation and Open Space | High Quality Transit Areas

SOURCE: California Protected Areas Database 2017a, SCAG, 2019

FIGURE **3.16-1**

IMPACT SCIENCES

Regional Recreation and Open Space Areas within a 45-Mile Radius of 2045 HQTAs

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3.17 TRANSPORTATION, TRAFFIC, AND SAFETY

This section of the Program Environmental Impact Report (PEIR) describes the existing traffic and transportation networks within the SCAG region, identifies the regulatory framework with respect to laws and regulations that address transportation, and analyzes the potential impacts of the Connect SoCal Plan ("Connect SoCal" or "Plan"). In addition, this PEIR provides regional-scale mitigation measures as well as project-level mitigation measures to be considered by lead agencies for subsequent, site-specific environmental review to reduce identified impacts as appropriate and feasible.

3.17.1 ENVIRONMENTAL SETTING

Southern California's extensive roadway network facilitates the constant movement of people and goods throughout the area. The region's complex intermodal network facilitates transportation via highways, transit, passenger and freight rail, airports, and seaports. The regional roadway system consists of an interconnected network of interstates, freeways, highway, toll roads, arterial streets, and local streets. This roadway network allows for the operation and movement of private vehicles, commercial vehicles, private and public buses, and heavy-duty trucks. Active transportation modes, such as biking and walking use non-motorized transportation facilities, including bikeways and walkways that often share spaces with roadway facilities. As traffic worsens and pressure to act on climate change mounts, local jurisdictions have placed an emphasis on the importance of the integration of active transportation modes in transportation planning.

The regional public transit system includes local shuttles, municipal and area-wide bus operations, light rail transit operations, regional commuter rail services, and interregional passenger rail service. The freight railroad network includes an extensive system of private railroads and several publicly owned freight rail lines serving industrial cargo and goods. The airport system consists of commercial, general, and military aviation facilities serving passenger, freight, business, recreational, and defense needs. The region's seaports support substantial international and interregional freight movement and tourist travel. Intermodal terminals, consisting of freight processing facilities, transfer, store, and distribute goods across the region and the globe.

3.17.1.1 Definitions

Terms and criteria used in the assessment of traffic, transportation, and safety are described below.

California Transportation Plan (CTP): This is a statewide, long-range transportation plan to meet future mobility needs and reduce greenhouse gas emissions.[1] The CTP defines performance-based goals, policies, and strategies to achieve the collective vision for California's future, statewide, integrated, multimodal transportation system.

Congestion Management Plan (CMP): This is a state-mandated program enacted by the legislature to address the increasing concern that urban congestion is affecting economic vitality and diminishing quality of life in some communities. The CMP provides the analytical basis for transportation decisions through the State Transportation Improvement Program (STIP).

Congestion Management Agency (CMA): A CMA is a county-wide body comprised of local elected officials. The CMA administers the CMP to keep traffic levels manageable. In the past, state gas tax revenue had historically been used to fund road and highways. With the passage of Proposition 111 in the 1990s, state gas tax and directed revenue are provided to fund road, bicycle, pedestrian, and public transit projects in addition to highways to help manage congestion for multi-modal purposes. CMA is charged with coordinating land use, air quality, and transportation planning among the local jurisdictions, including monitoring the levels of congestion on major roads and analyzing the impacts that a proposed development will have on future traffic congestion.

Complete Streets: Planned, designed, operated and maintained for safe, convenient, and comfortable travel and access for users of all ages and abilities, will support people who are walking, bicycling, and using micro-mobility devices.

Complete Streets is a transportation policy and design approach that requires streets to be planned, designed, operated, and maintained to enable safe, convenient and comfortable travel and access for users of all ages and abilities regardless of their mode of transportation

Goods Movement: Refers to the transportation of for-sale products from the location of their manufacture or harvest to their final retail destination.

Level of Service (LOS): In the context of traffic analysis, this is a measure used to relate the quality of traffic service. LOS is used to analyze highways by categorizing traffic flow and assigning quality levels of traffic based on performance measures such as speed and density.

Million Annual Passengers (MAP): Number of people taking public transit, airline flight, bus, or train calculated expressed in the unit of 100,000 in terms of boarding counts.

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1 California Department of Transportation. 2013. *California Transportation Plan 2040: Fact Sheet*. April.

Peak Hour: The part of the day during which traffic congestion on roads and crowding on public transport is at its highest.

Safety: Protection of persons and property from unintentional damage or destruction caused by accidental or natural events.

Transportation Demand Management (TDM): Strategies and actions directed at influencing the mode, frequency, time, route, or length of travel in order to maximize the efficiency and sustainable use of transportation facilities. TDM strategies typically include providing information on travel choices; managing parking, marketing and communications, financial incentives, and disincentives; providing and operating facilities that make the use of non-solo driving more attractive; and encouraging telework and flexible work strategies.

Transportation System Management (TSM): Transportation system management refers to a set of strategies that largely aim to reduce greenhouse gas (GHG) emissions by reducing congestion, primarily by improving transportation system capacity and efficiency. TSM strategies may also address a wide range of other externalities associated with driving such as pedestrian/driver safety, efficiency, congestion, travel time, and driver satisfaction. Some TSM strategies are designed to reduce total and systemic congestion and improve system-wide efficiency, while other strategies target particularly problematic areas where improvements could greatly affect congestion, safety, efficiency, and GHG emissions.

Vehicle Miles Traveled (VMT): The number of VMT provides an indicator of the travel levels of the roadway system by motor vehicles in a given time period. This number is estimated based upon traffic volume counts and roadway length.

Vehicle Hours of Delay (VHD): The number of VHD provides an indicator of congestion levels of a roadway.

3.17.1.2 Circulation System

Commute Patterns and Travel Characteristics

The existing transportation network serving the SCAG region supports the movement of people and goods. On a typical weekday in the six-county region, the transportation network supports over 460 million vehicle miles of travel (VMT) and nearly 13 million vehicle hours of travel (VHT). Of this total, over half occur in Los Angeles County and less in Orange, San Bernardino, Riverside, Ventura, and

Imperial Counties, respectively (**Table 3.17-1, Summary of Existing Daily Vehicle Miles and Percentage Vehicle Hours of Travel**).

Much of the existing travel in the SCAG region takes place during periods of congestion, particularly during the morning (6:00 AM to 9:00 AM) and evening peak periods (3:00 PM to 7:00 PM). Congestion can be quantified as the amount of travel that takes place in delay (vehicle hours of delay or VHD) and, alternately, as the percentage of all travel time that occurs in delay (defined as the travel time spent on the highway due to congestion, which is the difference between VHT at free-flow speeds and VHT at congested speeds). Existing travel delays and percent of regional VHT in delay ranges from a low of 1 percent delay in Imperial County on freeways and arterials to 56 percent in Los Angeles County, with an average of approximately 17 percent in the SCAG region (see **Table 3.17-2, Summary of Existing Delay and Work Trip Length**; **Figure 3.17-1, 2019 AM Peak Period Congestion Delay on the Regional Freeway System**; **Figure 3.17-2, 2045 AM Peak Period Congestion Delay on the Regional Freeway System**; **Figure 3.17-3, 2019 PM Peak Period Congestion Delay on the Regional Freeway System**; and **Figure 3.17-4, Plan 2045 PM Peak Period Congestion Delay on the Regional Freeway System**). There is variation in average travel distance from home to work, from approximately 11 miles in Imperial County, to approximately 21 miles in Riverside and San Bernardino Counties, the difference in average travel time during the peak hours ranges from a low of approximately 15 minutes in the a.m. peak hour in Imperial County to a high of approximately 33 minutes in Riverside County (**Table 3.17-2**). Home-to-work trip duration and distance are both greater for the inland counties of Riverside and San Bernardino, reflecting regional housing and employment distribution patterns.

The characteristics of home-to-work trip and all daily trips vary widely among counties (**Table 3.17-3, Existing Travel Mode Split [Percentage of County Total]**). On average, vehicular trips account for approximately 93 percent of home to work/university trips, including 69.62 percent in single occupancy trips, 9.41 percent in two-person carpools, 6.7 percent in three-person carpools, and 7.64 percent in auto passenger trips. When accounting for all daily trips, on average vehicular trips account for approximately 88 percent of all daily trips, including 36.77 percent in single occupancy trips, 13.89 percent in two-person carpools, 8 percent in three-person carpools, and 29.39 percent in auto passenger trips. Public transit in all forms (including school buses) carries approximately 3.67 percent of all trips in the SCAG region. Of these, the greatest number of travelers is carried by buses, with lesser patronage on Metro Rail, paratransit, commuter rail, and other forms of public transit services. Trips made via public transit account for 3.9 percent of all home-to-work trips in the region and 3.67 percent of all daily trips (**Table 3.17-3**). Non-motorized trips account for 2.73 percent of all home-to-work trips in the region and 8.27 percent of all daily trips (**Table 3.17-3**).

Table 3.17-1
Summary of Existing (2019) Daily Vehicle Miles and Percentage Vehicle Hours of Travel

County	Vehicle Miles of Travel (VMT)						Vehicle Hours of Travel (VHT)					
	A.M. Peak Period		P.M. Peak Period		Daily		A.M. Peak Period		P.M. Peak Period		Daily	
	Miles	% of Region	Miles	% of Region	Miles	% of Region	Hours	% of Region	Hours	% of Region	Hours	% of Region
Imperial	1,271,630	1%	1,778,405	1%	6,972,810	2%	26,196	1%	35,949	1%	138,217	1%
Los Angeles	48,039,409	51%	67,738,731	50%	231,455,396	50%	1,629,854	56%	2,386,111	57%	7,237,696	56%
Orange	16,915,098	18%	23,360,202	17%	79,199,680	17%	512,120	18%	734,225	18%	2,198,344	17%
Riverside	12,249,014	13%	17,697,848	13%	60,611,222	13%	309,097	11%	442,695	11%	1,373,510	11%
San Bernardino	12,569,173	13%	17,843,149	13%	62,675,991	14%	307,050	11%	438,328	10%	1,398,218	11%
Ventura	4,034,942	4%	5,741,082	4%	19,238,217	4%	102,168	4%	150,881	4%	467,879	4%
Total	**95,079,266**	**100%**	**134,159,418**	**100%**	**460,153,316**	**100%**	**2,886,484**	**100%**	**4,188,189**	**100%**	**12,813,866**	**100%**

Source: SCAG Modeling, 2019

Table 3.17-2
Summary of Existing (2019) Delay and Work Trip Length

County	Vehicle Hours of Delay			% of Travel in Delay			Average Home-to-Work Trip Distance (miles)	Average Home-to-Work Trip Duration (minutes)	
	A.M. Peak Period	P.M. Peak Period	Daily	A.M. Peak Period	P.M. Peak Period	Daily	Vehicle Trips (A.M. Only)	Vehicle Trips (A.M. Only)	Transit Trips (A.M. only)
Imperial	1,834	2,830	9,631	0%	0%	0%	11.20	15.02	19.13
Los Angeles	462,855	751,645	1,686,548	65%	64%	67%	17.16	29.40	22.29
Orange	130,227	213,017	431,378	18%	18%	17%	16.00	24.74	21.51
Riverside	53,204	89,776	172,164	8%	8%	7%	20.68	32.65	20.13
San Bernardino	47,031	79,787	152,870	7%	7%	6%	20.63	30.58	20.84
Ventura	14,156	28,807	55,099	2%	2%	2%	17.62	25.36	20.26
Total	**709,307**	**1,165,862**	**2,507,690**	**100%**	**100%**	**100%**	**17.53**	**28.57**	**21.59**

Source: SCAG Modeling, 2019

Table 3.17-3
Existing (2019) Travel Mode Split (Percentage of County Total)

County	Person Trip Type	Drive Alone	2-Person Carpool	3-Person Carpool	Auto Passenger Trip	Transit	Non-Motorized	Total
Imperial	Home-Work/Univ	62.83%	10.40%	9.97%	6.27%	0.40%	10.13%	100%
	All Daily Trips	30.40%	13.66%	8.88%	27.29%	1.54%	18.22%	100%
Los Angeles	Home-Work/Univ	68.29%	9.17%	6.42%	7.66%	5.80%	2.66%	100%
	All Daily Trips	37.77%	13.58%	7.64%	28.62%	4.71%	7.68%	100%
Orange	Home-Work/Univ	70.75%	9.55%	6.93%	8.49%	1.82%	2.46%	100%
	All Daily Trips	39.95%	13.61%	7.52%	28.66%	2.50%	7.77%	100%
Riverside	Home-Work/Univ	73.33%	9.76%	6.74%	6.41%	0.98%	2.77%	100%
	All Daily Trips	31.33%	15.14%	9.22%	32.50%	2.29%	9.53%	100%
San Bernardino	Home-Work/Univ	71.98%	10.09%	7.27%	7.18%	1.14%	2.34%	100%
	All Daily Trips	33.74%	14.44%	9.08%	31.48%	2.53%	8.74%	100%
Ventura	Home-Work/Univ	69.85%	9.42%	7.33%	7.08%	1.93%	4.39%	100%
	All Daily Trips	36.05%	14.17%	8.10%	28.76%	2.29%	10.63%	100%
Total	**Home-Work/Univ**	**69.62%**	**9.41%**	**6.70%**	**7.64%**	**3.90%**	**2.73%**	**100%**
	All Daily Trips	**36.77%**	**13.89%**	**8.00%**	**29.39%**	**3.67%**	**8.27%**	**100%**

Source: SCAG, 2019

Regional Freeway, Highway, and Arterial System

The regional freeway, highway, and arterial system is the primary means of person and freight movement for the region (**Table 3.17-4, Existing Regional Freeway Route Miles and Lane Miles by County [2019]**). This system provides for direct auto, bus and truck access to employment, services and goods. The network of freeways, interstates, and highways serves as the backbone of the system, offering very high capacity limited-access travel and the primary heavy-duty truck route system. Deferred maintenance on roadways within the SCAG region has contributed significantly to the poor condition of many roadways and many need costly repairs to improve security and efficiency. The Plan will focus on preserving the existing transportation network, including preservation of roads, highways, bridges, railways, bicycle and pedestrian facilities, and transit infrastructures that lead to maintain mobility and provide cost-efficiency without increasing capacity.

Table 3.17-4
Existing Regional Freeway Route Miles and Lane Miles by County (2019)

County	Freeway Route Miles	Freeway Lane Miles
Imperial	95	380
Los Angeles	656	4687
Orange	227	1661
Riverside	319	1821
San Bernardino	471	2558
Ventura	94	536
Total	**1,863**	**11,642**

Source: SCAG Modeling, 2019

Arterial Street System

The local street system provides access for local businesses and residents. Principal arterials account for more about 79 percent of the arterial (principal and minor) network (**Table 3.17-5, Existing Regional Arterial Lane Miles by County [2019]**) and carry a high percentage of total traffic. In many cases arterials serve as alternate parallel routes to congested freeway corridors. Peak period congestion on the arterial street system occurs generally in the vicinity of activity centers, at bottleneck intersections and near many freeway interchanges.

Table 3.17-5
Existing Regional Arterial Lane Miles by County (2019)

County	Arterials	Lane Miles
Imperial	Principal	271
	Minor	556
Los Angeles	Principal	8,380
	Minor	8,983
Orange	Principal	3,589
	Minor	2,776
Riverside	Principal	1,152
	Minor	2,972
San Bernardino	Principal	1,753
	Minor	3,900
Ventura	Principal	810
	Minor	997
SCAG Total	**Principal**	**15,955**
	Minor	**20,184**

Source: SCAG Modeling, 2019

Regional High-Occupancy Vehicle (HOV) System and Park and Ride System

The regional HOV system consists of exclusive lanes on freeways and arterials, as well as busways and exclusive rights-of-way dedicated to the use of high-occupancy vehicles (HOVs). As described in **Table 3.17-6, Existing Regional High-Occupancy Vehicle Lane Miles by County (2019)**, the HOV system includes lanes on freeways, ramps and freeway-to-freeway connectors. The regional HOV system is designed to maximize the person-carrying capacity of the freeway system through the encouragement of shared-ride travel modes. HOV lanes operate at a minimum occupancy threshold of either two or three persons. Many include on-line and off-line park and ride facilities, and several HOV lanes are full "transitways" including on-line and off-line stations for buses to board passengers.

Park and ride facilities are generally located at the urban fringe along heavily traveled freeway and transit corridors and support shared-ride trips, either by transit or by carpool or vanpool. Most rail transit stations have park and ride lots nearby. Park and ride lots in the SCAG region include: 106 in Los

Angeles County, 25 in Orange County, 26 in Riverside County, 18 in San Bernardino County, and 20 in Ventura County.[2]

Table 3.17-6
Existing Regional High-Occupancy Vehicle Lane Miles by County (2019)

County	HOV Total Lane Miles
Imperial	0
Los Angeles	483
Orange	252
Riverside	80
San Bernardino	114
Ventura	8
Total	**935**

Source: SCAG Modeling, 2019.

3.17.1.3 Public Transit

In Southern California public transit service is comprised of local and express buses, transitways, Rapid Bus, bus rapid transit (BRT), urban rail, including subway and light rail principally centered in the core of Los Angeles County, commuter rail that spans five counties and shuttles/circulators that feed all transportation modes and activity centers (**Table 3.17-7, SCAG Region Annual Fixed Route Transit Ridership**). Transit service is provided by approximately 67 separate public agencies. Twelve of these agencies provide 91 percent of the existing public bus transit service. Local service is supplemented by municipal lines and shuttle services while additional regional service is offered via private bus companies.

Many people depend on reliable transit service to participate in the economic, cultural, and social benefits of Southern California, and transit use is growing in the SCAG region (**Table 3.17-8, Statistics for Major Transit Operators for 2017**). According to data reported to the National Transit Database (NTD), transit agencies in the SCAG region experienced 655 million annual boardings and invested $2.91 billion in operations and maintenance (O&M) in FY 2015–16. These services were operated by over 100 agencies, involving a wide variety of bus and rail transit modes.[3]

2 IE511.org. 2018. *Southern California Park and Ride Lot Map*. Available online at: http://www.ie511.org/rideshare/park-and-ride, accessed January 31, 2019.

3 SCAG Connect SoCal, Transit Technical Report, 2019

Table 3.17-7
SCAG Region Annual Fixed Route Transit Ridership

Total Trips	2005	2008	2010	2012	2015	2016	2018
Metro Rail	74,242,912	86,707,131	95,596,698	101,516,533	106,974,667	108,089,770	108,017,525
Commuter Rail	10,693,327	12,680,973	7,398,000	13,155,790	10,693,000	13,758,419	12,681,000
Bus	611,308,450	627,639,691	548,728,000	587,830,836	609,795,000	525,376,865	622,286,000
Total	696,244,689	727,027,795	617,928,000	702,503,159	694,731,000	647,225,054	721,674,000
Passenger Miles	**2005**	**2008**	**2010**	**2012**	**2015**	**2016**	**2018**
Metro Rail	442,916,123	524,813,417	564,179,659	597,916,365	634,484,952	651,537,856	565,149,658
Commuter Rail	359,938,222	436,565,493	274,625,402	433,650,956	359,938,222	425,150,283	436,565,493
Bus	2,375,502,229	2,461,654,000	2,206,840,397	2,487,359,821	2,375,502,229	2,206,425,695	2,461,654,000
Total	3,178,356,574	3,423,032,910	3,045,645,458	3,518,927,142	3,369,925,403	3,283,113,834	3,463,369,151

Source: Metro, Interactive Estimated Ridership Stats, available online at: http://isotp.metro.net/MetroRidership/Index.aspx

Table 3.17-8
Statistics for Major Transit Operators for 2017

County	Largest Transit Operator	Average Weekday Boardings	Annual Boardings	Annual Vehicle Revenue Miles (VRM)	Passenger Fares as a % of Operation Expenses*
Fixed Bus Route Service					
Imperial	ICTC	2,914	815,712	1,190,021	11.2
Los Angeles	Metro	1,287,264	407,153,682	128,562,258	17.5
Orange	OCTA	138,739	42,863,498	40,725,024	10.5
Riverside	RTA	28,916	8,741,975	12,874,210	14.4
San Bernardino	Omnitrans	38,817	11,658,596	11,389,327	16.7
Ventura	Gold Coast Transit	11,676	3,718,811	2,927,067	14.5
Metro Rail					
Los Angeles	Metro	359,016	217,948,048	23,709,764	N/A
Regional Commuter Rail					
Various	SCRRA (Metrolink)	51,276	14,396,198	13,133,012	36.7

Source:
National Transit Database. 2018. Annual Agency Profile, Region 9. Available online at: https://www.transit.dot.gov/ntd/transit-agency-profiles, accessed September 24, 2019; and
Metro. Interactive Estimated Ridership Stats, 2017. Available online at: http://isotp.metro.net/MetroRidership/Index.aspx, accessed November 11, 2019.

Metro Rail System

Existing urban rail lines (Metro Rail) are located in Los Angeles County and are operated by Metro. They include the Metro Blue Line from Long Beach to Downtown Los Angeles, the Metro Green Line from Redondo Beach to Norwalk, the Metro Expo Line from Downtown Los Angeles to Santa Monica, and the Metro Red Line subway from Union Station to North Hollywood. The Metro Purple Line subway follows the Red Line from Union Station to Wilshire and Vermont but branches off to Western Avenue, and the Metro Gold Line that runs from East Los Angeles (Atlantic station) to Azusa via Union Station (shown in **Figure 2.0-3, Existing Transit Network [2018]**). The Metro Rail system is operated seven days a week. A system total of 98 route miles serves a total of 93 stations. Ridership on the Metro Rail system is approximately 359,000 boardings every day.

Commuter Rail and Intercity Passenger Rail

Commuter rail service is operated by the Southern California Regional Rail Authority (SCRRA). In October of 1992, the SCRRA began initial operation of the Metrolink commuter rail system on three lines. Service on the initial system was greatly expanded after the 1994 Northridge earthquake. Currently SCRRA operates seven routes including five from Downtown Los Angeles to Ventura, Lancaster, San Bernardino, Riverside, and Oceanside, from San Bernardino to Oceanside, and from Riverside via Fullerton or City of Industry to Downtown Los Angeles. As of Q3 2018-19, the system operated 173 trains on weekdays, 48 on Saturdays, and 42 on Sundays to 62 stations on 538 route miles. Average weekday ridership is approximately 38,436 passengers.[4]

Amtrak provides significant regional and interregional service on the Los Angeles–San Diego–San Luis Obispo (LOSSAN) Corridor (also known as Amtrak's Pacific Surfliner corridor) operating 12 daily round-trip services, with service to Los Angeles Union Station (**Figure 3.17-5, Amtrak Railways**). Additionally, Amtrak operates four interstate routes within the region (Coast Starlight, Sunset Limited, Southwest Chief and Texas Eagle) that on average have one daily trip.[5]

Shuttles and Demand-Responsive Services

One component of the region's public transit system consists of publicly operated or funded demand-response taxis and dial-a-ride services; some open to the general public, others limited to elderly and disabled use. It also includes locally operated or funded shuttle buses (e.g., Los Angeles DASH, Pasadena

4 Southern California Regional Rail Authority. 2018. *Facts and Numbers.* Available online at: https://www.metrolinktrains.com/about/agency/facts--numbers/, accessed September 24, 2019.

5 Amtrak. 2018. *Amtrak Routes and Destinations*. Available online at: https://m.amtrak.com/h5/r/www.amtrak.com/routes.html, accessed September 24, 2019.

ARTS, Glendale Beeline, Cerritos on Wheels, El Monte Transit, Riverside Orange Blossom, etc.). Access Paratransit, the largest provider of transportation services for the disabled in the region, operates in the vicinity of fixed-route bus and rail lines in Los Angeles County and extends into portions of the surrounding counties of San Bernardino, Orange and Ventura. These systems serve as local shuttles, internal circulators, connectors to other public transit, or as shoppers' shuttles. Service on these systems is usually limited to a prescribed geographic area.[6]

3.17.1.4 Active Transportation and Non-Motorized Transport

The California Active Transportation Program (ATP) was created to ensure all active modes of transportation, such as biking and walking, was accounted to meet the development of active transportation plans in disadvantaged communities as well as the implementation of non-infrastructure projects (i.e. education, enforcement activities). The use of bicycle as a means of transportation has several appealing aspects for an increasing share of travelers.

Bicycle and Pedestrian Facilities

Biking and walking primarily constitute non-motorized transportation. Non-motorized transportation plays a bigger role in the densely-populated, mixed-land-use areas of the region. Bicycling has positive air quality, economic, and health impacts, and can reduce automobile-related congestion and energy use. Similar to bicycle use, walking can also reduce auto emissions of both criteria pollutants and greenhouse gases from auto trips. Health in communities improve when there are options to increase physical outcome of activities, lower body weight, lower rates of traffic injuries, lower air pollution, and improve mobility for nondrivers. Currently, 32 percent of all walking trips are less than half a mile, and 59 percent of walking trips are less than a mile. The average bicycle trip is 3.1 miles (the majority of bicycle trips are discretionary). Walking trips made up 3.4 percent of all commute trips and 8 percent of all trips for the SCAG region. Bicycles make up 1.3 percent of all trips and 0.8 percent of commute trips for the SCAG region.[7]

The region's bikeways encourage non-motorized travel, serve as recreational facilities, and provide inexpensive, environmentally friendly transportation opportunities. Some of the strategies to encourage active transportation currently being considered are focused on addressing concerns related to equity and public health, refining models to account for recent changes in shared mobility, improving first-last mile

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6 Access Services. *About Us*. Available online at: https://accessla.org/about_us/overview.html, accessed September 24, 2019.

7 Southern California Association of Governments. November 2019. SCAG Active Transportation Technical Report.

infrastructure, and improving compact community development through targeted High Quality Transit Areas (HQTA). The bikeways are also designated to provide for allowable use and to encourage active use. Class I bikeways are separate shared-use paths also used by pedestrians, Class II bikeways are striped lanes in streets, and Class III bikeways are signed routes. There are approximately 5,075 bikeway miles in the region, with the majority in Los Angeles County, followed by Riverside and Orange County. Bike rack, locker, and station programs are ongoing in a number of cities and transit operators. In addition, transit operators are integrating bicycle transportation with transit via bus bike racks, bike-on-train programs and bicycle lockers at transit centers. **Figure 3.17-6, Existing Regional Bikeways,** and **Figure 3.17-7, Existing and Proposed Regional Bikeways (2045)**, show the existing and proposed bikeways in the SCAG region.

Pedestrian access at and near public transit, in most major commercial areas, and many residential areas is facilitated by sidewalks, a number of pedestrian malls, and in some cases local jogging and pedestrian trails or paths.

Micro-transit

Micro-transit is more flexible than traditional bus service in that it either utilizes dynamic routing, smaller vehicles or on-demand service that allows greater efficiency and convenience. Some micro-transit services exist in Southern California, but it can and must expand in order to meet riders' shifting needs and expectations. While accommodations should be made for those who do not possess smartphones or other technology to hail a ride or research a route, most transit riders could benefit from micro-transit.

Los Angeles Metro and Orange County Transportation Authority have partnered with private companies to pilot micro-transit services in their respective counties. These are projects that could change the way people ride transit, giving riders more options.

Micro-mobility

Micro-mobility strategies provide shared technology infrastructure and regulation frameworks to ensure that new technologies (e.g. app-based e-scooters and e-bikes) can be used safely and responsibly. These strategies range from incentives for the purchase of e-bikes, to the distribution of private micro-mobility devices that help ensure access for low-income communities. While it is expected that many of these devices will be provided through the private sector, they will still use public streets and will likely increase demand for separated facilities that are safe for all ages and abilities. Local cities will likely be tasked with the regulation of these devices and will likely need to manage the locations where parking is allowed and where they can be ridden.

3.17.1.5 Goods Movement

Goods movement generally refers to the movement of raw, semi-finished, and finished materials and products used by businesses and residents across the transportation system. These goods move in myriad ways and through complex systems, often using multiple modes of transportation (e.g., ships, trucks, trains, planes, etc.). Products can be produced within the U.S. or another country, and make their way to a business, retail store, or directly to consumers versus traditional purchases by consumers at physical retail outlets. The efficient movement of these goods are critical to maintain a strong economy and ensure improvements in the quality of life of regional residents.

Goods movement supports industries and activities that provide jobs, tax revenue, and resources that bolster innovation, creativity, and access to local and world markets through trade. This movement depends directly on the infrastructure that comprises the transportation network such as highways, rail lines, ports, and networks of warehousing and other distribution facilities. Maintaining and improving existing infrastructure, and expanding infrastructure capacity where appropriate, is key to ensuring the competitiveness of a growing economy. However, goods movement also has negative impacts and externalities. Growing trade and increased volumes of goods moving across the transportation system have contributed to greater congestion, safety concerns, harmful emissions of dangerous pollutants, wear-and-tear on roadways and impacts on local neighborhoods. As the Metropolitan Planning Organization (MPO) for the region, SCAG has adopted a vision for the region's goods movement system.

Federal law (23 U.S.C. §§ 134-135) mandates that MPOs encourage and promote the safe and efficient management, operation, and development of surface transportation systems that will serve the mobility needs of people and freight and foster economic growth and development within and between States and urbanized areas. Specifically, MPOs should consider projects and strategies that will increase the accessibility and mobility of people and for freight and enhance the integration and connectivity of the transportation system, across and between modes, for people and freight.[8]

At the state level, MPOS are required to perform regional transportation planning to prepare and provide for the region's mobility in a fiscally and environmentally responsible manner, consistent with the needs, preferences, and sensibilities of the community. This coincides with California Government Code 65041.1 (Cal Civ. Code § 65041.1) and identifies planning considerations for freight that are consistent with federal requirements.

8 United States Code. 2019. *§134. Metropolitan transportation planning*. Available online at: https://www.govregs.com/uscode/title23_chapter1_section134, accessed September 16, 2019.

Wholesale and retail trade, transportation, and manufacturing support over approximately 6 million jobs in the SCAG region according to statistics provided by the State's Employment Development Department.[9]

Heavy-Duty Trucks

Figure 3.17-8, Existing Regional Goods Movement System displays the regional goods movement system. One of the key components of the region's goods movement system is the fleet of heavy-duty trucks, defined as cargo-carrying vehicles with a gross weight rating in excess of 8,500 pounds. Trucks provide a vital link in the distribution of all types of goods between the region's ports (sea and air), railroads, warehouses, factories, farms, construction sites and stores. The size and weight of heavy-duty trucks gives them unique operating characteristics; that is, they accelerate and decelerate more slowly than lighter vehicles and require more road space to maneuver. Dedicated truck lanes currently exist at two major freeway interchanges: the junction of Interstate 5 (I-5) with the I-210 and State Route 14 (SR-14) and at the junction of the I-405 with the I-110. In addition, truck climbing lanes are located on northbound I-5 in northern Los Angeles County.

The trucking industry, including common carrier, private carrier, contract carrier, drayage and owner-operator services, handles both line-haul and pick-up and delivery. The industry uses the public highway system for over-the-road and local service. However, it is also served by a considerable infrastructure of its own. This infrastructure includes truck terminals, warehousing, consolidation and trans-loading facilities, freight forwarders, truck stops and maintenance facilities. These various facilities are especially prevalent in the South Bay and Gateway Cities areas, including Wilmington and Carson and extending generally between Los Angeles International Airport (LAX) and the San Pedro Bay Ports, along the I-710 Corridor north to Vernon, Commerce, and Downtown Los Angeles, east through the San Gabriel Valley to Industry, Pomona, and Ontario and then to the Inland Empire in Fontana and Rialto as well as in Glendale and Burbank. Specialized facilities for trucking that provide air cargo ground transport are located around regional airport facilities, notably LAX and LA/Ontario International Airport.

Railroads

The SCAG region is served by two main line commercial freight railroads—the Burlington Northern/Santa Fe Railway Co. (BNSF) and the Union Pacific Railroad (UP). These railroads link Southern California with other United States regions, Mexico, and Canada either directly or via their

9 State of California Employment Development Department. 2019. *Employment by Industry Data*. January. Available online at: https://www.labormarketinfo.edd.ca.gov/data/employment-by-industry.html, accessed January 30, 2019.

connections with other railroads. They also provide freight rail service within California. In 2017, railroads moved approximately 162.3 million tons of cargo throughout California.[10]

The SCAG region is also served by three short line or switching railroads:

The Pacific Harbor Line (formerly the Harbor Belt Railroad), which handles all rail coordination involving the Ports of Los Angeles and Long Beach, including dispatching and local switching in the harbor area;

- Los Angeles Junction Railway Company, owned by BNSF, which provides switching service in the Vernon area for both the BNSF and UP;
- The Ventura County Railroad, owned by Rail America, Inc., which serves the Port of Hueneme and connects with the UP in Oxnard.

These railroads perform specific local functions and serve as feeder lines to the trunk line railroads for moving goods to and from Southern California.

The two main line railroads also maintain and serve major facilities in the SCAG region. Intermodal facilities in Commerce (BNSF-Hobart), East Los Angeles (UP), San Bernardino (BNSF), and Carson near the San Pedro Bay Ports (UP-ICTF), the Los Angeles Transportation Center (UP-LATC), and the UP-City of Industry yards serve on-dock rail capacity at the Ports of Los Angeles (UP/BNSF) and Long Beach (UP/BNSF).

All major rail freight corridors in the region have some degree of grade separation, but most still have a substantial number of at-grade crossings on major streets with high volumes of vehicular traffic. These crossings cause both safety and reliability problems for the railroads and for those in motor vehicles at the affected crossings. Trespassing on railroad rights of way by pedestrians is another safety issue affecting both freight and commuter railroads.

3.17.1.6 Regional Aviation System

The SCAG region supports the nation's largest regional airport system in terms of number of airports and aircraft operations, operating in a very complex airspace environment. The SCAG region contains seven commercial airports with scheduled passenger service, seven government/military air fields, and over 30 reliever and general aviation airports. The existing active commercial service airports handle the majority

10 Association of American Railroads. 2018. *U.S. Freight Railroad Industry Snapshot: California*. Available online at: https://www.aar.org/data-center/railroads-states/#state/CA, accessed January 30, 2019.

of passenger air traffic (see **Figure 3.9-1, Airports in the SCAG Region**, in **Section 3.9, Hazards and Hazardous Materials**).

- Los Angeles International Airport (LAX)
- Ontario International Airport (ONT)
- John Wayne/Orange County Airport (SNA)
- Hollywood Burbank Airport (BUR)
- Imperial County Airport (limited commercial service) (IPL)
- Long Beach Airport (LGB)
- Palm Springs International Airport (PSP)

In all, approximately 110.2 million annual passengers (MAP) were served in the region in 2017, a 28 percent increase over 2012. The level of regional aviation demand forecasts related to MAP has been decreasing, with approximately 165.3 MAP by 2035 in the 2008 RTP, 145.9 MAP by 2035 in the 2012 RTP/SCS, and 136.2 MAP by 2040 in the 2016 RTP/SCS.[11] In 2017, Los Angeles International Airport (LAX) led the largest share of air passengers with approximately 77%, followed by John Wayne Airport at 10%, Hollywood Burbank Airport at 4%, and Ontario International Airport at 4%.[12] The SCAG region is forecast to have 197.1 MAP by 2045. In 2017, the SCAG region was one of the most active and fastest growing regions for air passenger traffic in the United States, second only to the New York/New Jersey region for air passenger traffic. Moreover, the growth rate of 5.12 percent for the SCAG region from 2012 to 2017 was second only to the Bay Area. LAX accounts for the largest proportion of passenger volume, cargo, and annual operations. A brief discussion of the location, major access routes, and facilities at seven major airports is provided below.

Hollywood Burbank/Bob Hope Airport (BUR)

Located in the San Fernando Valley northwest of downtown Burbank, the Hollywood Burbank Airport (also known as Bob Hope Airport) is a publicly owned airport operated by the Burbank-Glendale-Pasadena Airport Authority. Major vehicular access is provided by I-5, Hollywood Way, San Fernando Road, and Vanowen Street. Burbank Airport is currently in the project planning process for a new, relocated terminal, which would enable faster processing while maintaining existing capacity. Burbank Airport has dedicated transit and rail facilities for passengers coming to and from the airport and is the only airport in the SCAG region with a direct rail connection to Downtown Los Angeles via Amtrak and Metrolink. Burbank Airport averages 354 aircraft operations per day, including 38 percent commercial and 29 percent transient general aviation. Burbank Airport served 4.7 MAP in 2017, a 20 percent increase over 2015.

11 Southern California Association of Governments. November 2019. Aviation Technical Report.

12 Ibid.

Imperial County Airport (IPL)

Imperial County Airport is located in the City of Imperial, approximately 12 miles north of the California-Mexico border. The airport provides limited scheduled air service and serves the general aviation needs of the surrounding communities. It is part of the Essential Air Service (EAS) program through the US Department of Transportation, providing residents of Imperial County a connection to the national aviation system by subsidizing air service to eligible small community airports. Currently, only one scheduled passenger airline operates out of IPL, carrying passengers to LAX or BUR. IPL averages 38 aircraft operations per day, including 43 percent general aviation and 25 percent military. IPL served 11,812 passengers in 2017, down from a peak of approximately 30,000 passengers in 2001.

Long Beach Airport/Daugherty Field (LGB)

Long Beach Airport is located approximately four miles northeast of downtown Long Beach. Built in 1941, the Long Beach Airport terminal is a Cultural Historic Landmark. In 2017, a new concourse was opened, and a new ground transportation center is currently being constructed. The arrival of low-cost carrier JetBlue in 2001 led to a rapid increase in air traffic and solidified the airport as an alternative to LAX for east coast destinations. The airport primarily serves general aviation aircraft. LGB averages 811 aircraft operations per day, including 51 percent local general aviation and 34 percent transient general aviation. LGB served 3.8 MAP in 2017 and averages approximately 25,000 tons of cargo per year.

Los Angeles International Airport (LAX)

Located 18 miles southwest of Downtown Los Angeles, LAX is the publicly owned primary airport serving the Greater Los Angeles Area. As the largest airport in the region and the fourth busiest in the world for passenger traffic, LAX plays a critical role in the movement of people and cargo throughout the region. When factoring out connecting flights, LAX is the busiest origin and destination airport in the world for passenger traffic. LAX is also the 13th busiest cargo airport in the world by tonnage. LAX is currently undergoing a major renovation known as the Landside Access Modernization Program, which will include an elevated Automated People Mover; two Intermodal Transportation Facilities with drop-off areas; a Consolidated Rental Car Facility; and a comprehensive series of roadway improvements. In addition, Metro's Crenshaw/LAX Line is set to open in summer 2020, providing a light rail connection from the Automated People Mover to destinations throughout South Los Angeles, ultimately connecting to the Expo and Green Lines. LAX averages 1,603 aircraft operations per day, including 92 percent commercial aviation. Passenger traffic at LAX has steadily increased since the 2008 Recession, from 59 MAP in 2010 to 84.6 MAP in 2017. LAX accommodates over 70 percent of the air passenger travel in the SCAG region.

Ontario International Airport (ONT)

Ontario International Airport is located in the City of Ontario in San Bernardino County. It is accessed primarily via I-10 and SR-60. Southwest Airlines is the largest carrier operating at the airport, and ONT is also a major cargo hub for UPS, due to its long runways and relatively limited noise restrictions. Ontario Airport averages 267 aircraft operations per day, including 63 percent commercial and 18 percent air taxi. Currently, ONT averages approximately 4 MAP, though at one point in the early 2000s, that number went as high as 7 MAP.

Palm Springs International Airport (PSP)

Palm Springs International Airport is located in the desert resort city of Palm Springs in the Coachella Valley of Riverside County. The airport primarily caters to seasonal leisure travelers visiting during the winter. PSP averages 142 aircraft operations per day, including 37 percent commercial and 34 percent transient general aviation. Peak travel occurs during the fall, and the airport served 2.1 MAP in 2017.

John Wayne Airport (SNA)

John Wayne Airport is owned and operated by the County of Orange and is not located in an incorporated city. However, it is surrounded by the cities of Santa Ana, Irvine, Newport Beach, and Costa Mesa and accessible by the I-405 and SR-73 freeways. SNA is 503 acres with 20 gates for commercial airlines and two commuter terminals, and general aviation outnumbers commercial operations. Strict noise regulations impact when flights can fly in and out of John Wayne Airport. Commercial departures between 10 PM and 7 AM (8 AM on Sundays) and arrivals between 11:00 PM and 7 AM (8 AM on Sundays) are prohibited. Additionally, special takeoff procedures for most aircraft require a steep climb followed by an abrupt power reduction at approximately 500 feet for quiet passage over Newport Beach. SNA served 10.4 MAP in 2017, making it the second busiest airport in the SCAG region.

3.17.1.7 Maritime Ports

Southern California is served by three major deep-water seaports. These ports—Hueneme, Long Beach, and Los Angeles—handle Asia–North America trade and are served by the two major railroads and numerous trucking companies in Southern California. The Port of Hueneme, with its recent expansion, ranks as one of the premier automobile and agricultural product-handling facilities in California. The Ports of Long Beach and Los Angeles are full-service ports with facilities for containers, autos and various

bulk cargoes. With an extensive landside transportation network, the three ports moved more than 370 million metric tons of cargo in 2017.[13,14,15]

In particular, the San Pedro Bay Ports (Long Beach and Los Angeles) dominate the container trade in the Americas by shipping and receiving nearly 17 million 20-foot Equivalent Units (TEUs) of containers in 2018.[16,17] Together these two ports rank third in the world, behind Rotterdam and Hong Kong, as the busiest maritime ports.

3.17.1.8 Transportation Hazards

Based on average accident rates provided by Caltrans, transportation-related fatalities in 2015 occurred at an overall rate of 1.01 fatalities per 100 million vehicle miles traveled, taking into account the varying accident rates on different facility types (freeway, arterials) and travel modes (bus transit, rail transit).[18] In 2015, the most recent date for which data is available, more than 1,700 people died and nearly 160,000 were injured on roadways throughout the SCAG region (**Table 3.17-9, Total Vehicle Fatalities and Injuries in the SCAG Region (2016)**). On any given day in Southern California, six people are killed by a car or truck. In 2016, in the SCAG region, more than 1,700 people died including more than 70 cyclists and nearly 500 pedestrians. The problem is getting worse: the number of pedestrians killed in crashes grew 50 percent between 2011 and 2016.The leading cause of serious injuries and fatalities in collisions is unsafe speed. [19]

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13 Port of Los Angeles. 2018. *Tonnage Statistics*. Available online at: https://www.portoflosangeles.org/business/statistics/tonnage-statistics, accessed January 30, 2019.

14 Port of Long Beach. 2018. *Monthly Tonnage Summary Report*. Available online at: http://www.polb.com/civica/filebank/blobdload.asp?BlobID=14331, accessed January 30, 2019.

15 Port of Hueneme. 2017. *2017 Dock Talk Year End Review*. Available online at: https://www.portofhueneme.org/port-releases-2017-year-end-review/, accessed January 30, 2019.

16 Port of Los Angeles. 2018. *Latest Monthly Container Counts*. Available online at: https://www.portoflosangeles.org/business/statistics/container-statistics, accessed January 30, 2019.

17 Port of Long Beach. 2018. *Latest Monthly TEUs*. Available online at: http://www.polb.com/economics/stats/yearly_teus.asp, accessed January 30, 2019.

18 California Office of Traffic Safety. *California Traffic Safety Quick Stats.* Available online at: https://www.ots.ca.gov/ots-and-traffic-safety/score-card/, accessed November 18, 2019.

19 SCAG Connect SoCal Plan, *Transportation Safety and Security Technical Report*, November 2019

Table 3.17-9
Total Vehicle Fatalities and Injuries in the SCAG Region (2016)

County	Bicycle Victims Killed and Injured	Pedestrian Victims Killed or Injured	Total Injuries	Total Fatalities
Imperial	20	20	783	34
Los Angeles	3,777	5,744	90,621	847
Orange	1,000	929	22,898	205
Riverside	379	556	20,589	295
San Bernardino	324	563	15,991	272
Ventura	277	243	7,013	58
Total	**5,777**	**8,055**	**157,895**	**1,711**

Source: SCAG, Connect SoCal, Transportation Safety and Security Technical Report, November 2019.

Safety, Security and Emergency Access

Southern California is home to significant natural disasters, including earthquakes, wildfires, flooding, and mudslides (discussed in **Section 3.7, Geology and Soils,** and **Section 3.20, Wildfire**). Although natural disasters, such as earthquakes and hurricanes, have produced significant regional casualties and property damage, none had the serious disruption to national travel and the national economy as the September 11, 2001, terrorist attacks. The 9/11 attacks created a new awareness of the vulnerabilities of transportation fleets and facilities. As concern about the threat of terrorism and consequences of natural disasters has grown, government (at all levels) has taken new measures to secure the welfare of its citizens. Transportation and transit agencies throughout the United States are taking increasing steps to protect their facilities against the threats of crime, terrorist activity, and natural disasters.

A large-scale evacuation would be difficult in the SCAG region. The region already has severe traffic congestion and mobility issues. The region encompasses 38,000 square miles with a diverse geography, ranging from dense urban areas, to mountain ranges, to vast deserts. The interdependency of the jurisdictions and organizations makes regional cooperation and coordination essential to security and emergency preparedness. Typically, no single agency is responsible for transportation security. At the local level, especially within transit agencies, safety may be handled within one office. However, it is far less likely that the security of a surface transportation mode is managed by one entity and that this entity is even controlled by the transportation organization. For example, highways and transit networks traverse multiple police jurisdictions, local fire departments generally fill the incident command role after terrorist events, regional command and control centers respond to both natural and intentional disasters,

and federal agencies intervene as needed and based on specific guidelines such as the crossing of state boundaries.

The complexity of the SCAG region, with a range of potential terrorism targets, presents significant challenges in coordinating and implementing effective homeland security programs. The unexpected and complex nature of these natural and human-caused incidents require extensive coordination, collaboration and flexibility among agencies and organizations involved in planning, mitigation, response and recovery.

As described above, the SCAG region has an extensive transportation system, with more than 73,800 miles of freeway and arterial lanes and 5,000 miles of bikeways. As of 2019, the region had 15.8 million licensed drivers and 12.7 million registered vehicles.[20] As of 2016 (most recent year data was available), 1,711 people died and 157,895 were injured in traffic collisions in the region. Therefore, safeguarding the Southern California transportation safety to minimize accidents on-road for vehicles and pedestrians is an important focus of the region.

The Transportation Research Board has classified emergency events that affect transportation agencies into several categories (**Table 3.17-10, Transportation Security Vulnerabilities**).

Table 3.17-10
Transportation Security Vulnerabilities

Roadways and Freeway	
Freeway Lanes Miles (excluding carpool)	11,642 miles
Carpool Lane Miles	935 miles
Road Lane Miles	135,578 miles
Public Transit	
Buses	5,851 vehicles
Metro Rail	98 miles and 93 stations
Metrolink	538 miles and 62 stations
Aviation/Ports	
Commercial/General Aviation Airports	56
Regional Airport Activity Levels	110.2 MAP to 200 nonstop destinations
Long Beach/Los Angeles rank among world container ports	9th
Share of United States Maritime Trade	40 percent

Source: SCAG Modeling, 2019; Metrolink Fact Sheet; SCAG Regional Guide 2019

20 SCAG, *Regional Guide 2019.* Available online at: http://www.scag.ca.gov/Documents/scag-2019-Regional-Guide.pdf, accessed September 30, 2019.

Rail and Mass Transit

The dispersed nature and the daily volume of passengers using public transportation services, which include intercity passenger rail, commuter rail, subway systems, and bus transportation, make it an attractive target for terrorists and criminals. **Table 3.17-10, Transportation Security Vulnerabilities,** provides a summary of the regional transit system.

- 105 miles of heavy and light rail
- 534 miles of commuter rail (Metrolink)
- 9,000 miles of bus routes
- 5,075 miles of bikeways
- 135,578 total lane miles of roadways
- 94 miles of express lanes

The numbers of customers using public transportation every day creates ongoing challenges for enhancing security within transit environments. Plans have been implemented to provide for basic protection. In the early 1990s, the California Public Utilities Commission required that transit agencies operating rail systems prepare a comprehensive System Safety Program Plan (SSPP) that also included a security component. Since 2004, all transit agencies are required to include a security and emergency management plan, which details how the agency would coordinate with first responder (law enforcement and fire) agencies, their respective County Office of Emergency Services and the Statewide Standardized Emergency Management System (SSEMS).

International Border Crossings

Within the SCAG region, there are three international ports of entry along the Mexico–Imperial County border: two at Calexico (Calexico and Calexico-East); and, one at Andrade (near Yuma, Arizona). Traffic from these ports enters California on the I-8 corridor. U.S. Customs and the Border Protection Agency within the Department of Homeland Security (DHS) are charged with the management and control of the official ports of entry. Security planning includes local emergency services, as well as the CHP.

Caltrans District 11 has developed the California–Baja California Border Master Plan, which establishes a process to institutionalize dialogue among local, state and federal stakeholders in the United States and Mexico. A key objective was to develop criteria that can be used in future studies to coordinate and prioritize projects related to existing and new Ports of Entry (POEs), as well as roads leading to the

California Mexico POEs. Security was a major consideration in the development of the Border Master Plan.

Security at Seaports

The DHS has designated the seaports of Long Beach, Los Angeles, and Port Hueneme as at risk for potential terrorist actions.[21] Security at the ports is the joint responsibility of the U.S. Coast Guard, the U.S. Customs and Border Protection Agency, federal and State Homeland Security offices, Port police agencies, Harbor Patrols and emergency service agencies. The U.S. Coast Guard leads the local Area Maritime Security Commission, which coordinates activities and resources for all port stakeholders.

The Port of Los Angeles has a dedicated police force, the Los Angeles Port Police, to patrol the area within the jurisdiction of the Port of Los Angeles. The Port Police enforce federal, state, and local public safety statutes, as well as environmental and maritime safety regulations, in order to maintain the free flow of commerce and produce a safe, secure environment that promotes uninterrupted Port operations. In addition, the Port Police partner with other law enforcement agencies, such as the Los Angeles Police Department, CHP, and Customs and Border Protection in the Cargo Theft Interdiction Program (CTIP), which investigates cargo theft, and the High Intensity Drug Trafficking Area, which targets drug trafficking at the Ports of Los Angeles and Long Beach. Furthermore, per the Maritime Transportation Security Act of 2002, the Port of Los Angeles works with the Coast Guard to develop security plans for facilities at the port.

Similar to the Port of Los Angeles, security at the Port of Long Beach entails physical security enhancements, police patrols, coordination with federal, State, and local agencies to develop security plans for the port area and investigate suspicious incidents and obtaining federal funding to pay for these enhancements. As with the Port of Los Angeles, the Port of Long Beach works with the Coast Guard to develop security plans for facilities at the port. In contrast to the Port of Los Angeles, however, the Port of Long Beach does not have its own dedicated police force. Instead, the Long Beach Police Department is responsible for patrolling the port area. In doing so, the Port reimburses the Long Beach Police and Fire Departments for their port-related activities and expenses. The Port also funds its own Harbor Patrol to supplement law enforcement work conducted by other agencies such as the Coast Guard.

In addition to the above, several programs are in place to effectively monitor and screen seaport cargo. They include:

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21 Maritime Logistics Professional. 2017. *Security and the Ports*. September. Available online at: https://www.maritimeprofessional.com/blogs/post/security-and-the-ports-of-los-angeles-and-long-beach-15234, accessed January 30, 2019.

Investigations

The federal Container Security Initiative (CSI) directs Customs agents, working with host governments, to inspect and examine all cargo containers deemed high-risk before they are loaded on U.S.-bound vessels. The CSI contains four core elements: identifying high-risk containers, pre-screening containers before they reach U.S. ports of entry, using technology to prescreen high-risk containers and developing and using smart and secure containers.

Inspections

The 24-hour rule requires manifest information on cargo containers to be delivered to U.S. Customs 24 hours before the container is loaded onto a vessel in a foreign port. Customs has the right to stop any container from being loaded, for any reason, while the container is still overseas.

Partnerships

Most of the largest U.S. importers and their trading partners participate in the Customs-Trade Partnership Against Terrorism (C-TPAT), a public-private partnership designed to improve security standards throughout the cargo supply chain.

Technology

U.S. Customs uses X-ray, gamma ray and radiation-detection devices to screen incoming cargo at U.S. ports.

3.17.2 REGULATORY FRAMEWORK

This regulatory framework focuses on the federal, state, and local statutes and regulations where the primary objective is improvement of transportation systems, standards, and travel demand measures. However, there are other regulations that are focused on increased energy efficiency and reduction of greenhouse gas emissions, that if accomplished would be expected to contribute to improvement in traffic levels. Those regulations have been addressed respectively in **Section 3.6, Energy,** and **Section 3.8, Greenhouse Gases.**

3.17.2.1 Federal

Federal Clean Air Act (CAA) Transportation Conformity

Congress passed the first major CAA (42 U.S. Code [USC] § 7506(c)) in the 1970s which gives EPA primary responsibility to regulate mobile and stationary sources of emissions and direct states to develop

SIPs and required conformity determinations for areas designated nonattainment against the NAAQS, which included all six counties in the SCAG region. Conformity analysis and determination can be done at a regional level. SCAG provides a regional transportation conformity analysis in the Plan to address all nonattainment areas within the six county- region. The regional conformity determination is updated every four years with the RTP and associated FTIP and is done as a part of the project-level conformity process for regionally significant projects as they occur. A hot spot analysis is provided to confirm that the project will not cause or worsen a localized violation of the standard for carbon monoxide (CO) or particulate matter (PM10 and/or PM2.5) in the existing nonattainment area. For more information, refer to Section 3.3 Air Quality.

Metropolitan Transportation Planning

The provisions of Title 23 USC Section 134 *et seq.* provides direct authority for Metropolitan Planning Organizations (MPOs) such as SCAG to act as a regional transportation planning organization with direct responsibility for carrying out the Regional Transportation Plan (RTP). SCAG is tasked with carrying out the transportation planning process and adopting long-range transportation plans. Collaborating with state and public transportation operators, SCAG undertakes a performance-driven, outcome-based approach to planning for the six county regions. SCAG must prepare a transportation plan to be updated every four years, including identification of transportation facilities and factors for each mode of non-motorized transport to major roadways, transit, multimodal and intermodal facilities, and connectors that should function as an integrated system serving regional transportation functions. The scope of transportation planning process is to provide consideration of projects and strategies that will achieve the following objectives (23 U.S.C. § 134(g)(3)(A)):[22]

- Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity and efficiency;
- Increase the safety of the transportation system for motorized and non-motorized users;
- Increase the security of the transportation system for motorized and non-motorized users;
- Increase the accessibility and mobility of people and for freight;
- Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and

22 U.S. Code. *23 USC 134: Metropolitan transportation planning*.

economic development patterns; Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;

- Promote efficient system management and operation;
- Emphasize the preservation of the existing transportation system;
- Improve the resiliency of and reliability of the transportation system, and reduce stormwater impacts of surface transportation; and
- Enhance travel and tourism

Fixing America's Surface Transportation Act (FAST)

The Fixing America's Surface Transportation (FAST) Act (Pub. L. No. 114-94), enacted in 2015, builds on the changes to federal transportation planning law made by MAP-21.[23] It was the first long-term surface transportation authorization enacted in a decade that provides long-term funding certainty for surface transportation.[24] The FAST Act authorizes $305 billion over fiscal years 2016 through 2020 for highway improvements, highway and motor vehicle safety, public transportation, motor carrier safety, hazardous materials safety, rail, and research, technology, and statistics programs. The FAST Act maintains the focus on safety, keeps intact the established structure of the various highway-related programs, continues efforts to streamline project delivery, and provides a dedicated source of federal dollars for freight projects.

Under the FAST Act and its predecessors, MPOs such as SCAG must prepare long-range transportation plans and update them every four years if they are in areas designated as "nonattainment" or "maintenance" for federal air quality standards. Per federal requirements, long-range transportation plans must:[25]

- be developed through an open and inclusive process, that ensures public input; seeks out and considers the needs of those traditionally underserved by existing transportation systems;
- consults with resource agencies to ensure potential problems are discovered early in the planning process;

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23 The Moving Ahead for Progress in the 21st Century Act (MAP-21) was enacted in 2012 (PL 112-141).

24 Federal Highway Administration. *Fixing America's Surface Transportation Act*. Available at: https://www.fhwa.dot.gov/fastact/, accessed December 18, 2018.

25 Government Publishing Office. *Fixing America's Surface Transportation Act*. Available online at: https://www.govinfo.gov/content/pkg/PLAW-114publ94/pdf/PLAW-114publ94.pdf, accessed August 29, 2019.

- be developed for a period of not less than 20 years into the future; long-range transportation plans must reflect the most recent assumptions for population, travel, land use, congestion, employment and economic activity;
- have a financially-constrained element, transportation revenue assumptions must be reasonable, and the long range financial estimate must take into account construction-related inflation costs;
- include a description of the performance measures and performance targets used in assessing the performance of the transportation system;
- include a system performance report evaluating the condition and performance of the system with respect to performance targets adopted by the state that detail progress over time;
- include multiple scenarios for consideration and evaluation relative to the state performance targets as well as locally-developed measures;
- conform to the applicable federal air quality plan, called the State Implementation Plan, for ozone and other pollutants for which an area is not in attainment; and
- consider planning factors and strategies in the local context.

Congestion Management Process (23 USC § 134(k))

A congestion management process (CMP) is a systematic and regionally-accepted approach for managing congestion that provides accurate, up-to-date information on transportation system performance and assesses alternative strategies for congestion management that meet state and local needs. A CMP is required in metropolitan areas with a population exceeding 200,000, known as Transportation Management Areas (TMAs). Federal requirements state that in all TMAs the CMP must be developed and implemented as an integrated part of the metropolitan transportation planning process. [26]

Federal Highway Administration Congestion Management Process

23 CFR § 450.320 requires transportation management agencies like SCAG to address congestion management through a process that provides for safe and effective integrated management and operation of the multimodal transportation system, based on a cooperatively developed and implemented metropolitan-wide strategy, of new and existing transportation facilities through the use of travel demand reduction and operational management strategies. Federal guidance recommends use of

26 U.S. Code. *23 USC 134: Metropolitan transportation planning*.

performance measures that includes vehicle-to-capacity ratios and level of service on a selected network of significant routes in a region.[27]

3.17.2.2 State

Regional Transportation Plan Requirements

MPOs are required to prepare RTPs that also meet state requirements. Pursuant to Government Code sections 65080 *et seq.* each MPO must prepare and adopt a regional transportation plan directed at achieving a coordinated and balanced regional transportation system, including, but not limited to, mass transportation, highway, railroad, maritime, bicycle, pedestrian, goods movement, and aviation facilities and services. The plan must be action-oriented and pragmatic, considering both the short-term and long-term future, and shall present clear, concise policy guidance to local and state officials.[28]

Under California Code Section 14522, the California Transportation Commission (CTC) is authorized to prepare guidelines to assist in the preparation of RTPs. The CTC's RTP guidelines identify state and federal requirements for the development of RTPs, and methods to achieve these requirements. The guidelines suggest that projections used in the development of an RTP should be based upon available data (such as from the Bureau of the Census), use acceptable forecasting methodologies, and be consistent with the Department of Finance baseline projections for the region. The guidelines further state that the RTP should identify and discuss any differences between the agency projections and those of the Department of Finance. The RTP guidelines include provisions for complying with Senate Bill 375 (see below), as well as guidelines for regional travel demand modeling.[29]

Sustainable Communities and Climate Protection Act of 2008 (Senate Bill 375)

The Sustainable Communities and Climate Protection Act of 2008 (Senate Bill [SB] 375, Chapter 728, Statutes of 2008) requires MPOs to prepare a Sustainable Communities Strategy (SCS) that demonstrates how the region will meet its GHG reduction targets through integrated land use, housing, and transportation planning. Specifically, the SCS must identify a transportation network that is integrated with the forecasted development pattern for the plan area and will reduce GHG emissions from automobiles and light duty trucks in accordance with targets set by the California Air Resources Board (California Govt. Code Section 65080(b)(2)(B)). The targets accepted by CARB for GHG quantification for

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27 Government Publishing Office. *§450.320*.

28 California Legislative Information. *Chapter 2.5. Transportation Planning and Programming [65080-65086.5].* Available online at:

29 California Transportation Commission. *Regional Transportation Plan (RTP) Guideline*. Available online at: https://catc.ca.gov/programs/transportation-planning, accessed August 29, 2019.

SCAG are an 8 percent reduction in per capita GHG emissions by 2020, and a 19 percent per capita reduction by 2035, in both cases with 2005 as a base year.[30]

While increasing the SB 375 targets, CARB also noted that the increase fell short of what was needed to fully achieve state goals on GHG emissions reduction and climate change mitigation. In combination, the staff report and presentation materials to the CARB Board show that in total, the revised SB 375 GHG emissions reduction targets for all of the state's MPOs would result in a statewide reduction of 19 percent (compared to 18 percent from the prior SCS achievement), but that a 25 percent reduction was needed to fully meet the GHG emissions reduction goals of the Scoping Plan. The difference between the 19 percent resulting from CARB's updated SB 375 targets and the 25 percent identified need is referred to in other various CARB documents as the "gap."

In the SB 375 target resetting, CARB recognized that additional state action was needed to close this gap. "The recommended targets also recognize that additional State policy and funding tools are being developed to support further VMT reduction that will both help the State overall in achieving needed emission reductions and support MPOs in their ability to achieve higher targets by 2035." The categories of state action to accomplish this, with help of MPOs and other organizations, were: funding mechanisms to incentivize infill development; improved performance analysis to assist agencies in funding supportive transportation projects; expanding investment in transit and active transportation; and pricing policies and programs. All focus on VMT reduction.

Two additional state documents provide context for understanding how these GHG emissions reduction targets relate to the transportation issues discussed in this section. One is the Scoping Plan itself, which also recognizes that statewide collaboration is needed to address the gap; and further, that the gap in GHG emissions reductions would be closed through VMT reduction strategies:

> *Discussions among a broad suite of stakeholders from transportation, the building community, financial institutions, housing advocates, environmental organizations, and community groups are needed to begin the process to pursue and develop the needed set of strategies to ensure that we can achieve necessary VMT reductions, and that the associated benefits are shared by all Californians.*

30 California Air Resources Board. *SB 375 Regional Plan Climate Targets*. Available online at: https://ww2.arb.ca.gov/our-work/programs/sustainable-communities-program/regional-plan-targets, accessed December 18, 2018.

The second document, published by CARB in January 2019, provided additional detail on the scope of the challenge, and its relationship to CEQA:

> *An RTP/SCS that meets the applicable SB 375 targets alone will not produce the GHG emissions reductions necessary to meet state climate goals in 2030 nor in 2050. This means that SB 375 targets are not stand-alone CEQA thresholds for GHG or transportation impact analysis (though SCS compliance may nonetheless entitle projects to certain CEQA exemptions or streamlining procedures pursuant to statute). In other words, a project that is consistent with an SCS may be eligible for certain exemptions, but compliance does not necessarily more broadly imply consistency with state climate goals nor with science based GHG reduction targets, in CARB staff's non-binding view. Some land use development projects contemplated in an SCS that will be operational in 2030 and 2050 will be consistent with state climate goals, and SB 375 defines project circumstances under which CEQA streamlining is available to qualified projects consistent with an SCS. Other projects may need to consider additional mitigation measures to further reduce per capita light-duty transportation-related GHG emissions to levels that would not conflict with state climate goals. Likewise, certain transportation infrastructure projects that will be operational in 2030 and 2050 that substantially increase VMT may conflict with state climate goals, even if they are included in an SCS that meets the applicable SB 375 targets.*

CARB focused on the VMT reductions needed over current conditions (2015-2018) to meet the state's 2030 and 2050 climate goals. CARB concluded (using assumptions a cleaner fuels and technologies scenario) that a 14.3 percent reduction in daily VMT per capita and a 16.8 percent reduction in light-duty VMT per capita was needed to meet these goals (see also discussion in **Section 3.8 Greenhouse Gases**).

Senate Bill 743

SB 743 (Steinberg) was signed into law by Governor Jerry Brown on September 27, 2013, and encourages development of mixed-use, transit-oriented infill projects by: (1) establishing new CEQA exemptions for transit-oriented developments located in Transit Priority Areas (TPAs) that are consistent with an adopted Specific Plan; (2) eliminating the requirement to evaluate aesthetic and parking impacts in those targeted development areas; and (3) directing the OPR to develop an alternative metric to evaluate transportation-related impacts under CEQA. [31]

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

1) The project is proposed within a transit priority area.

2) The project is undertaken to implement and is consistent with a specific plan for which an environmental impact report has been certified.

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

3) The project is consistent with the general use designation, density, building intensity, and applicable policies specified for the project area in either a sustainable communities strategy or an alternative planning strategy accepted by the State Air Resources Board.[32]

Furthermore, "[a]esthetic and parking impacts of a residential, mixed-use residential, or employment center project on an infill site within a transit priority area shall not be considered significant impacts on the environment."[33] However, the exemption for aesthetic impacts does not include impacts to historic or cultural resources. Local governments retain their ability to regulate a project's transportation, aesthetics, and parking impacts outside of the CEQA process pursuant to local design review ordinances or other discretionary powers.

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

For infill development, including transit-oriented development (TODs), SB 743 provides a rationale for the development of a new metric to evaluate CEQA transportation impacts. Prior to SB 743, CEQA transportation impacts were primarily assessed (at least at the project level) through "Level of Service" (LOS) and other congestion or delay-based analyses, which focused exclusively on motor vehicle delay. This often penalizes infill and active transportation projects. SB 743 establishes that the new transportation impact analysis methodology should appropriately balance the needs of congestion management with statewide goals related to transit-oriented mixed-use infill development, promotion of public health through active transportation, and reduction of GHG emissions. These principles complement the goals and policies of the SCAG Plan outlined in **Section 2.0, Project Description**, of this PEIR.

SB 743 directed OPR to identify appropriate criteria for the evaluation of transportation impacts. OPR selected VMT as the preferred transportation impact metric and applied their discretion to require its use statewide. SB 743 also established that aesthetic and parking effects of a residential, mixed-use residential,

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32 See Pub. Res. Code § 21155.4.

33 Pub. Res. Code § 21099(d).

or employment center projects on an infill site within a TPA are not significant impacts on the environment. The revised *CEQA Guidelines* that implement SB 743 became effective on December 28, 2018, and indicate that VMT is the basis for evaluation of transportation impacts.[34] Vehicle LOS and similar measures related to delay are not identified as appropriate metrics for determining the significance of transportation impacts under CEQA, although they may still be appropriate for evaluation of projects as part of the planning process.

CEQA Guidelines section 15064.3(c) indicates that each jurisdiction throughout the state has until July 1, 2020, this requirement to adopt VMT as the metric for evaluation of transportation impacts shall apply statewide, but that until that date, lead agencies may elect to use VMT and/or LOS to analyze transportation impacts (although CEQA has already been revised to indicate VMT as the appropriate metric for evaluation of transportation impacts).

The following state guidance has been produced:

- Technical Advisory on Evaluating Transportation Impacts in CEQA (OPR 2018); [35]
- The 2017 Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals (CARB 2019);[36]
- Caltrans Strategic Management Plan (2015 – 2020); [37] and
- Local Development – Intergovernmental Review Program Interim Guidance, Implementing Caltrans Strategic Management Plan 2015-2020 Consistent with SB 743 (Caltrans 2016). [38]

With respect to identifying what represents an appropriate threshold of significance for VMT impacts, the California Air Resources Board (CARB) published the *2017 Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals* (CARB Report)[39] which includes non-binding technical information on

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34 *CEQA Guidelines* § 15064.3.

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

36 California Air Resources Board. *CARB 2017 Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals* (Jan. 2019). Available online at: https://ww2.arb.ca.gov/sites/default/files/2019-01/2017_sp_vmt_reductions_jan19.pdf, accessed October 24, 2019.

37 Caltrans. *Strategic Management Plan 2015-2020*. Available online at: https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/caltrans-strategic-mgmt-plan-033015-a11y.pdf, accessed November 15, 2019.

38 Caltrans. 2016. Local Development – Intergovernmental Review Program Interim Guidance, Implementing Caltrans Strategic Management Plan 2015 – 2020 Consistent with SB 743

39 California Air Resources Board 2017 Scoping Plan-Identified VMT Reductions And Relationship To State Climate Goals, January 2019 https://ww2.arb.ca.gov/sites/default/files/2019-01/2017_sp_vmt_reductions_jan19.pdf

what level of statewide VMT reduction, in the judgment of CARB staff, would promote achievement of statewide GHG emission reduction targets. CARB asserts that the currently adopted SCSs throughout the state "would achieve in aggregate, a nearly 18 percent reduction in statewide per capita on-road light-duty transportation-related GHG emissions relative to 2005 by 2035, if those SCSs were successfully implemented." However, in order to meet the state goals, the full reduction needed is a 25 percent reduction in statewide per capita on-road light-duty transportation-related GHG emissions, however, CARB has "determined that those targets would be infeasible for MPOs to achieve with currently available resources."

The CARB Report is based on modeling that incorporates cleaner technologies and fuels (CTF) assumptions consistent with the 2017 Scoping Plan Update and the 2016 Mobile Source Strategy (as discussed below and in **Section 3.8, Greenhouse Gases**) and provides an "alternate assessment tool for jurisdictions that choose to use them to complete analyses directed by the *CEQA Guidelines*." The CARB Report finds that:

> *Certain land use development projects located in areas that would produce rates of **total** VMT per capita that are approximately 14.3 percent lower than existing conditions, or rates of **light-duty** VMT per capita that are approximately 16.8 percent lower than existing conditions (either lower than the regional average or other appropriate planning context) could be, by virtue of their location and land use context, interpreted to be consistent with the transportation assumptions embedded in the 2017 Scoping Plan and with 2050 State climate goals. (Emphasis in original).*[40]

However, CARB notes that the modeling used for the CTF forecast identifies ratios of total statewide VMT to population and that the suggested per capita reductions are not household generated VMT and that values are not directly comparable to output from a local or regional travel demand model.

The *Technical Advisory on Evaluating Transportation Impacts in CEQA* (OPR Technical Advisory) also provides non-binding recommendations regarding assessment of VMT, thresholds of significance, and mitigation measures. OPR cites to the CARB Report to reiterate that "at present, consistency with RTP/SCSs does not necessarily lead to a less-than-significant VMT impact."[41] OPR finds:

> *Based on OPR's extensive review of the applicable research, and in light of an assessment by the California Air Resources Board quantifying the need for VMT reduction in order to meet the State's long-term climate goals, OPR recommends that a per capita [residential] or per employee*

40 CARB Report at p. 11.

41 OPR Technical Advisory at p. 11.

> *[office] VMT that is fifteen percent below that of existing [2017] development may be a reasonable threshold.*[42]

OPR further recommends a net increase in total retail VMT compared to existing (2017) may indicate a significant transportation impact.[43]

OPR goes on to indicate that:

> *Lead agencies can evaluate each component of a mixed-use project independently and apply the significance threshold for each project type included (e.g., residential and retail). Alternatively, a lead agency may consider only the project's dominant use. In the analysis of each use, a project should take credit for internal capture. Combining different land uses and applying one threshold to those land uses may result in an inaccurate impact assessment.*[44]

Since the SCAG Regional Travel Demand Model generates VMT from all uses within the region, the estimated VMT cannot be compared to OPRs targets because it is not possible to separate out the land uses.

For roadway capacity projects, OPR also recommends developing a project-level threshold based on VMT levels required to achieve legally mandated GHG emission reduction targets as set forth in the CARB Scoping Plan and 2016 Mobile Source Strategy by applying the following approach:

1. Propose a fair-share allocation of those budgets to their jurisdiction (e.g., by population);

2. Determine the amount of VMT growth likely to result from background population growth, and subtract that from their "budget";

3. Allocate their jurisdiction's share between their various VMT-increasing transportation projects, using whatever criteria the lead agency prefers. [45]

OPR also provides guidance on how to estimate VMT impacts from roadway expansion projects and suggests the following general mitigation and alternatives:

- Tolling new lanes to encourage carpools and fund transit improvements

- Converting existing general purpose lanes to HOV or HOT lanes

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42 *Id*. at p.10.

43 *Id*. at p. 16

44 *Id*. at p. 17

45 *Id*. at p. 22-23.

- Implementing or funding off-site travel demand management
- Implementing Intelligent Transportation Systems (ITS) strategies to improve passenger throughput on existing lanes[46]

Additional project-level mitigation measures including in lieu mitigation fees to reduce VMTs are also provided.

CEQA Streamlining for Infill Projects Senate Bill (SB) 226

The CEQA Streamlining for Infill Projects (SB 226) sets forth a streamlined review process for infill projects and includes performance standards that will be used to determine an infill project's eligibility for streamlined review. The purpose of SB 226 and updated *CEQA Guidelines* Section 15183.3 is to streamline the environmental review process by "limiting the topics subject to review at the project level where the effects of infill development have been addressed in a planning level decision or by uniformly applicable development policies." Residential, commercial and retail, public office buildings, transit stations, and schools are eligible for this streamlining provided they meet the following requirements: (1) are located in an urban area on a site that has been previously developed or adjoins existing qualified urban uses on at least 75 percent of the site's perimeter; (2) satisfy the performance standards provided in Appendix M [of CEQA]; and, (3) are consistent with the general use designation, density, building intensity, and applicable policies specified for the project area in either a sustainable communities strategy or an alternative planning strategy, with some exceptions. [47]

Under SB 226, some development and transportation projects assumed as a part of the proposed Plan may be eligible to use a streamlined version of the environmental review process.

California Transportation Plan (CTP)

The CTP (SB 64; Chapter 711 Section 14536 amended 65073.1) is prepared by the California Department of Transportation every 5 years to provide a long-range policy framework to meet our future mobility needs and reduce greenhouse gas emissions. The CTP defines goals, performance-based policies, and strategies to achieve our collective vision for California's future statewide, integrated, multimodal transportation system by envisioning a sustainable system that improves mobility and enhances our quality of life. The CTP is developed in collaboration with transportation stakeholders such as SCAG. Through ongoing engagement, the CTP is intended to provide goals and visions to support a fully integrated, multimodal,

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46 *Id.* at p.25.

47 California Natural Resources Agency. *Streamlined Review for Infill Projects (SB 226).* Available online at: http://resources.ca.gov/ceqa/guidelines-sb226/, accessed August 29, 2019.

sustainable transportation system that supports the quality of life: prosperous economy, human and environmental health, and social equity. The CTP fulfills the state's goal to meet the Federal Transportation Improvement Program.[48]

Senate Bill 391

Senate Bill 391 was signed into law in October 2009 by Governor Schwarzenegger and requires the CTP to support 80 percent reduction in GHGs below 1990 levels by 2050. The bill also requires Caltrans to update the CTP every five years and provide an assessment of how the implementation of sustainable communities strategies will influence the configuration of the statewide multimodal transportation system. The bill requires Caltrans to consult with and coordinate its planning activities with specified entities and to provide an opportunity for public input.

Assembly Bill 1358

AB 1358, also known as the Complete Streets Act of 2008, amended the California Government Code Section 65302 to require that any substantive revisions to a city or county's Circulation Element include provisions for accommodations of all roadway users, including bicyclists and pedestrians.[49]

2016 Mobile Source Strategy

On May 16, 2016, the Air Resources Board (ARB or Board) released the updated Mobile Source Strategy that demonstrates how the State can simultaneously meet air quality standards, achieve greenhouse gas emission reduction targets, decrease health risk from transportation emissions, and reduce petroleum consumption over the next fifteen years. The Mobile Source Strategy aims to deliver environmental and public health benefits as well as updates to transportation infrastructure, enhancements of systemwide efficiency, and clean growth in the mobile sector. The estimated benefits of the strategy in reducing emissions from mobile sources includes an 80 percent reduction of smog-forming emissions and a 45 percent reduction in diesel particulate matter from today's levels in the South Coast. CARB estimates statewide, the Mobile Source Strategy would also result in a 45 percent reduction in greenhouse gas emissions, and a 50 percent reduction in the consumption of petroleum-based fuels.

California Congestion Management Program

The Congestion Management Program (CMP) is the State mandated program (Government Code 65089) aimed at reducing congestion on highways and roads in California. The CMP establishes a designated

48 California Legislative Information. *Senate Bill No. 64*.

49 *Assembly Bill No. 1358*.

roadway network of regional significance, roadway service standards, multi-modal performance standards and a land use analysis element to identify and mitigate multijurisdictional transportation impacts resulting from local land use decisions. Federal, State and local transportation funding is contingent upon local agency compliance with the CMP. [50]

California Vehicle Code (CVC)

The CVC provides requirements for ensuring emergency vehicle access regardless of traffic conditions. CVC sections 21806(a)(1), 21806(a)(2), and 21806(c) define how motorists and pedestrians are required to yield the right-of-way to emergency vehicles.[51]

Executive Order (EO) B-16-2012 on Zero Emission Vehicles

EO B-16-2-12 was signed by Governor Brown on March 23, 2012, to encourage development of the zero emission vehicles (ZEVs) to protect the environment, stimulate the economy, and improve the quality of life in the region. The goals that are promulgated include setting aggressive targets to meet goals in 2015, 2020, and 2025, supporting the rapid commercialization of clean vehicles, and pursuing policies to promote private sector investment and made-in California technologies. Executive Order B-16-2012 also sets a target for 2050 of a reduction of greenhouse gas emissions from the transportation sector equaling 80 percent less than 1990 levels. [52]

In February 2013, an interagency working group developed the ZEV Action Plan which identifies specific strategies and actions that state agencies will take to meet the milestones of the Executive Order. The ZEV Action Plan states:[53]

> *ZEVs are crucial to achieving the state's 2050 greenhouse gas goal of 80 percent emission reductions below 1990 levels, as well as meeting federal air quality standards. Achieving 1.5 million ZEVs by 2025 is essential to advance the market and put the state on a path to meet these requirements.*

The ZEV Action Plan was updated in 2016, and highlights the following priorities for ZEVs:

- Raising consumer awareness and education about ZEVs;

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50 California Legislative Information. *Chapter 2.6. Congestion Management [65088-65089.10].*

51 California Legislative Information. *Chapter 4. Right-of-Way [21800-21809], Section 21806*.

52 Office of Governor Edmund G. Brown Jr., *Executive Order B-16-2012*. Available online at: https://www.ca.gov/archive/gov39/2012/03/23/news17472/index.html, accessed August 29, 2019.

53 Government Office of Planning and Research (OPR). *2013 ZEV Action Plan: A Roadmap toward 1.5 million zero-emissions vehicles on California roadways by 2025*. Available online at: http://opr.ca.gov/docs/Governors_Office_ZEV_Action_Plan_(02-13).pdf, accessed August 29, 2019.

- Ensuring ZEVs are accessible to a broad range of Californians;
- Making ZEV technologies commercially viable in targeted applications the medium-duty, heavy-duty and freight sectors; and
- Aiding ZEV market growth beyond California.

The 2016 ZEV Action Plan introduces new actions to meet these priorities and build California's ZEV market, remove barriers to future market growth and ensure this transition benefits the state and its residents. The intent is to clearly communicate what state government will do to advance ZEVs and serve as a "to-do" list for the Governor's Office and state agencies to enhance interagency coordination.[54]

EO B-32-15 Integrated Action Plan to Improve California's Freight System

On July 16, 2015, Governor Brown issued EO B-32-15, which orders the Secretary of the California State Transportation Agency, the Secretary of the California Environmental Protection Agency, and the Secretary of the Natural Resources Agency to lead other relevant state departments including the California Air Resources Board, the California Department of Transportation, the California Energy Commission, and the Governor's Office of Business and Economic Development to develop an integrated action plan by July 2016 that establishes clear targets to improve freight efficiency, transition to zero-emission technologies, and increase competitiveness of California's freight system. The action plan shall identify state policies, programs, and investments to achieve these targets, and be informed by existing state agency strategies, including the California Freight Mobility Plan, Sustainable Freight Pathways to Zero and Near-Zero Emissions, Integrated Energy Policy Report, as well as broad stakeholder input. The California Sustainable Freight Action Plan was adopted in July 2016.[55]

Caltrans Strategic Management Plan, 2015 - 2020

The most recent Caltrans Strategic Management Plan[56] redefines the Caltrans mission statement and provides a vision statement. The Caltrans mission statement is: *Provide a safe, sustainable, integrated, and efficient transportation system to enhance California's economy and livability*. The Caltrans vision is: *A performance-driven, transparent, and account- able organization that values its people, resources, and partners and meets new challenges through leadership, innovation, and teamwork.* The document identifies five goals: 1)

54 California Fuel Cell Partnership. *2016 ZEV Action Plan from the State of California*. Available online at: https://cafcp.org/blog/2016-zev-action-plan-state-california, accessed August 29, 2019.

55 Office of Governor, Edmund G. Brown Jr. 2015. *Executive Order B-32-15.* Available online at: https://www.ca.gov/archive/gov39/2015/07/17/news19046/index.html, accessed August 29, 2019.

56 Caltrans. *Strategic Management Plan 2015-2020*. Available online at: https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/caltrans-strategic-mgmt-plan-033015-a11y.pdf, accessed November 15, 2019.

Safety and Health, 2) Stewardship and Efficiency, 3) Sustainability, Livability and Economy, 4) System Performance, and 5 Organizational Excellence. The document identifies numerous performance measures and targets including the following target with respect to Sustainability, Livability and Economy: to increase non-auto modes (triple bicycles, double pedestrian and double transit (2010 – 12 California Household Travel survey is the baseline), achieve a 15 percent reduction in per capita VMT (3 percent per year) reported by each District relative to 2010 by 2020, 85 percent reduction in diesel particulate matter (relative to 2000), 80 percent reduction in NOx in the South Coast Air Basin by 2023 (from 2010).[57]

Local Development – Intergovernmental Review Program Interim Guidance, Implementing Caltrans Strategic Management Plan 2015 – 2020 Consistent with SB 743[58]

Caltrans developed this guidance for Caltrans use in providing comments to local jurisdictions through the Intergovernmental Review process. This guidance document supports the implementation of the Strategic Management Plan including achieving the identified targets.

3.17.2.3 Regional

California Transportation Commission Active Transportation Program Guidelines

Under Senate Bill (SB) 99 (Chapter 359, Statutes 2013) and AB 101 (Chapter 354, Statutes of 2013), the CTC is authorized to prepare guidelines to assist in the preparation of Active Transportation Plans (ATPs). An ATP includes bicycle, pedestrian, safe-routes to-school, and other comprehensive criteria to be included in the circulation element of its general plan in compliance with Complete Streets Act. The CTC's RTP guidelines suggest that all projects within the SCAG region must be selected through a competitive process that meets the federal aid goals. These goals are included in the environmental, design, right-of-way, and construction phases of the infrastructure and non-infrastructure projects. All projects that are selected in the ATP are required to include a discussion of the estimated bicycle and pedestrian trips, facilities report, proposed land use and bicycle transportation facilities, and policies related to parking and ADA compliance.[59]

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57 This document does not provide a detailed comparison to these targets because year 2000 and year 2010 comparable data is not available, and Caltrans VMT data for districts in the SCAG region is not available.

58 Caltrans. 2016. Local Development – Intergovernmental Review Program Interim Guidance, Implementing Caltrans Strategic Management Plan 2015 – 2020 Consistent with SB 743

59 California Transportation Commission. *Active Transportation Program (ATP)*. Available online at: https://catc.ca.gov/programs/active-transportation-program, accessed August 29, 2019.

Transit Development Plans

A Transportation Development Plan (TDP) updates a municipal or county operated transit system's goals and objectives, develops service alternatives, provides funding estimates, and produces a plan to implement recommended service improvements for a five-year period. A number of agencies within the SCAG have TDPs.

Plans and Policies Related to Complete Street Act of 2008 (AB 1358; S. 2686)

The Complete Streets Act of 2008 (AB 1358) required cities and counties to incorporate Complete Streets in their general plan updates to ensure that transportation plans meet the needs of all users, including pedestrians, bicyclists, and transit users as well as children, older individuals, and individuals with disabilities, to travel safely and conveniently on streets and highways. In the SCAG region, all six of the counties have developed their own bicycle and pedestrian plans. Majority of these bicycle pathways are part of existing Class II path which provides on-street bike lanes, although a few are in Class I category, which mean that the path is separate from automobile traffic, and some are categorized as Class III pathways with on-street bike lanes further designated by signs.[60]

3.17.2.4 Local

County General Plans Circulation Element

Each of the six counties within the SCAG region has prepared a Transportation or Circulation Element, as a required component of the General Plan. The Transportation or Circulation Element provides a summary of the existing conditions in the planning area, major issues, goals, and policies, as well as pertinent action programs related to traffic and circulation related to a variety of transportation systems (highway and local road networks, bus, rail, high speed rail, aviation network, harbors, bicycles, pedestrians, and rideshare). The Transportation or Circulation Element describes the major locations and corridors for existing and future travel based on land use patterns in order to develop a comprehensive, coordinated, and continuing transportation system for the region. Relevant policies include encouraging provision of transit service at a reasonable cost to the users and the community, encouraging the efficient use and conservation of energy and ease congestion, and, where the land use would support, providing for development of a mass transportation system that will provide a viable alternative to the automobile, and support a balance in transportation modes with public transit system that provides accessible service, particularly to the transit dependent. A transportation system will operate at regional, countywide,

60 California Legislative Information. *Assembly Bill No. 1358*.

community, and neighborhood scales to provide connectivity between communities and mobility between jobs, residences, and recreational opportunities.

County General Plans Safety Element

Each of the six counties in the SCAG region prepared a Safety Element as a required component of the General Plan. The Safety Element generally discusses measures to abate the impacts in case of catastrophe for maintenance of the transportation infrastructure. The Traffic and Transportation Division under each county is responsible for developing plans and guidelines for the maintenance of traffic control devices, emergency travel routes in the event of an emergency, placement of barricades, and control of traffic and coordination with other departments to promote integrated disaster planning, response and mitigation efforts. Included in the Safety Element discussion are strategies for continuation of adequate critical infrastructure systems and services to assure adequate circulation, communications, and transportation services for emergency response in the event of disaster related systems disruptions.

Orange County Bikeways Strategic Plan

The 2009 Orange County Commuter Bikeways Strategic Plan was developed "to encourage the enhancement of Orange County's regional bikeways network, in order to make bicycle commuting a more viable and attractive travel option."[61] The plan identifies approximately 116 miles of priority bikeway projects. In 2012, the Orange County Transportation Authority provides an addendum to the existing Plan with a Commuter Bikeways Strategic Plan (CBSP) that refines the regional bikeway networks and specified which bikeways are connected to priority locations including major transit investment areas, employment centers, stations, colleges, and universities.[62]

Riverside County Active Transportation Plans

The Western Riverside Council of Governments (WRCOG) and the Coachella Valley Association of Governments (CVAG) have developed Active Transportation Plans for their respective jurisdictions covering most of Riverside County. The Western Riverside County Active Transportation Plan builds on the Western Riverside County Non-Motorized Transportation Plan (NMTP), published in June 2010, by "updating active transportation network improvement projects, implementation strategies, and funding

61 Orange County Transportation Authority. *2009 OCTA Commuter Bikeways Strategic Plan*. Available at: http://www.octa.net/pdf/bikeways09.pdf, accessed December 18, 2018.

62 Orange County Transportation Authority. *Addendum 2009 OCTA Commuter Bikeways Strategic Plan*. Available at: http://www.octa.net/pdf/2009CommuterBikewaysStrategicPlanAddendum.pdf, accessed December 18, 2018.

opportunities found in that plan."[63] The CVAG Active Transportation Plan recognizes the "value of providing opportunities for local residents and visitors to bicycle for transportation and recreation and to have attractive opportunities to walk to transit stops, as well as to encourage people to use neighborhood electric vehicles (NEVs)."[64]

San Bernardino County Non-Motorized Transportation Plan

The Revised 2018 San Bernardino County Non-Motorized Transportation Plan's goals include: (1) Increased bicycle and pedestrian access; (2) Increased travel by cycling and walking; (3) Routine accommodation in transportation and land use planning; and (4) Improved bicycle and pedestrian safety.[65]

Ventura County Bicycle Master Plan

The 2007 Ventura County Bicycle Master Plan "provides a broad vision, strategies and actions for the improvement of bicycling" by maximizing funding sources for implementation; improving safety and encouraging cycling; expanding the network and support facilities; and enhancing the quality of life in and overall environmental benefits. Within the County of Ventura, many jurisdictions and municipalities also has a bicycle plan to encourage non-motorized commutes.

Active Transportation Plans/Mobility Plans

In addition to county plans, many local jurisdictions have developed their own active transportation plans or include active transportation components in the Circulation Element of their General Plan. Many street enhancement projects or capital improvement projects include active transportation elements as well. For example, many street improvement projects may include the striping of bikeways or new developments may include sidewalk enhancements.

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63 Western Riverside Council of Governments. *Western Riverside Active Transportation Plan*. Available at: http://www.wrcog.us/DocumentCenter/View/3366/Final-WRCOG-ATP, accessed December 18, 2018.

64 Coachella Valley Association of Governments. *Active Transportation Plan*. Available at: https://www.cvag.org/library/pdf_files/trans/Transportation_Documents/CVAG%20ATP%202016-06-20%20rev2017-06-07.pdf, accessed December 18, 2018.

65 San Bernardino County Transportation Authority. *San Bernardino County Non-Motorized Transportation Plan March 2011 (Revised June 2018)*. Available at: http://www.gosbcta.com/sbcta/plans-projects/plans/non-motorized-transportation/NMTP-RevJune2018.pdf, accessed December 18, 2018.

Imperial County Bicycle Master Plan

In 2011, Imperial County updated a Bicycle Master Plan,[66] which was originally created in 2003. The guiding vision of the plan is to "encourage and promote bicycling as a safe and convenient form of transportation and recreation." The Plan will implement 253.5 miles of bikeways with intent to replace vehicular trips with bicycle trips. Providing transportation options to reduce Vehicle Miles Traveled is an important feature of this plan that is supportive of SCAG's overall goals and visions for limiting source pollution control such as carbon dioxide, nitrogen oxides, and hydrocarbon releases and an important component of decreasing greenhouse gas emissions and improving air quality.

Los Angeles County Bicycle Master Plan

Metro developed a Bicycle Transportation Strategic Plan (BTSP) in 2006[67] to be used by "the cities, the County of Los Angeles and transit agencies in planning bicycle facilities around transit and setting priorities that contribute to regional improvements. The goal is to integrate bicycle use in transportation projects." In addition, Metro also created a Bicycle Transportation Account Compliance Document (BTA Document) to provide an "inventory and mapping of existing and proposed facilities, and an estimate of past and future expenditures for bicycle facilities." In 2013, SCAG and Metro developed the Bike County Data Clearinghouse to assist LA County conduct bicycle counts. The Los Angeles County Department of Public Works adopted a Countywide Bicycle Master Plan in 2012, which was developed with the over-arching goal of increasing "bicycling throughout the County of Los Angeles through the development and implementation of bicycle-friendly policies, programs, and infrastructure." The plan recommends the development of an interconnected network of bicycle corridors, with approximately 695 miles of bikeway facilities. This plan looks at the ridership and air quality benefits from cycling and also includes a list of existing and proposed bikeways in LA County.[68]

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66 Imperial County. *Imperial County Bicycle Master Plan Update: Final Draft*. Prepared by Alta Plannin+Design. Available at: https://www.altaprojects.net/files/6413/2579/4308/Imperial_County_BMP_Final_Draft.pdf, accessed December 18, 2018.

67 Los Angeles County Metropolitan Transportation Authority. *Metro Bicycle Transportation Strategic Plan*. Available at: http://media.metro.net/board/Items/2006/02_february/20060215P&PItem6%20Atta.pdf, accessed December 18, 2018.

68 Los Angeles County Department of Public Works. *Bicycle Master Plan*. Available at: http://dpw.lacounty.gov/pdd/bike/masterplan.cfm, accessed December 18, 2018.

3.17.3 ENVIRONMENTAL IMPACTS

3.17.3.1 Thresholds of Significance

The impacts related to transportation, traffic and safety resulting from the implementation of the proposed project would be considered significant if they would exceed the following significance criteria, in accordance with Appendix G of the *State CEQA Guidelines*:

- Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.
- Conflict or be inconsistent with *CEQA Guidelines* section 15064.3(b).
- Substantially increase hazards due to geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- Result in inadequate emergency access.

In addition, the following criterion from **Section 3.20, Wildfire,** is addressed along with emergency access:

- Substantially impair an adopted emergency response plan or emergency evacuation plan.

As discussed above, CARB and OPR have recommended VMT thresholds of significance in their guidance documents, however these thresholds are meant to apply at the project-level. CARB notes that the modeling used for the CTF forecast identifies ratios of total statewide VMT to population and that the suggested per capita reductions are not household generated VMT and that values are not directly comparable to output from a local or regional travel demand model. OPR notes that with respect to their recommended thresholds "combining different land uses and applying one threshold to those land uses may result in an inaccurate impact assessment." Since SCAGs model generates trips form a variety of land uses and trips from each land use cannot be separated, comparison of SCAG VMT data to OPR thresholds is not recommended.

The objective of these thresholds is to meet statewide GHG emissions targets through VMT reductions from the transportation sector. Both CARB and OPR acknowledge that MPO's are tasked with meeting SB 375 GHG emissions targets, and while CARB has determined that meeting these targets will not be sufficient to attain state climate goals, more can be done at the project level. At the project level, lead agencies may consider CARB, OPR and other recommended thresholds of significance and determine which ones are appropriate and feasible for the particular project, or apply alternative thresholds, consistent with *CEQA Guidelines* Section 15064.3 which states "A lead agency has discretion to choose the most appropriate methodology to evaluate a project's vehicle miles traveled, including whether to

express the change in absolute terms, per capita, per household or in any other measure. A lead agency may use models to estimate a project's vehicle miles traveled and may revise those estimates to reflect professional judgment based on substantial evidence." See also **Section 3.8, Greenhouse Gases,** for additional discussion on the connection between GHG and VMT and SCAG's ability to meet SB 375 and consistency with SB 743 guidance and suggested targets as well as statewide climate goals.

3.17.3.2 Methodology

Transportation-related impacts were evaluated in accordance with Appendix G of the 2019 *CEQA Guidelines*. Transportation-related impacts within the SCAG region were evaluated at a programmatic level of detail, in relation to the General Plans of the six counties and the 191 cities within the SCAG region review of general information characterizing transportation and review of published and unpublished literature germane to the SCAG region.

The methodology for determining the significance of impacts on transportation, traffic, and safety impacts compares current regional transportation conditions to expected future 2045 conditions with the Plan, as required by *State CEQA Guidelines*. SCAG utilized the Regional Travel Demand Model (RTDM) to compare the existing conditions to the Plan's 2045 condition. SCAG's role as the MPO for the region and as the preparer of the regional transportation plan is to evaluate the regional network. The most appropriate metric for such regional analysis is VMT which measures overall network efficiency, rather than LOS which is generally used to evaluate local (i.e., intersection level) impacts. Total daily VMT is used as a measure of overall utilization of roadways which relates to vehicle emissions, traffic congestion, and the effectiveness of land use patterns and alternate mode options in reducing the need for vehicular travel. Vehicle hours of delay (VHD) measures the congestion level of the roadway. Other measures such as transportation system accident rates measure the effect of other modal choices from vehicles to active transportation. Performance measures for the Plan's horizon year 2045 were compared to the existing regional conditions for each significance criterion to determine the significance of impacts. The 2045 transportation model output provides a regional and cumulative level of analysis for the impacts of the Plan on transportation, traffic, and safety.

The mitigation measures in the PEIR are divided into two categories: SCAG mitigation and project-level mitigation measures. SCAG mitigation measures shall be implemented by SCAG over the lifetime of the Plan. For projects proposing to streamline environmental review pursuant to SB 375, SB 743, or SB 226 (as described in **Section 1.0, Introduction**), or for projects otherwise tiering off this PEIR, the project-level mitigation measures described below (or comparable measures) can and should be considered and implemented by Lead Agencies and Project Sponsors during the subsequent, project- or site-specific environmental reviews for transportation and development projects as applicable and feasible. However,

SCAG cannot require implementing agencies to adopt mitigation, and it is ultimately the responsibility of the implementing agency to determine and adopt project-specific mitigation.

3.17.3.3 Impacts and Mitigation Measures

Impact TRA-1 Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.

Less than Significant Impact.

The region provides a large and growing amount of transit service. In 2017, the region supplied 22.5 million hours of service, or roughly 1.18 hours for every resident. However, transit ridership has declined significantly over the last 10 years, even as service levels have grown. Between 2006 and 2017, total passenger trips declined by 125 million, or 17 percent. This works out to a decline of almost 10 trips per person, or just under 23 percent. This trend impacts agencies' ability to continue to provide these levels of service, as declining fare revenues will eventually lead to budgetary challenges.

The Plan calls for a substantial expansion of transit facilities and service over the next 25 years. While these capital projects would provide the SCAG region with a much more mature public transportation system, operational improvements and new transit programs and policies would also contribute to attracting more trips to transit and away from single-occupant vehicle travel. Expanding HOV and express lane networks calls for the development of an extensive express bus point-to-point network. In addition, transit oriented and land use strategies call for increasing the frequency and quality of fixed-route bus service by virtue of adding new bus rapid transit service, limited-stop service, increased frequencies along targeted corridors, and the introduction of local community circulators to provide residents of smart growth developments with the option of taking transit over using a car to make short, local trips.

Many of Metro's Measure R projects have made significant construction progress since the adoption of the 2016 RTP/SCS, including the Crenshaw/LAX Transit Corridor, the Regional Connector and the Purple Line Extension Phase 1. Additionally, work concluded on the Exposition Transit Corridor Phase 2 to Santa Monica and the Metro Gold Line Foothill Extension Phase 2A. Both of those projects entered revenue service in 2016.[69]

On the November 2016 ballot, Los Angeles County voters approved Measure M, a fourth Local Option Sales Tax to fund both capital and operations within Los Angeles County. The tax was part of a forty-one-

69 Metro, *Measure R.* Available online at: https://www.metro.net/projects/measurer/, accessed November 1, 2019.

year, $120 billion plan to expand upon Measure R, adding new transit projects and expediting others previously approved under Measure R. The plan, known as Measure M, would be paid for by an additional permanent half-cent sales tax increase. Measure M passed with 70.15 percent of the vote, clearing the two-thirds majority required. The combined expenditure plan provides $432.29 billion for transit operations, $41.86 billion for capital construction of corridor improvements and facilities and $2.39 billion for capital replacement to achieve a state of good repair. Additionally, the expenditure plan programs $19.13 billion in local return funds, which are often used to fund transit operations.[70] **Table 3.17-11, Major Transit Capital Projects**, provides a summary of major transit projects included in the Plan. A map of the 2045 Transit Network is provided in **Figure 2.0-14, 2045 Plan Transit Network,** in **Chapter 2.0, Project Description.**

Table 3.17-11
Major Transit Capital Projects

County	Project	Connect SoCal Completion Year
Los Angeles	Crenshaw/LAX Transit Corridor	2020
Los Angeles	Metro Eastside Transit Corridor – Phase 2	2035
Los Angeles	Metro Gold Line Foothill Extension to Claremont	2025
Los Angeles	Airport Metro Connector	2024
Los Angeles	South Bay Metro Green Line Extension	2030
Los Angeles	Regional Connector	2021
Los Angeles	San Fernando Valley (East) North/South Rapidways	2027
Los Angeles	West Santa Ana Branch Corridor	2028
Los Angeles	Metro Purple Line Westside Subway Extension Section 1	2023
Los Angeles	Metro Purple Line Westside Subway Extension to Century City	2026
Los Angeles	Metro Purple Line Westside Subway Extension to Westwood	2027
Los Angeles	Sepulveda Pass Transit Corridor	2033
Los Angeles	Vermont Transit Corridor	2028
Los Angeles	Vermont Short Corridor: Wilshire/Vermont to Exposition/Vermont	2045
Orange	Santa Ana/Garden Grove Fixed Guideway	2021
Riverside	Rapid Commuter Corridor From Parris to San Jacinto	2045
San Bernardino	Redlands Rail – Phase 1	2021
San Bernardino	Redlands Rail – Phase 2	2045
San Bernardino	West Valley Connector	2024

70 Metro, *Measure M Ordinance.* Available online at: https://theplan.metro.net/wp-content/uploads/2016/09/measurem_ordinance_16-01.pdf, accessed November 1, 2019

In Los Angeles County, three key efforts are likely to substantially impact the implementation of Connect SoCal. The first of these is Metro's NextGen Bus Study.[71] This study seeks to design a new bus network that is more relevant, reflective of and attractive to the residents of Los Angeles County. Specific objectives of the study include:

- Understand transit market demand in LA County
- Study the agency's current bus system and how well it serves current and potential customers
- Recommend how best to reimagine the system to be more relevant to what people need today

If implemented, this study may result in major changes to Metro's bus service. All aspects of Metro bus service are on the table for study, including speed, distance, frequency, time of day, reliability as well as quality of service, and safety. The study may also result in major changes to the Metro bus network's routes. Metro has compiled and processed data to help prepare the Regional Service Concept, which is guiding the development of the Draft NextGen Bus Service Plan, expected to be released in early 2020.

The second effort is the Twenty-Eight by '28 Initiative which highlights 28 Metro projects for potential completion by the 2028 Summer Olympic and Paralympic Games to be held in Los Angeles and surrounding areas. The Metro Board approved a list of projects, which includes projects already slated for completion by 2028, as well as projects with later delivery dates with potential for acceleration. Project acceleration would be considered on a case-by-case basis according to the adopted Early Project Delivery strategy. Not all Measure M investments scheduled for completion by 2028 are included in the Twenty-Eight by '28 list, and the list does not replace commitments made in the Measure M Ordinance. Metro reports quarterly on project delivery and funding status of the Twenty-Eight by '28 list.

The third planning effort is the City of Los Angeles's Mobility Plan 2035: An Element of the General Plan.[72] This document provides the policy foundation for achieving a transportation system that balances the needs of all road users. As an update to the City's General Plan Transportation Element (last adopted in 1999), Mobility Plan 2035 incorporates "complete streets" principles and lays the policy foundation for how future generations of residents interact with their streets. This plan includes the Transit-Enhanced Network (TEN), a series of transit and active transportation investments on key corridors throughout the City of Los Angeles, including peak hour bus lanes, all day bus lanes and mixed flow lanes with

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71 Metro, *NextGen Bus Study.* Available online at: https://www.metro.net/projects/nextgen/, accessed November 1, 2019.

72 Los Angeles Department of City Planning, Mobility Plan 2035: An Element of the General Plan, 2016. Available online at: https://planning.lacity.org/odocument/523f2a95-9d72-41d7-aba5-1972f84c1d36/Mobility_Plan_2035.pdf

improved bus service. **Table 3.17-12** shows that daily transit boarding in the region would increase over the lifetime of the Plan.

Table 3.17-12
Daily Transit Boardings

Daily Transit Boarding	Existing (2019)	2045 No Plan	2045 Plan
Commuter Rail	53,820	66,245	174,947
Local Bus	1,731,171	2,145,804	2,922,138
Local Rail / Bus Rapid Transit	452,444	701,487	1,604,222
Express Bus	24,600	26,710	30,981
HSR	-	-	32,157
Rapid Bus	130,713	145,162	346,992
Transitway	30,791	31,478	33,090
Total (Transit)	2,423,540	3,116,887	5,144,528

Source: SCAG, 2019

Connect SoCal proposes a variety of active transportation investments to improve conditions for people who walk, bike, and use micro-mobility (See **Chapter 2.0, Project Description**). Current rates of funding and the speed of implementation will need to be accelerated to complete the proposed projects within the Plan. This will require additional community engagement to build support for changes to roadway networks such as active mobility lanes and other safety improvements. SCAG has identified a number of implementation actions that an agency can pursue toward active transportation goals. These actions will serve as broad direction for the agency to support equity, short and regional trips, safety, and complete streets. Overall, cost estimates to implement active transportation goals of the Plan would total $22.5 billion.

The Plan calls for a substantial expansion of transit facilities and service to attract trips to transit and away from single-occupancy vehicle travel. Transit-oriented land use strategies would increase the frequency and quality of fixed-route bus service by adding new rapid service, express service, and community circulators for short trips.

The proposed Active Transportation plan would increase the mode share of transit and active transportation in the SCAG region, from 10.6 percent in 2019 to 12.9 percent in 2045 **(Table 3.17-13).**

Table 3.17-13
Percentage of Mode Share on Transit and Active Transportation

Mode Share	2019	2045 No Project	2045 Plan
Walk	7.0	6.7	7.1
Bike	1.3	1.4	1.7
Transit	2.3	2.6	4.1
Total	**10.6**	**10.7**	**12.9**

Source: SCAG modeling, 2019.

In 2016 SCAG completed an Active Transportation Health and Economic Impact Study, which showed that the investments in the 2016 RTP/SCS would result in an additional $113 billion in economic outcome for the region over the life of the plan, 70 percent of which would be from reduced health care costs and improved worker productivity. SCAG conducted a similar analysis as part of Connect SoCal and found that the Plan, including active transportation and nonactive transportation investments, would provide $352 million in health care savings. Additional information on the physical activity rates and benefits of Connect SoCal is outlined in the Public Health Technical Report. Each RTP/SCS cycle, SCAG has expanded and improved its analysis of active transportation planning processes to better integrate people walking and bicycling into the regional transportation network.

Since 2016, county transportation commissions and councils of governments within SCAG's region have also completed notable active transportation planning initiatives including countywide pedestrian plans, multi-jurisdictional bicycle master plans, comprehensive Safe Routes to School plans, active transportation plans, and first-last mile policies and plans. Through grant sources such as the Active Transportation Program, SCAG's Sustainable Communities Program and Caltrans Sustainability Planning Grants, 68% of cities within SCAG's region have adopted bicycle master plans. The number of cities with Safe Routes to School and pedestrian master plans have doubled since 2016.

SCAG's analytic approach for its active transportation plans included a combination of outreach processes and data gathering efforts, including but not limited to SCAG's local input process with cities, county agencies, councils of governments, working groups, and technical advisory committees that review active transportation projects and programs, input collected through the scenario development process from agency partners, health departments, community based organizations and members of the public, input gathered through SCAG's Go Human events.

As described within the Environmental Setting, there are numerous plans and polices that address the circulation system. At the transit agency level, it is unlikely that conflicts would occur, as SCAG incorporates local transit plans into the RTP through regular amendments to the Plan. With regard to bicycle and pedestrian plans, as described above, SCAG has done extensive outreach and coordination across numerous groups to capture local input. Further, SCAG regularly assists local jurisdiction in planning for these types of projects through grant funding.

SCAG and the six Counties have worked towards the development of a metropolitan-wide strategy for new and existing transportation facilities eligible for funding under Title 23 U.S.C, and Title 49 U.S.C., to optimize the transportation system for safety and improve effectiveness. This strategy includes the development of a coherent and integrated regional goods movement system. Strategies include a Regional Freight Corridor System which would create a system of truck-only lanes for major freeway systems that are affected by haul trucks used for the goods movement; a Truck Bottleneck Relief Strategy which would mitigate top-priority truck bottlenecks; a Rail Strategy which would allow shippers the ability to move over long distances at lower costs, utilizing efficient rail strategies to include expansion and modernization of intermodal facilities; a Good Movement Environmental Strategy which would focus on a two-pronged approach for achieving an efficient, safe and economically sound freight system that reduces environmental impacts.

In order to meet federal certification requirements, SCAG and county CMAs, specifically LA County Metro, OCTA, RCTC, SANBAG, and VCTC are developing means to monitor and maintain the existing roadway infrastructure through demand reduction techniques, land-use and operation management strategies, and strategic capacity enhancement strategies. Additional strategies include supporting land use policies aimed to focus growth in HQTAs with enhanced opportunities for Southern California residents to access destinations without the use of an automobile.

SCAG has also worked with local Congestion Management Agencies (CMA) to support strategies for diversifying mode choices by encouraging public transit use and non-motorized forms of commute such as walking and other active transportation in the Plan. While the actual benefits of these alternative and active transportation modes are modest, SCAG transportation modeling indicates a potential to overall improvement in peak period work trips completed within 45 minutes by personal vehicle or by other transit with implementation of the Plan. In order to determine these findings, PM peak period work trips were used to assess impacts to work commute as PM trips are prone to the greatest amount of vehicle delay.

Lastly, the Plan includes land use strategies to focus development in HQTAs and High Quality Transit Corridors (HQTCs). Planned HQTCs are future improvements that are expected to be implemented by

transit agencies by 2045. These are assumed by definition to meet the statutory requirements of HQTC. The strategies of the SCS that focus development in these transit rich areas allow transit and land use to work together. CARB's 2016 Mobile Source Strategy recognizes that coordinated regional planning can improve California's land use patterns and transportation policy in a way that reduces transportation-related emissions by reducing growth in VMT. The SCS is one mechanism to pursue these reductions. The Plan includes policies to incentivize land use changes and promote communities that are designed to foster use of ZEVs and new modes of personal mobility consistent with the Mobile Source Strategy. [73]

As such, the Plan would not conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. Impacts would be less than significant.

Impact TRA-2 Conflict or be inconsistent with *CEQA Guidelines* section 15064.3(b).

Significant and Unavoidable Impact – Mitigation Required.

CEQA Guidelines Section 15064.3(b) is intended to be applied at the project level; therefore, the myriad transportation and development projects that will occur under the Connect SoCal Plan will be required to address the specific requirements, as follows:

> *(b) Criteria for Analyzing Transportation Impacts.*
>
> *(1) Land Use Projects. Vehicle miles traveled exceeding an applicable threshold of significance may indicate a significant impact. Generally, projects within one-half mile of either an existing major transit stop or a stop along an existing high quality transit corridor should be presumed to cause a less than significant transportation impact. Projects that decrease vehicle miles traveled in the project area compared to existing conditions should be considered to have a less than significant transportation impact.*
>
> *(2) Transportation Projects. Transportation projects that reduce, or have no impact on, vehicle miles traveled should be presumed to cause a less than significant transportation impact. For roadway capacity projects, agencies have discretion to determine the appropriate measure of transportation impact consistent with CEQA and other applicable requirements. To the extent that such impacts have already been adequately addressed at a programmatic level, a lead agency may tier from that analysis as provided in Section 15152.*
>
> *(3) Qualitative Analysis. If existing models or methods are not available to estimate the vehicle miles traveled for the particular project being considered, a lead agency may analyze the project's vehicle miles traveled*

73 Air Resources Board, Mobile Source Strategy 2016, https://ww3.arb.ca.gov/planning/sip/2016sip/2016mobsrc.pdf

qualitatively. Such a qualitative analysis would evaluate factors such as the availability of transit, proximity to other destinations, etc. For many projects, a qualitative analysis of construction traffic may be appropriate.

(4) Methodology. A lead agency has discretion to choose the most appropriate methodology to evaluate a project's vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household or in any other measure. A lead agency may use models to estimate a project's vehicle miles traveled, and may revise those estimates to reflect professional judgment based on substantial evidence. Any assumptions used to estimate vehicle miles traveled and any revisions to model outputs should be documented and explained in the environmental document prepared for the project. The standard of adequacy in Section 15151 shall apply to the analysis described in this section.

Connect SoCal is based on a regional employment and population forecast and accommodates this growth through the implementation of transportation projects and land use strategies. The Plan includes strategies to accommodate projected growth in a manner that increases transportation system efficiency and reduces VMT. Metrics such as VMT, VHT, and VHD have been used throughout the history of the Plan as a measure of the performance of the region's transportation system. SCAG has traditionally used VMT to assess transportation impacts as it is a more useful tool to evaluate impacts at the regional-scale than delay-based metrics for roadways such as LOS. In addition, the regional models used by SCAG do not include the LOS metric.

Traditionally project-level analysis of transportation impacts focused on local-level congestion and delay-based impacts (e.g., intersection and roadway LOS). The analysis of the Connect SoCal Plan is at the regional level and evaluates total regional VMT (including consideration of per capita data) and overall efficiency of the network.

CEQA Guidelines section 15064.3(b) provides that local jurisdictions have the ability to select the most appropriate methodology for their jurisdiction or project. As discussed above, methodologies and thresholds have been identified by OPR and CARB, as well as local jurisdictions. SCAG has discussed each of the thresholds in this PEIR and identified metrics at the regional scale (changes in total VMT and VMT per capita) over the Plan horizon.

CARB notes that their modeling assumes cleaner technology and fuels and identifies target ratios of total statewide VMT to population and that the suggested per capita reductions (i.e., 14.3 percent) are **not** household generated VMT and that values are **not** directly comparable to output from a local or regional travel demand model. Discussion of CARBs CTF modeling and suggested VMT thresholds under SB 743 is further discussed in **Section 3.8, Greenhouse Gases**.

OPR notes that with respect to their suggested thresholds (a reduction of 15 percent as compared to existing conditions [2017] for residential and office uses and a net increase for retail uses) combining different land uses and applying one threshold to those land uses may result in an inaccurate impact assessment.

Each jurisdiction may select the appropriate methodology and threshold for their jurisdiction and projects as long as the methodology is consistent with *CEQA Guidelines* Section 15064.3(b)(4). Jurisdictions may make use of regional SCAG data as appropriate and applicable in establishing thresholds.

As shown in **Table 3.17-14, Total VMT 2019 and 2045 By County,** total daily VMT in 2045 would increase when compared to current daily VMT, despite the reductions in per capita VMT. Total VMT is expected to grow from 461 million in 2019 to 518 million in 2045. This change constitutes a 12.3 percent increase and includes light, medium, and heavy-duty vehicle VMT in all six counties. The Plan is expected to reduce VMT per capita in Los Angeles, Orange and Ventura County and would increase VMT per capita in Imperial, Riverside, and San Bernardino County.[74]

Studies have found that by adding roadway capacity in congested areas, network-wide VMT is increased by a nearly equivalent proportion within a few years, which results in reducing the initial congestion relief.[75] This increase in VMT is called "induced travel." The long-term induced travel resulting from the Plan in 2035, which is calculated by analyzing roadway lane miles increase between 2016 and 2035 by 3 classes (interstate highway, other freeways and expressways, and other principal arterials), is 1.3 percent of total VMT in 2035.

Emerging technologies vary widely when it comes to their effect on VMT, and therefore GHG emissions. Some of these technologies, such as alternative fuel vehicles, micro-mobility, bikesharing and microtransit, have a mitigating influence on GHG emissions. Others, such as ride-hailing and automated vehicles, are expected to increase VMT and GHG emissions if their business models do not adapt.

74 Connect SoCal Performance Results, 2019. Reductions are from a 2016 base year.

75 National Center for Sustainable Transportation. Induced Travel Calculator. Accessed at https://blinktag.com/induced-travel-calculator/about.html on October 25, 2019.

Table 3.17-14
Total VMT 2019 and 2045 by County

County	In Thousands		
	2019	2045 No Project	2045 Plan
Imperial	7,000	11,000	11,000
Los Angeles	231,000	255,000	243,000
Orange	80,000	86,000	83,000
Riverside	61,000	80,000	78,000
San Bernardino	63,000	85,000	83,000
Ventura	19,000	21,000	20,000
SCAG Region	461,000	538,000	518,000

Note: Numbers are rounded to nearest thousand.
Source: SCAG modeling, 2019.

Table 3.17-15, Population and Daily VMT (2019 and 2045), presents information related to population, daily VMT and VMT per capita for the years 2019 and 2045.

Table 3.17-15
Population and VMT (2019 and 2045)

	2019	2045	2045 vs 2019
Total Population	19,339,700	22,507,200	14.1%
Total VMT	460,153,316	517,631,374	11.1%
VMT Per Capita Light Duty Vehicles	22.09	20.67	-6.4%
VMT Per Capita All Vehicles	23.79	22.89	-3.8%

Source: SCAG modeling, 2019.

By 2045 public transit boardings are projected to more than double in absolute numbers, and transit's mode share will also rise. The share of trips by bicycle and walking will rise and such active modes as well as transit will represent 12.9 percent of all trips. The share of trips by single-occupancy vehicles will fall from 69.62 percent to 65 percent of home-to-work trips for the region. The combined effect of these transportation mode shifts and the SCS land use pattern will result in a reduction in VMT per capita by 2045. Overall VMT per capita will decline by 3.8 percent for all vehicles and 6.4 percent for light, medium duty vehicles.

Table 3.17-16
VMT Per Capita by County

County	Total VMT per Capita			
	Light/Medium Duty Vehicles		All Vehicles	
	2019	2045	2019	2045
Imperial	28.43	31.24	33.57	39.70
Los Angeles	21.13	19.24	22.40	20.84
Orange	23.24	21.93	24.37	23.43
Riverside	22.01	20.56	24.61	23.83
San Bernardino	24.85	24.47	28.27	29.42
Ventura	21.02	19.47	22.15	21.05
Regional Average	22.09	20.67	23.79	23.00

Source: SCAG modeling, 2019.

As shown in **Table 3.17-16, VMT Per Capita by County**, Los Angeles County will experience the largest decline in per capita VMT in 2045, while Imperial County will experience the largest increase. In addition, as shown in **Table 3.17-17, Total Daily Vehicle Hours of Delay**, total delay in the region will decrease in Orange and Ventura Counties. Los Angeles, San Bernardino, Riverside and Imperial would all experience increases in delay.

Table 3.17-17
Total Daily Vehicle Hours of Delay

County	2019	2045 No Project	2045 Plan
Imperial	9,631	38,986	26,573
Los Angeles	1,686,548	2,097,088	1,742,303
Orange	431,378	553,724	381,522
Riverside	172,164	376,959	252,415
San Bernardino	152,870	326,859	221,484
Ventura	55,099	77,029	43,932
Regional	2,507,690	3,470,645	2,668,229

Source: SCAG modeling, 2019.

Table 3.17-18 shows percent of work trips completed within 45 minutes. As shown in this table, by 2045 there would be an increase of PM work trips by single-occupancy vehicles that take 45 minutes or less (from 79.78 percent to 82.62 percent). HOV PM trips within 45 minutes would increase from 83.27 percent to 84.39 percent and transit trips completed within 45 minutes would decline from 53.51 to 52.22 percent. Despite the decline for transit trips, this indicates that the Plan's strategies are improving overall congestion.

Table 3.17-18
Percent of PM Work Trips Completed within 45 Minutes

County	2019	2045 No Project	2045 Plan
Autos –Single Occupancy Vehicles			
Imperial	94.06%	92.42%	92.45%
Los Angeles	79.26%	79.70%	81.55%
Orange	84.30%	85.59%	86.79%
Riverside	74.69%	75.91%	79.41%
San Bernardino	76.81%	78.04%	81.17%
Ventura	82.41%	84.55%	85.91%
Region	79.78%	80.56%	82.62%
Autos – High Occupancy Vehicles			
Imperial	94.87%	92.99%	91.61%
Los Angeles	81.93%	81.34%	82.57%
Orange	88.14%	87.46%	89.59%
Riverside	79.00%	79.78%	81.04%
San Bernardino	81.68%	81.09%	83.28%
Ventura	85.93%	86.10%	88.16%
Region	83.27%	82.80%	84.39%
Transit			
Imperial	69.64%	55.74%	66.90%
Los Angeles	55.15%	53.33%	53.45%
Orange	53.41%	54.10%	53.73%
Riverside	30.49%	29.76%	30.79%
San Bernardino	42.51%	39.05%	44.44%
Ventura	46.21%	44.11%	45.24%
Region	53.51%	51.74%	52.22%

Note: Numbers are rounded to nearest thousand.
Source: SCAG modeling, 2019.

The VMT per-capita decline indicates that transportation projects, as well anticipated growth patterns under the Plan, if implemented, would effectively work together to improve system efficiency and minimize increases in VMT. This is because the Plan includes a more compact development pattern. Compact land uses are more efficiently served by transit, support potentially higher rates of walking and biking, and generate less vehicle travel. The Plan also places an emphasis on transit service and complete streets near transit, walk, and bicycle supportive land uses with higher density and a mix of uses most likely to generate a mix of travel modes. Road and highway projects concentrate on alleviating major bottlenecks and congestion points, while other programs and transportation systems management strategies, including technology and demand management programs, allow for greater optimization of existing transportation infrastructure. Other factors affecting future VMT are aging of the population and forecasted increases in auto operating costs.

As discussed above, the Plan is projected to increase total VMT in the SCAG region between 2019 to 2045 by approximately 12.36 percent, constituting a significant impact. Furthermore, the Plan is projected to increase total daily hours of delay from 2.50 million to 2.66 million hours between 2019 and 2045 **(Table 3.17-17, Total Daily Vehicle Hours of Delay)**.

Connect SoCal commits more than $37 billion for various highway improvements, including mixed-flow and interchange improvements, HOV/Express lanes, and transportation system management. For example, in Orange County, a $1.9 billion project would add one mixed-flow lane in each direction, convert an HOV lane to HOT lane, and add an additional HOT lane on I-405. This project is scheduled for completion in 2026. In addition, numerous projects are scheduled for completion that would result in an Express Lane on I-405 from its northern terminus to the Los Angeles/Orange County border.

Policies that aim to charge drivers user fees to cover the costs of services they use can be effective in lowering emission and delays from increased VMTs. For example, Connect SoCal includes a local road charge program in the form of mileage-based user fees regionally, which can be adjusted by time-of-day at major activity centers. SCAG assumed congestion pricing during peak periods along with increases in parking pricing at major job centers in Los Angeles. The implementation of user-fees and pricing strategies can be structured to increase equity and mobility while reducing environmental impacts.[76]

Potential development projects anticipated to occur under the Plan should consider the CEQA guidance regarding VMT. In general, as stated in *CEQA Guidelines* Section 15064.3(b)(1), projects located within HQTAs would likely have less than significant transportation impacts. For those projects located outside of HQTAs, transportation impacts would be determined based on the project's ability to reduce VMT.

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76 SCAG, Connect SoCal Technical Report, *Congestion Management.* November 2019.

For transportation projects under the Plan, those projects that reduce VMT, such as most transit and bike projects, the assumption is impacts will be less than significant. However, consistency with the RTP/SCS does not necessarily lead to a less than significant impacts. Further, OPR's technical guidance on SB 743 states "building new roadways, adding roadway capacity in congested areas, or adding roadway capacity to areas where congestion is expected in the future, typically induces additional vehicle travel. For the types of projects previously indicated as likely to lead to additional vehicle travel, an estimate should be made of the change in vehicle travel resulting from the project."

Ultimately, the determination of VMT impacts will be made at the project level. As discussed above and elsewhere in this PEIR (see **Section 3.8, Greenhouse Gases),** lead agencies have the discretion to determine the appropriate methodology and level of analysis. As described, there are multiple potential VMT targets, CARB has identified 14.3 percent reductions in total VMT from 2015 to 2050 (based on specific modeling assumptions and ratios that are not directly comparable to data from regional travel demand models , see discussion in **Section 3.8 Greenhouse Gases**) and OPR has identified 15 percent lower per capita residential and office VMT and no net increase in residential VMT (OPR recommends that these reductions be calculated separately for each land use).

In CARB's January 2019 report,[77] CARB identifies a statewide population increase of 10 million people (an increase of 24 percent) between 2015 and 2050, growth in the SCAG region would account for nearly one third of that increase. If California were to meet its climate goals for 2050, CARB estimates (using specific CTF assumptions and population to VMT ratios that are not directly comparable to regional travel demand modeling) a 14.3 reduction in total VMT would be necessary.[78] **See Section 3.8 Greenhouse Gases,** for additional discussion of SB 743 and the CARB guidance.

OPR generally recommends a threshold of 15 percent below existing VMT per capita for residential and office with a no net increase for retail projects. OPR indicates that "land use projects, residential projects, office and retail projects tend to have the greatest influence on VMT." OPR suggests that lead agencies with more specific location information may develop their own more specific thresholds. OPR indicates

77 California Air Resources Board, *2017 Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals*, 2019

78 According to CARB: "Total VMT per capita is calculated as a ratio of total statewide VMT to forecast population from the California Department of Finance. This is not household-generated VMT, and the values are not directly comparable to output from a local or regional travel demand model. This estimate is merely meant to show the extent of per capita VMT reduction needed relative to existing conditions in order to show consistency with the State's climate goals."

that combining different land uses and applying one threshold to those land uses may result in an inaccurate impact assessment.[79]

At the regional level, CARB has set a regional target for SCAG of a 19 percent reduction in per capita on-road light duty transportation-related GHG emissions by 2035 relative to 2005. While SCAG meets this target, CARB has indicated that additional reductions are needed beyond targets set for the MPOs and has identified a "gap" between the regional target and the emissions/VMT reductions necessary to meet the state's climate action goals. Currently adopted SCSs would achieve in the aggregate, a nearly 18 percent reduction in statewide per capita transportation-related GHG emissions in aggregate. However, in order to meet the statewide goals, the full reduction needed, according to CARB, is a 25 percent reduction by 2035.[80] Although the region is making progress in per capita VMT reductions, and is making significant strides in the development of new initiatives, projects, and programs in the Plan, and is not directly interfering with the statewide VMT reductions required to meet the state's climate goals, the Plan does not clearly achieve the necessary level of VMT reductions now forecast by the state to meet AB 32 and SB 32 (as well as associated SB 743 guidance) GHG reduction goals. As discussed above and in **Section 3.8, Greenhouse Gases**, there is a "gap" between the current MPO emissions reductions targets and the emissions/VMT reductions necessary to meet the state's climate action goals.

While CARB acknowledges that SCAG and other MPOs cannot meet this need without the collaboration and help of the state itself (i.e., through stricter regulation), as well as local partners, at the time of writing this PEIR it is unknown how CARB and other state agencies, through statewide programs or in coordination with local and regional governments, would meet the identified higher VMT reductions. It is expected that individual projects will need to review their projects in light of CARB and OPR guidance regarding VMT reduction targets to determine the appropriate levels of reductions. In some cases, it could be CARB's suggested 14.3 target, or OPRs 15 percent (for residential and office uses) reduction. Neither the agencies, nor the courts have provided any clear guidance yet as to the appropriate methodology, and it is expected that there will not be a "one size fits all" approach. Each project will need to be evaluated in light of its particular components.

Despite the benefits shown by implementing the Plan, the transportation projects and growth under the Plan would substantially increase VMT, which would be inconsistent with *CEQA Guidelines* section 15064.3(b) and may not support achievement of the state's VMT goals as identified in the 2017 Scoping Plan, constituting a significant impact requiring the consideration of mitigation measures.

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79 The SCAG region includes a wide variety of project types, and as such, a generic 15 percent reduction would not be expected to accurately reflect the specific details of the region.

80 California Air Resources Board, *2017 Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals*, 2019

Mitigation Measures

SCAG Mitigation Measures

SMM TRA-1: SCAG shall facilitate minimizing VMT and related vehicular delay by minimizing impacts to circulation and access, improve mobility, and encourage transit and Active Transportation via workshops (i.e., Mobility 21 workshop and Regional Transportation Workgroups) and web-based planning tools for local governments, forums with policy makers, and County Transportation Planning Agencies, member cities, and state partners.

SMM TRA-2: SCAG shall identify further reduction in VMT, and fuel consumption that could be obtained through land-use strategies, additional car-sharing programs with linkage to public transportation, additional vanpools, additional bicycle sharing and parking programs, and implementation of a universal employee transit access pass (TAP) program.

SMM TRA-3: SCAG shall initiate and facilitate an SB 743 implementation program. The grant-funded project, co-sponsored by SCAG and LADOT, seeks to provide technical and mitigation strategy development guidance to local jurisdictions in the six-county SCAG region to facilitate implementation of the VMT-based CEQA transportation impact analysis provisions of SB 743. This coordinated program of technical guidance, evaluation of options, and cooperative engagement with local communities will serve to smooth the transition to the new VMT-reducing development paradigm, helping to ensure a successful region-wide implementation of SB 743 and attainment of the associated GHG reduction goals. Some of the primary features of the scope of work include:

- Evaluate the feasibility of various alternative VMT mitigation options, including local and regional VMT exchange and banking programs.
- Establish CEQA nexus to reduce VMT through a VMT mitigation exchange or banking program alternative.
- Substantiate the legal basis of a VMT exchange program for satisfying CEQA mitigation requirements.
- Collaborate with other communities and jurisdictions to reduce VMT through implementation of a VMT mitigation exchange or bank program.

- Improve the dissemination of transportation project VMT mitigation options.
- Support a variety of TDM strategies for Transportation Management Organization (TMO) membership agencies.
- Provide guidance to facilitate establishment of VMT mitigation exchange or bank programs throughout the region and state

SMM TRA-4: SCAG shall continue to analyze and develop potential implementation strategies for a regional, market-based system to price or charge for auto trips during peak hours.

SMM TRA-5: SCAG shall develop a vanpool program for SCAG employees' commute trips.

SMM TRA-6: SCAG shall encourage new developments to incorporate both local and regional transit measures into the project design that promote the use of alternative modes of transportation.

Project Level Mitigation Measures

PMM-TRA-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to transportation-related impacts. Such measures may include the following or other comparable measures identified by the Lead Agency:

- Transportation demand management (TDM) strategies should be incorporated into individual land use and transportation projects and plans, as part of the planning process. Local agencies should incorporate strategies identified in the Federal Highway Administration's publication: Integrating Demand Management into the Transportation Planning Process: A Desk Reference (August 2012) into the planning process (FHWA 2012). For example, the following strategies may be included to encourage use of transit and non-motorized modes of transportation and reduce vehicle miles traveled on the region's roadways:
  - include TDM mitigation requirements for new developments;
  - incorporate supporting infrastructure for non-motorized modes, such as, bike lanes, secure bike parking, sidewalks, and crosswalks;

- provide incentives to use alternative modes and reduce driving, such as, universal transit passes, road and parking pricing;
- implement parking management programs, such as parking cash-out, priority parking for carpools and vanpools;
- develop TDM-specific performance measures to evaluate project-specific and system-wide performance;
- incorporate TDM performance measures in the decision-making process for identifying transportation investments;
- implement data collection programs for TDM to determine the effectiveness of certain strategies and to measure success over time; and
- set aside funding for TDM initiatives.
- The increase in per capita VMT on facilities experiencing LOS F represents a significant impact compared to existing conditions. To assess whether implementation of these specific mitigation strategies would result in measurable traffic congestion reductions, implementing actions may need to be further refined within the overall parameters of the proposed Plan and matched to local conditions in any subsequent project-level environmental analysis.

Level of Significance after Mitigation

As discussed above, regulations and polices would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and polices designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis, the increase in total VMT and SCAG's lack of authority to require project-level mitigation measures, this PEIR finds impacts related to VMT to be significant and unavoidable.

Impact TRA-3 **Substantially increase hazards due to geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).**

Less than Significant Impact.

SCAG adopted its 2020 Regional Safety targets in February 2019 and aims to reduce fatalities by 3 percent and serious injuries by 1.5 percent annually by 2050 to reach the goal of Towards Zero Death (TZD). Connect SoCal prioritizes ensuring the safety and mobility of the region's residents, including drivers and passengers, transit riders, pedestrians, and bicyclists. The Plan's Safety and Security Technical report provides a framework largely grounded in the State's Strategic Highway Safety Plan, that can help member agencies interested in pursuing safety initiatives and strategies at the local level. The Plan also aims to address actionable strategies in which SCAG can support local jurisdictions.

In 2018, SCAG initiated a comprehensive update of its multi-county Regional Intelligent Transportation System (ITS) Architecture. Expected to be the completed in 2019, the Regional ITS will make use of advanced detection, communications, and computing technology to improve transportation safety. ITS allows surveillance technologies to collect data about the status of highways, traffic signals, transit vehicles, and rideshare vehicles to improve the efficiency of the system. In addition to this framework, SCAG supports the efforts of local jurisdictions to improve transportation safety through a safe systems approach which utilizes systems thinking to design transportation systems with no deaths or serious injuries. A safe systems approach includes programs such as Vision Zero, which aims to eliminate traffic fatalities and severe injuries by promoting roadway design and policy that recognizes human error and prevents severe injury incidents. Connect SoCal land use strategies aim to focus growth in HQTAs, which are generally located away from high-speed transportation facilities where potential hazards due to design features tend to be high (e.g., mountain roads). Moreover, development in HQTAs would increase the number of SCAG region residents in proximity to transit and in areas with good opportunities for active transportation, making it imperative to design facilities with bike racks, improved sidewalks with shade, bikeways, and welcoming transit stations to promote an active streetscape.

Bicycling has continued to become a more popular activity across the SCAG region. Fatalities and serious injuries between motor vehicles and bicycles have steadily increased throughout the years and remain high. SCAG recommends strategies for local jurisdictions to improve safety for bicyclists, including connecting bicycle facilities, implementing active transportation plans, complete streets policies and intersection control for bicyclists.

The Plan identifies three major findings related to collisions in the SCAG region: fatalities and injuries are mostly occurring on a subset of streets, are increasing and are disproportionately impacting people walking and bicycling, and are occurring mostly in areas with high concentrations of low income residents and/or people of color. Between 2012 and 2016, 68 percent of fatalities and serious injuries have occurred on local streets and 65 percent of fatalities and serious injuries have occurred on less than 1.5

percent of the roadway network, and 66 percent of the High Injury Network is in disadvantaged communities (See **Table 3.17-19, Active Transportation Serious Injuries and Fatalities [2006-2016])**.[81]

Table 3.17-19
Active Transportation Serious Injuries and Fatalities (2006-2016)

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Pedestrian Fatalities	399	375	329	318	315	311	376	394	425	423	484
Pedestrian Serious Injuries	1213	1253	1077	1178	1068	1074	1177	1122	1063	1065	1288
Bicycle Fatalities	88	56	61	49	44	66	62	73	68	66	68
Bicycle Serious Injuries	361	318	381	385	397	469	454	434	402	417	371

Source:
SCAG Active Transportation, 2019.

The Plan includes strategies to encourage a complete streets approach to roadway improvements which would include design of facilities to enhance the safety of riders, bicyclists, and pedestrians and minimize hazards. These enhancements would also reduce hazards for drivers. Comprehensive road education, safe pedestrian routes to schools, and other safety campaigns would also occur. The Plan includes 392 safety projects, comprising 19 percent of the total budget, or slightly more than $5.4 billion in programmed investments (See **Table 3.17-20, 2016 RTP/SCS Safety Projects by County**).

Table 3.17-20
2016 RTP/SCS Safety Projects by County – FTIP (*Thousands)

County	Total Safety Projects	* Safety Projects Programming	* All Projects Programming	Total Projects	% of Total
Imperial	12	$11,287	$60,193	73	16
Los Angeles	232	$3,037,807	$19,382,656	936	25
Orange	36	$516,422	$3,007,022	180	20
Riverside	55	$1,311,227	$7,070,337	396	14
San Bernardino	25	$182,463	$4,006,990	265	9
Ventura	30	$187,597	$856,230	174	17
Various	2	$182,463	$184,686	7	29
Region Totals	**392**	**$5,429,266**	**$34,568,114**	**2031**	**19**

Source: SCAG Transportation, Safety, and Security, 2019.

81 SCAG Safety and Security Technical Report, 2019.

In accordance with the provisions governing hazard designs from the Southern California Regional Intelligent Transpiration System (ITS), the Plan would not result in an overall increase in hazards due to geometric design features or increase conflicts between incompatible uses, and impacts would be less than significant. Impacts from increased hazards due to geometric design features or incompatible attributes are less than significant.

Impact TRA-4 **Result in inadequate emergency access.**

Impact WF-1 **Substantially impair an adopted emergency response plan or emergency evacuation plan.**

Significant and Unavoidable Impact – Mitigation Required.

See also analysis of Impact HAZ-6 Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan," in **Section 3.9, Hazards and Hazardous Materials**.

Natural or manmade disasters can have devastating impacts on our region's livelihood and infrastructure. It is critically important to protect our region's infrastructure in the form of transportation, utilities, communications, fuel, and water to provide the residents of this region with the quality of life they deserve. In addition, transportation infrastructure is critical to preserving life as it allows residents and goods to reach necessary destinations. Compromised infrastructure as a result of disaster may have impacts beyond the immediate SCAG region. Additionally, failure of multiple infrastructure components may result in a catastrophic impact to the mobility needs of the region.

Numerous agencies participate in the response to incidents and assist with hazard preparedness for individual jurisdictions. Collaboration occurs between many of these agencies. The Federal Emergency Management Agency (FEMA) oversees coordination. However, FEMA defines metropolitan areas and coordination different than the US Department of Transportation, limiting SCAG's ability to participate at an agency level. SCAG aims to use its strengths and organization to assist planners, first responders and recovery teams in a supporting role.

Mitigating hazards before the occurrence of a disaster is the primary step in preparing for emergencies, rather than the final step of recovery. The goal of hazard mitigation plans is to guide implementation activities in order to achieve the greatest reduction of vulnerability, which will result in saved lives, reduced injuries, reduced property damage, and greater protection of the environment. FEMA requires state and local governments to develop hazard mitigation plans and update them every three years. The Disaster Mitigation Act of 2000 (DMA 2000), Section 322 (a-d) requires that local governments, as a

condition of receiving federal disaster mitigation funds, have a mitigation plan that describes the process for identifying hazards, risks and vulnerabilities; identifies and prioritizes mitigation actions; encourages the development of local mitigation; and provides technical support for those efforts. "Local Governments" are defined in the DMA 2000 to typically include counties, local municipalities, and tribal governments; but can also include other local agencies and organizations, including Councils of Governments, schools and other special districts.

California updated its State of California Multi-Hazard Mitigation Plan in 2018. The state is required to adopt a federally approved State Multi- Hazard Mitigation Plan to be eligible for certain disaster assistance and mitigation funding. The Plan is an evaluation of the hazards California faces and the strategies, goals and activities the state will pursue to address these hazards. All six counties and a number of cities within the SCAG region have complete Hazard Mitigation Plans.

While the Plan would impact traffic and delay in the region, California state law requires drivers to yield the right-of-way to emergency vehicles and even permits emergency vehicles to use opposing lane of travel, the center turn lanes, or bus-only lanes. In some instances, roadway reconfigurations with the implementation of transportation improvements could improve emergency access. For example, a roadway reconfiguration could improve emergency access where a bus-only lane or a contiguous center left-turn lane is introduced where it did not previously exist. Emergency vehicles are permitted to use bus-only lanes for local access to emergency destinations. People traveling by bicycle are required to pull to the side of the road to yield access to emergency providers regardless if they are traveling in a bus-only lane or in a standard travel lane. It is more likely that when in route to an emergency incident, general traffic will be expected to merge into the bus-only lane, permitting the emergency vehicle to pass in the through lane to the left. Emergency responders also routinely use the center left-turn lanes, or even travel in opposing travel lanes if needed. Generally, multi-lane roadways allow the emergency vehicles to travel at higher speeds and permit other traffic to maneuver out of the path of the emergency vehicle. The Plan includes strategies to improve emergency response services. These include using ITS to improve response times to and from collision sites and the development of guidance documents to share with EMS responders to increase crash scene safety.

Depending on the timing, location, and duration of construction activities, several of the proposed transportation projects (including grade crossings, arterials, interchanges, and auxiliary lanes), would result in delayed emergency vehicle response times or otherwise disrupt delivery of emergency response services, could occur. For example, closing off one or more lanes of a roadway, emergency routes would be impaired. The closure of these lanes could potentially cause traffic delays and ultimately prevent access to calls for service. Construction of development projects may also interfere with the use of existing transportation facilities (such as roadways) by potentially blocking travel lanes with construction

equipment and through increasing congestion as a result. Coordination with local jurisdictions is generally required by local jurisdictions in order to maintain adequate emergency access for ambulance and emergency services.

Land use strategies in the Plan encourage more compact development. As discussed in **Section 3.15.1, Public Services – Fire,** and **Section 3.15.2, Public Services - Police**, compact land uses are generally more efficient at serving the public for emergency response. This is often because urban areas tend to be well served with these facilities and also because the more compact land use pattern better facilitates access to specific sites.

However, while regulations (especially in urban areas) generally ameliorate potential impacts with respect to emergency access, due to potential increased traffic congestion associated with construction of transportation projects and development projects anticipated to occur in the region , there is the potential for the Plan to result in interference with emergency access. Therefore, the Plan would have the potential to result in inadequate emergency access, constituting a significant impact requiring mitigation measures.

Mitigation Measures

SCAG Mitigation Measures

SMM TRA-7: SCAG shall, in cooperation with local and state agencies, identify critical infrastructure needs necessary for: a) emergency responders to enter the region, b) evacuation of affected facilities, and c) restoration of utilities. In addition, SCAG shall establish transportation infrastructure practices that promote and enhance security.

SMM TRA-8: SCAG shall provide the means for collaboration in planning, communication, and information sharing before, during, or after a regional emergency. This will be accomplished by the following:

- SCAG shall develop and incorporate strategies and actions pertaining to response and prevention of security incidents and events as part of the on-going regional planning activities.
- SCAG shall offer a regional repository of GIS data for use by local agencies in emergency planning, and response, in a standardized format.
- SCAG shall enter into mutual aid agreements with other MPOs (as feasible) to provide this data, in coordination with the California OES in the event that an event disrupts SCAG's ability to function.

Project Level Mitigation Measures

PMM TRA-2: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects which may substantially impair implementation of an adopted emergency response plan or emergency evacuation plan, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

- Prior to construction, project implementation agencies can and should ensure that all necessary local and state road and railroad encroachment permits are obtained. The project implementation agency can and should also comply with all applicable conditions of approval. As deemed necessary by the governing jurisdiction, the road encroachment permits may require the contractor to prepare a traffic control plan in accordance with professional engineering standards prior to construction. Traffic control plans can and should include the following requirements:
  - Identification of all roadway locations where special construction techniques (e.g., directional drilling or night construction) would be used to minimize impacts to traffic flow.
  - Development of circulation and detour plans to minimize impacts to local street circulation. This may include the use of signing and flagging to guide vehicles through and/or around the construction zone.
  - Scheduling of truck trips outside of peak morning and evening commute hours.
  - Limiting of lane closures during peak hours to the extent possible.
  - Usage of haul routes minimizing truck traffic on local roadways to the extent possible.
  - Inclusion of detours for bicycles and pedestrians in all areas potentially affected by project construction.
  - Installation of traffic control devices as specified in the California Department of Transportation Manual of Traffic Controls for Construction and Maintenance Work Zones.

- Development and implementation of access plans for highly sensitive land uses such as police and fire stations, transit stations, hospitals, and schools. The access plans would be developed with the facility owner or administrator. To minimize disruption of emergency vehicle access, affected jurisdictions can and should be asked to identify detours for emergency vehicles, which will then be posted by the contractor. Notify in advance the facility owner or operator of the timing, location, and duration of construction activities and the locations of detours and lane closures.

- Storage of construction materials only in designated areas.

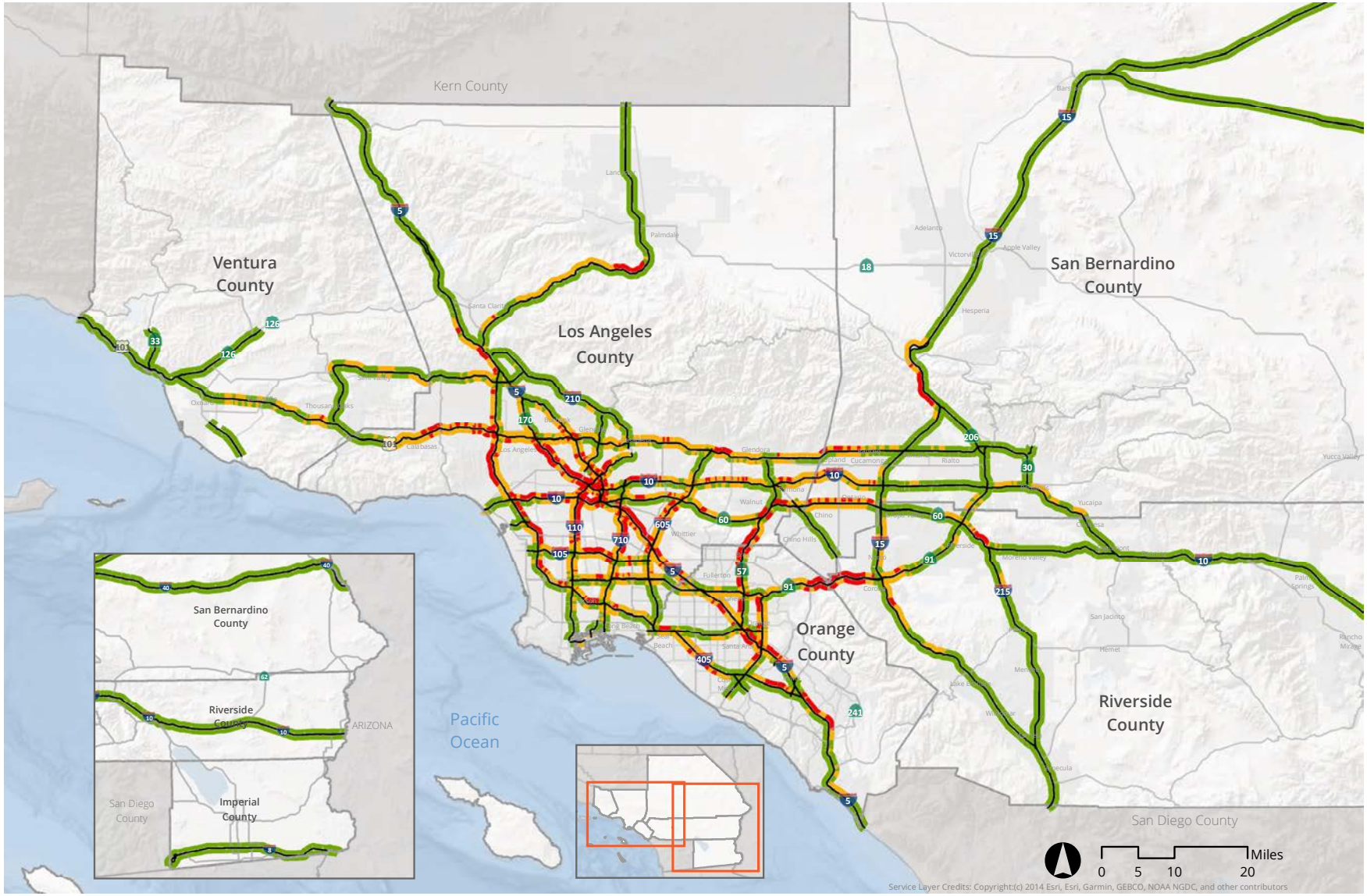
- Coordination with local transit agencies for temporary relocation of routes or bus stops in work zones, as necessary.

- Ensure the rapid repair of transportation infrastructure in the event of an emergency through cooperation among public agencies and by identifying critical infrastructure needs necessary for: a) emergency responders to enter the region, b) evacuation of affected facilities, and c) restoration of utilities.

- Enhance emergency preparedness awareness among public agencies and with the public at large.

Level of Significance after Mitigation

As discussed above, regulations and polices would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this EIR identifies project-level mitigation measures consistent with applicable regulations and polices designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis, potential increases in traffic and construction-related impediments to emergency access and SCAG's lack of authority to require project-level mitigation measures, this PEIR finds impacts related to emergency access to be significant and unavoidable.



Speed in Miles Per Hour

Less than 35 | 36 to 50 | Greater than 50

SOURCE: SCAG, 2019

FIGURE **3.17-1**

IMPACT SCIENCES

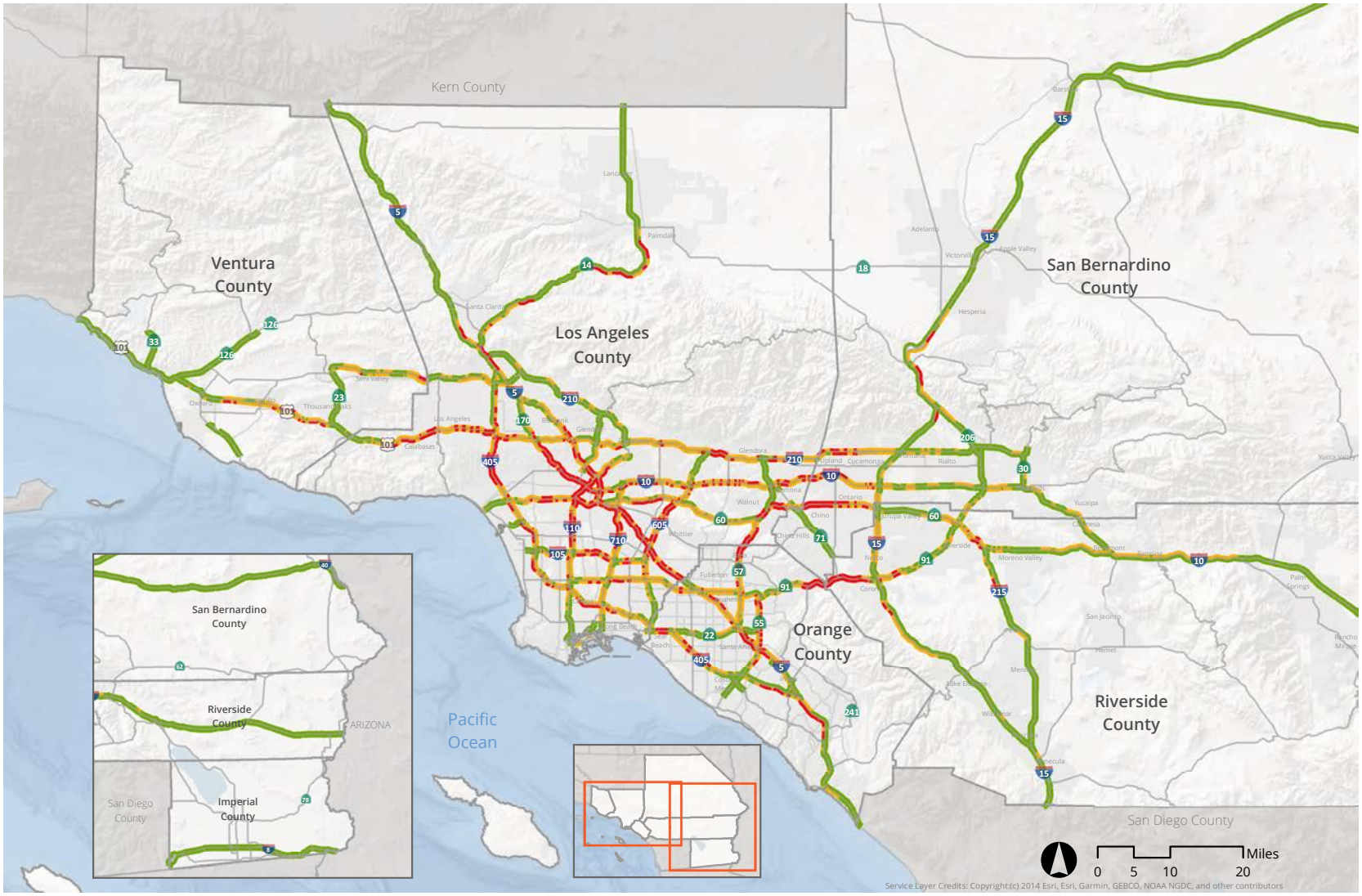
2019 AM Peak Period Congestion Delay on Regional Freeway System

SOURCE: SCAG, 2019

FIGURE **3.17-2**

IMPACT SCIENCES

2045 AM Peak Period Congestion Delay on Regional Freeway System



Speed in Miles Per Hour

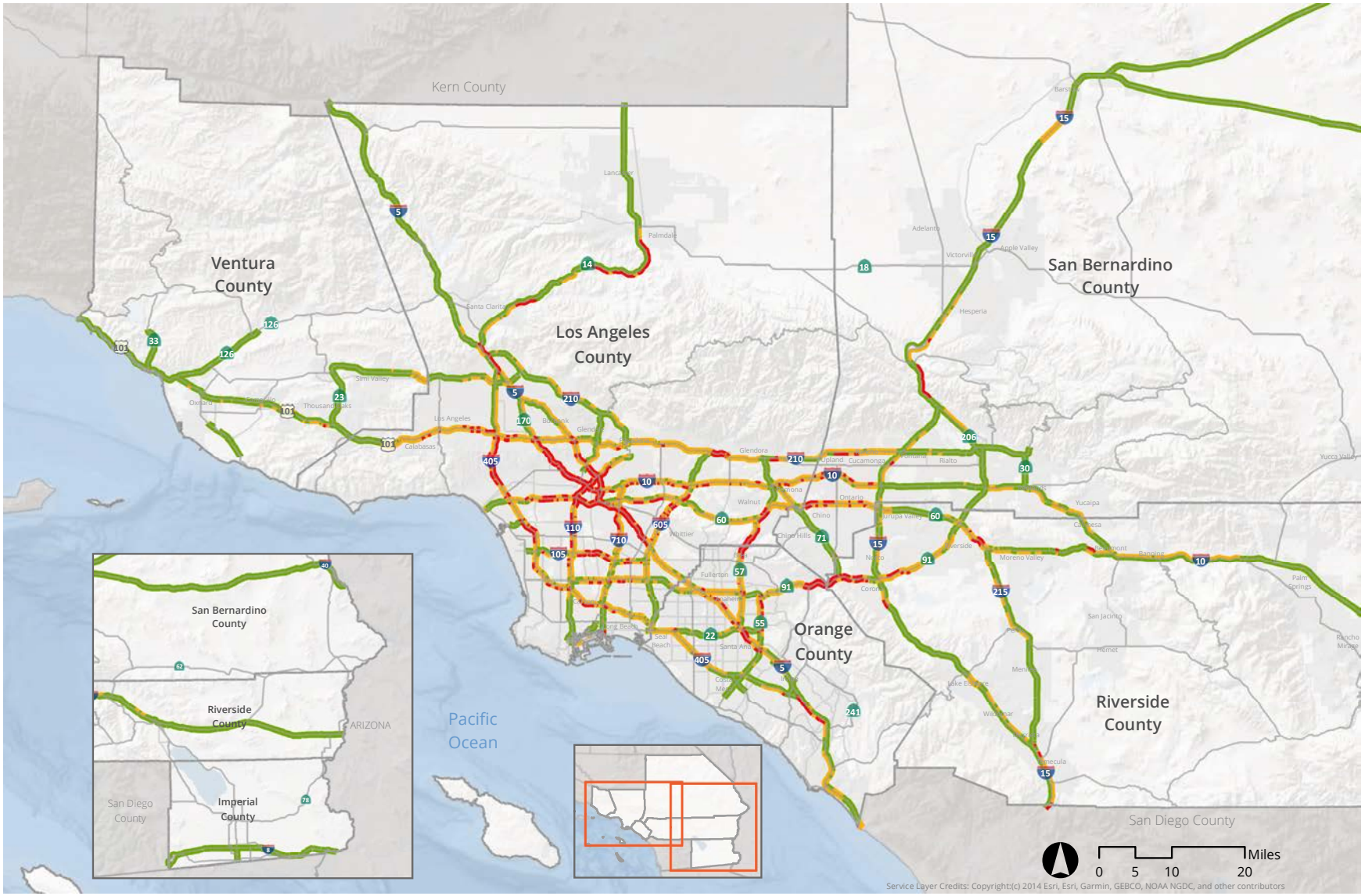
Less than 35 | 36 to 50 | Greater than 50

SOURCE: SCAG, 2019

FIGURE **3.17-3**

IMPACT SCIENCES

2019 PM Peak Period Congestion Delay on Regional Freeway System

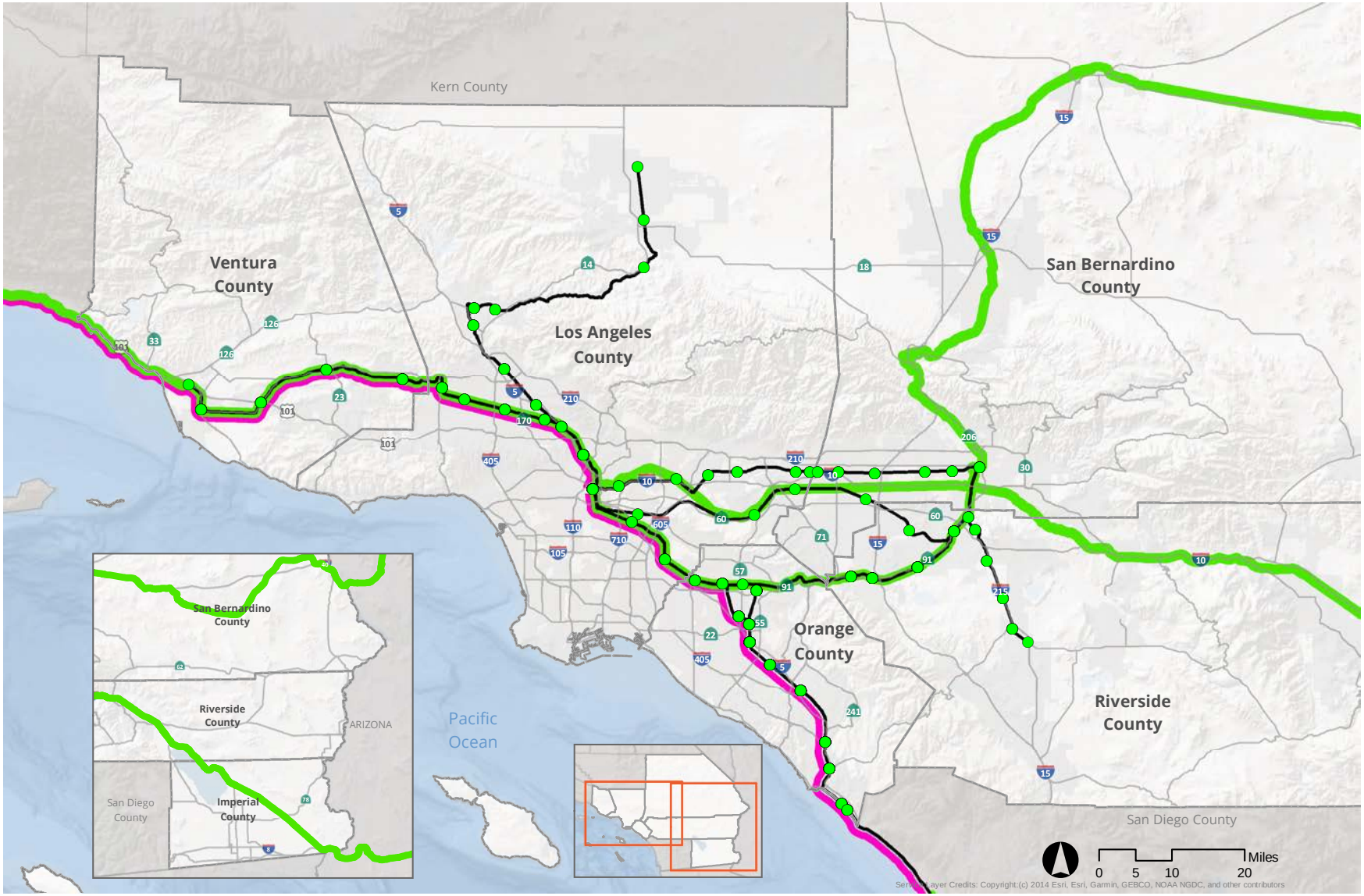


SOURCE: SCAG, 2019

FIGURE **3.17-4**

IMPACT SCIENCES

2045 PM Peak Period Congestion Delay on Regional Freeway System



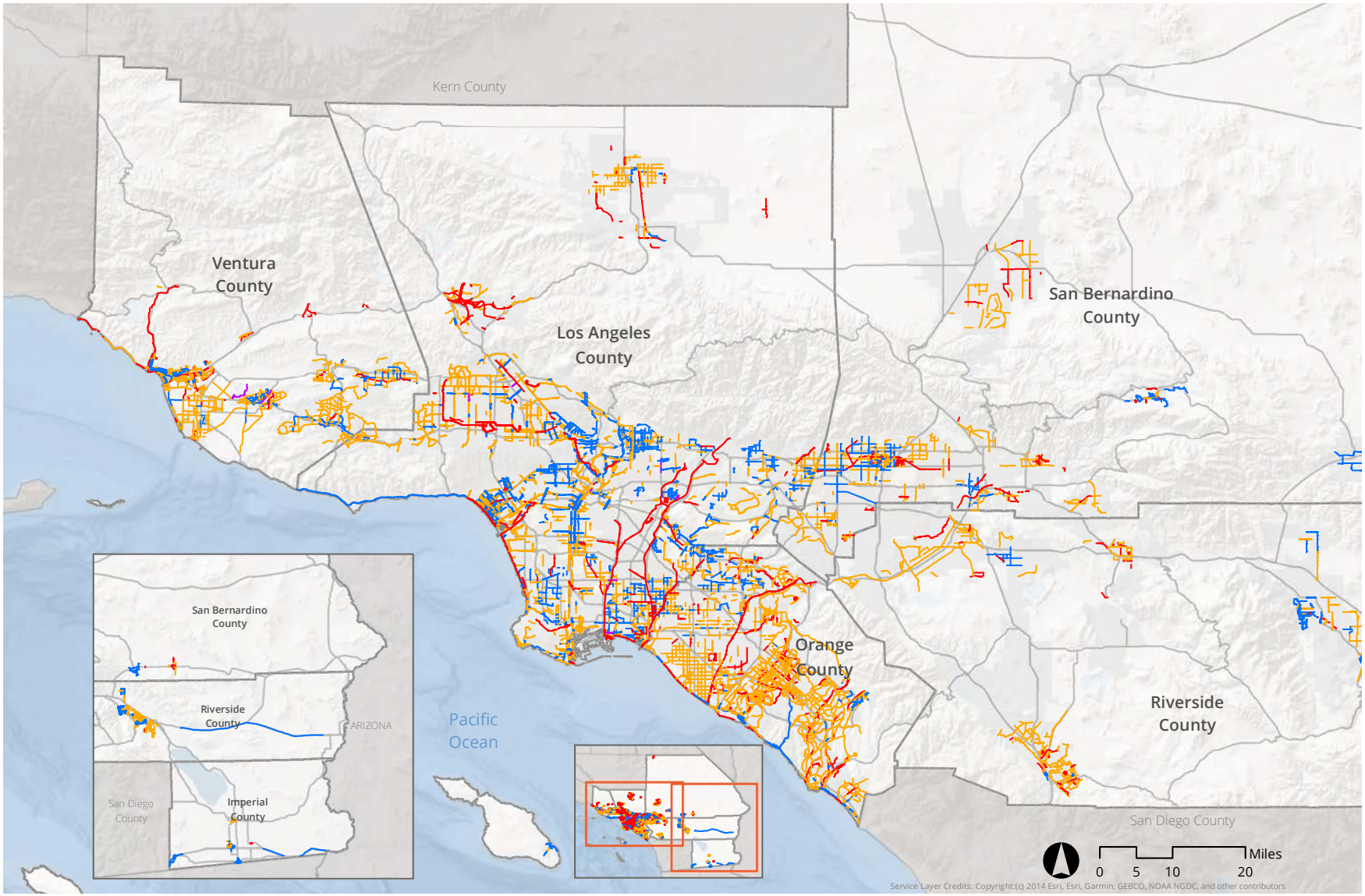
SOURCE: SCAG, 2019

FIGURE **3.17-5**

Amtrak Railways

IMPACT SCIENCES

1329.001•10/19



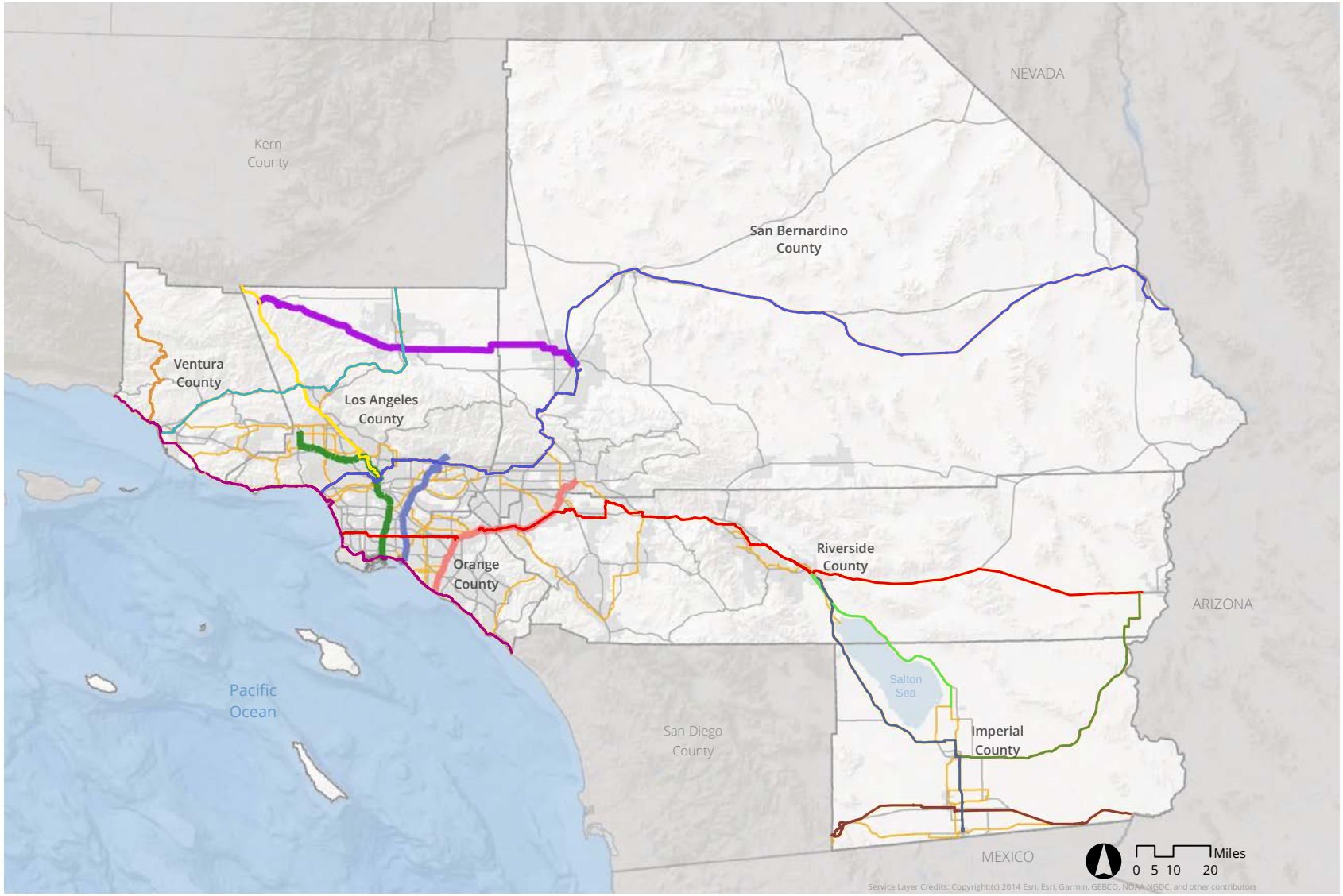
SOURCE: SCAG, 2019

FIGURE **3.17-6**

IMPACT SCIENCES

Existing Regional Bikeways

1329.001•10/19

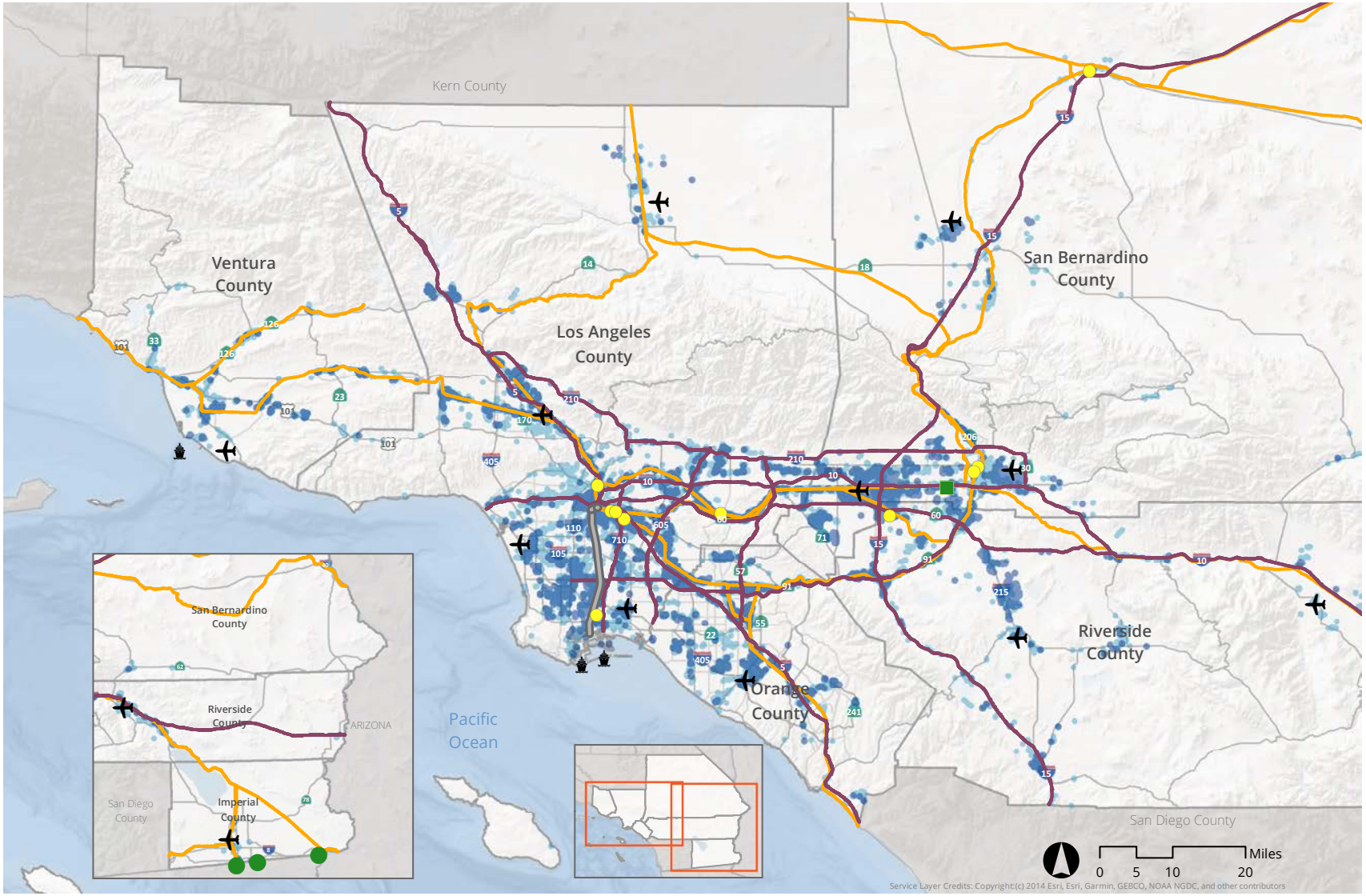


SOURCE: SCAG, 2019

FIGURE **3.17-7**

IMPACT SCIENCES

Existing and Proposed Regional Bikeways (2045)



SOURCE: SCAG, CoStar Realty Information, Inc., 2019

FIGURE **3.17-8**

IMPACT SCIENCES

Existing Regional Goods Movement System

1329.001•10/19

3.17.4 SOURCES

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3.18 TRIBAL CULTURAL RESOURCES

This section of the Program Environmental Impact Report (PEIR) describes the tribal cultural resources in the SCAG region, identifies the regulatory framework with respect to laws and regulations that govern tribal cultural resources, and evaluates and discusses the potential impacts of the Connect SoCal Plan ("Connect SoCal"; "Plan"). In addition, this PEIR provides regional-scale mitigation measures as well as project-level mitigation measures to be considered by lead agencies for subsequent, site-specific environmental review to reduce identified impacts as appropriate and feasible.

3.18.1 ENVIRONMENTAL SETTING

3.18.1.1 Definitions

California Historical Resources Information System (CHRIS): The California Historical Resources Information System (CHRIS) consists of the California Office of Historic Preservation (OHP), nine Information Centers (ICs), and the State Historical Resources Commission (SHRC). The OHP administers and coordinates the CHRIS and presents proposed CHRIS policies to the SHRC, which approves these polices in public meetings. The CHRIS Inventory includes the State Historic Resources Inventory maintained by the OHP as defined in California Public Resources Code [PRC] § 5020.1(p), and the larger number of resource records and research reports managed under contract by the nine ICs.

Tribal Cultural Resources: Pursuant to Assembly Bill (AB) 52, a site feature, place, cultural landscape, sacred place or object, which is of cultural value to a Tribe and is either on or eligible for the California Historic Register or a local historic register, or such a resource that the lead agency, at its discretion, chooses to treat the resource as a Tribal Cultural Resources (see PRCPRC §§ 21074 (a)(1)(A)-(B)). A tribal cultural resource may also include a unique archaeological resource (see PRC § 21083.2(g)) or a "nonunique archaeological resource" (see PRC § 21083.2(h), subject to the provisions of PRC § 21074 (a)) may also be a tribal cultural resource if it conforms with the criteria of subdivision (a).

Unique archeological resource: Pursuant to Section 21083.2 of the PRC, a unique archaeological resource includes artifacts or sites that meet any one or all of the following criteria:[1]

- It has made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States;
- It is associated with the lives of persons important to California's past;

1 California Legislative Information. 1972. *Chapter 2.6. General [21080-21098], Section 21083.2*.

- It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; and/or
- It has yielded, or may be likely to yield, information important to the prehistory or history of California.

Unique geologic feature: An important and irreplaceable geological formation. Such features may have scientific and/or cultural values.

3.18.1.2 Existing Conditions

Detailed information regarding the prehistoric occupation is presented in **Section 3.5, Cultural Resources**, of this PEIR. As noted in **Section 3.5,** the SCAG region once was the home to at least 11 distinct Native American groups. These include the Cahuilla, Chumash, Gabrielino, Halchidhoma, Kitanemuk, Luiseno, Mohave, Quechan, Serrano, Southern Paiute, Tataviam, and Tipai. The territorial boundaries of the Native Americans who were residing in Southern California at the time of first European contact do not coincide with today's political boundaries. Moreover, many tribal boundaries overlapped and most groups migrated within their general boundaries throughout the years.

The federal government established reservations in Southern California between 1875 and 1891. This includes the Martinez, Fort Yuma, and Colorado River reservations in Imperial County. In Riverside County are Torres, Cabazon, Augustine, Santa Rosa, Ramona, Pechanga, Soboba, Agua Caliente, Mission Creek, and Morongo. The reservations in San Bernardino County are the San Manuel, Chemehuevi, Fort Mojave, Twentynine Palms reservations. No reservations were established in Los Angeles, Ventura, or Orange Counties. It was believed that the local Native American groups in those counties had become extinct.[2]

As of July 2019, over 109,000 archaeological resource locations have been identified in the SCAG region (**Table 3.18-1, Archeological Resources Listed in the CHRIS**). In order to protect these archaeological sites, and the artifacts contained within their boundaries, from scavenging and looting, their locations are confidential. Under state law, detailed information about these sites, especially their location, is considered confidential.

2 Environmental Protection Agency, Region 9 – Air. 2011. *California Tribal Lands*. Available online at: https://www3.epa.gov/region9/air/maps/pdfs/air1100040_3.pdf, accessed August 27, 2019.

Table 3.18-1
Archeological Resources Listed in the CHRIS

County	Archeological Resources	Archeological Resources Listed in CHRIS
Imperial*	12,398	16,500 (approx.)
Los Angeles	4,886	18,599
Orange	1,775	5,498
Riverside**	20,200 (approx.)	28,612
San Bernardino	8,236	36,924
Ventura	1,864	3,226
SCAG Region Total	**49,359**	**109,359**

Source:
SWCA Environmental Consultants, Inc. (2019).
** The SCIC database is currently being revised and the count of total resources is an approximation based on current listings. The number of resources with archaeological components is taken from the 2016 General Plan, Open Space & Conservation Element. The total number of resources was approximated by SCIC staff and provided to SWCA via email on July 1, 2019.*
*** The EIC database is not currently configured to distinguish historic-period archaeological resources from non-archaeological historic resources (i.e., buildings, structures, etc.). Instead, the EIC provided tallies of resources with components dating to the respective periods as follows: 13,993 Prehistoric archaeological sites; 1 Protohistoric archaeological site; 15,313 Historic period cultural resources (archaeological sites and historic resources); 202 sites of unknown cultural or temporal affiliation. Because an individual resource may have components that fall into multiple periods, the sum of all resources listed for each period is greater than the total number of resources. The total number of archaeological sites was estimated for Riverside County to allow for comparison with other counties across the SCAG region. This was done for Riverside County by taking the 13,994 archaeological sites listed as Prehistoric and Protohistoric (because these resources can only be archaeological sites) and adding an estimated fraction of those listed as Historic and Unknown Period, which could consist of historic resources (i.e., non-archaeological). The estimate provided here assumes 40 percent of those resources listed as Historic or Unknown Period have archaeological components that are not multi-component resources (and already tallied as Prehistoric or Protohistoric).*

Native American Sacred Sites

Within the SCAG region there are 16 federally recognized tribes (84 Fed. Reg. § 1200) with lands administered as federal Indian reservations, also known as pueblos, rancherias, missions, villages, communities, etc.:[3]

- Agua Caliente Band of Cahuilla Indians
- Augustine Band of Mission Indians
- Cabazon Band of Mission Indians
- Cahuilla Band of Indians
- Chemehuevi Indian Tribe

3 Federal Register. *Indian Entities Recognized by and Eligible To Receive Services From the United States Bureau of Indian Affairs*. Updated 02/01/2019. Available at: https://www.federalregister.gov/d/2019-00897, accessed September 13, 2019.

- Colorado River Indian Tribe
- Fort Mojave
- Morongo Band of Mission Indians
- Quechan Indian Tribe
- Pechanga Band of Luiseño Indians
- Ramona Band of Cahuilla Mission Indians
- San Manuel Band of Mission Indians
- Santa Rosa Band of Cahuilla Indians
- Soboba Band of Luiseno Indians
- Torres-Martinez Desert Cahuilla Indians
- Twenty-Nine Palms Band of Mission Indians

Recognizing that tribal groups may have expertise with regard to their tribal history and practices that others may not, Assembly Bill 52 (AB 52) (as will be discussed in more detail below) requires lead agencies to provide notice to all tribal groups that are traditionally, culturally, and historically affiliated with the geographic area of a proposed project if they have requested such notice. Some of these groups are not federally recognized, have had their federal recognition revoked, or are in the processes of requesting federal recognition. The Native American Heritage Commission (NAHC) maintains the list of tribes that are traditionally and culturally affiliated within a specified geographic area.

Native American sacred sites reflect the evolution of the Southern California landscape, reflecting the rich cultural heritage of Native American cultures that predate and continued beyond European contact. Native American sacred sites may be related to a range of topics, including origins of the universe, the shifting of tectonic plates, and an evolving array of plants and animals that give Southern California its unique features today. Some sites are associated with the migration of humans into the region, where they settled, and how they lived. These sites document the view of Native American cultures of their own history and way of life.

The NAHC is charged with identifying, cataloging, and protecting Native American cultural resources and sacred sites, which is maintained as the SLF. **Table 3.18-2, Sacred Lands Recorded by the NAHC in the SCAG Region**, shows the total number of listings within each county. The nature and precise location of these resources is confidential.

Table 3.18-2
Sacred Lands Recorded by the NAHC in the SCAG Region

County	Sacred Lands
Imperial	84
Los Angeles	38
Orange	45
Riverside	123
San Bernardino	61
Ventura	12
SCAG Region Total	**363**

Source: NAHC, (provided July 5, 2019).

Tribal Consultation

SWCA Environmental Consultants (SWCA) led the AB 52 process undertaken by SCAG. SWCA contacted the NAHC on behalf of SCAG on December 5, 2018 to request a Sacred Lands File Search and CEQA Tribal Consultation List under AB 52. The NAHC responded in a letter dated December 18, 2018 and indicated that the SLF search yielded positive results; the letter also included a list of 61 contacts for tribal consultation. SCAG sent letters to all 61 of these contacts via certified mail on January 8, 2019. SCAG's letter described the Plan and PEIR, and invited tribal parties to consult under AB 52. On behalf of SCAG, SWCA subsequently followed up by email on March 13, 2019 with those contacts who had not responded. In total, seven parties responded to SCAG's outreach effort. Two of these, the Pala Band of Mission Indians and the Big Pine Paiute Tribe of the Owens Valley, declined consultation. Five parties – the Agua Caliente Band of Cahuilla Indians, the Fernandeño Band of Mission Indians, the Gabrieleno Band of Mission Indians – Kizh Nation, the Juaneño Band of Mission Indians Acjachemen Nation, and the San Manuel Band of Mission Indians – requested consultation and additional details, including the cultural resources technical study, once completed. SCAG replied to the five parties who requested consultation and provided a timeline for the cultural resources technical study, which it anticipates sharing in late 2019. SCAG also invited the interested tribes to attend project scoping meetings.

3.18.2 REGULATORY FRAMEWORK

3.18.2.1 Federal Regulations

Antiquities Act of 1906

The Antiquities Act of 1906 (16 U.S. Code [U.S.C.] §§ 431–433), which aimed to protect important historic and archaeological sites, initiated historic preservation legislation. It established a system of permits for conducting archaeological studies on federal land, as well as setting penalties for noncompliance. This permit process controls the disturbances that may be caused to archaeological sites.[4] New permits are currently issued under the Archaeological Resources Protection Act (ARPA) of 1979. The purpose of ARPA is to enhance preservation and protection of archaeological resources on public and Native American lands.[5]

Historic Sites Act of 1935

The Historic Sites Act (16 U.S.C. §§ 461–467) became law on August 21, 1935, and declared that it is national policy to "Preserve for public use historic sites, buildings, and objects of national significance."[6] The National Historic Preservation Act (NHPA) expanded the scope to include important state and local resources. Provisions of NHPA established the National Register maintained by the National Park Service, advisory councils on Historic Preservation, State Historic Preservation Offices, and grants-in-aid programs. Section 106 of the NHPA requires all federal agencies to consult the Advisory Council before continuing any activity affecting a property listed on or eligible for listing on the National Register.[7] The Advisory Council has developed regulations for Section 106 to encourage coordination of agency cultural resource compliance requirements (Executive Order 11593).[8]

National Register of Historic Places (National Register)

The National Register recognizes properties that are significant at the national, state, and/or local levels. Although administered by the National Park Service, the federal regulations explicitly provide that

4 National Park Service. *American Antiquities Act of 1906, 16 U.S.C. 431-433*. Available online at: https://www.nps.gov/history/local-law/anti1906.htm, accessed August 27, 2019.

5 National Park Service. *Archaeological Resources Protection Act*. Available online at: https://www.nps.gov/history/local-law/FHPL_ArchRsrcsProt.pdf, accessed August 27, 2019.

6 National Park Service. *Historic Sites Act of 1935, 16 U.S.C. sec. 461-467*. Available online at: https://www.nps.gov/history/local-law/hsact35.htm, accessed August 27, 2019.

7 National Park Service. *National Historic Preservation Act of 1966, Public Law 102-575*. Available online at: https://www.nps.gov/history/local-law/nhpa1966.htm, accessed August 27, 2019.

8 Federal Register. *Executive Order 11593 – Protection and enhancement of the cultural environment*. Available online at: https://www.archives.gov/federal-register/codification/executive-order/11593.html, accessed August 27, 2019.

National Register listing of private property "does not prohibit under federal law or regulation any actions which may otherwise be taken by the property owner with respect to the property." Listing in the National Register assists in preservation of historic properties through: recognition that a property is of significance to the nation, the state, or the community; consideration in the planning for federal or federally-assisted projects; eligibility for federal tax benefits; consideration in the decision to issue a surface coal mining permit; and qualification for federal assistance for historic preservation, when funds are available. In addition, for projects that receive federal funding, a clearance process must be completed in accordance with Section 106 of the NHPA. Furthermore, state and local regulations may apply to properties listed in the National Register.[9]

The criteria for listing in the National Register follow the standards for determining if properties, sites, districts, structures, or landscapes of potential significance are eligible for nomination. In addition to meeting any or all of the following criteria, properties nominated must also possess integrity of location, design, setting, feeling, workmanship, association, and materials that:[10] A property is eligible for the NRHP if it is significant under one or more of the following criteria:

Criterion A: It is associated with events that have made a significant contribution to the broad patterns of our history;

Criterion B: It is associated with the lives of persons who are significant in our past;

Criterion C: It embodies the distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components may lack individual distinction; and/or

Criterion D: It has yielded, or may be likely to yield, information important in prehistory or history.

Ordinarily cemeteries, birthplaces, or graves of historic figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, and properties that are primarily commemorative in nature, are not considered eligible for the NRHP, unless they satisfy certain conditions. In general, a resource must be 50 years of age to be considered for the NRHP, unless it satisfies a standard of exceptional importance.

In addition to meeting these criteria, a property must retain historic integrity, which is defined in National Register Bulletin 15 as the "ability of a property to convey its significance" (NPS 1990). In order

9 Government Publishing Office. 2019. *Title 36: Parks, Forests, and Public Property, Part 60 – National Register of Historic Places*.

10 Ibid.

to assess integrity, the NPS recognizes seven aspects or qualities that, considered together, define historic integrity. To retain integrity, a property must possess several, if not all, of these seven qualities, which are defined in the following manner in National Register Bulletin 15:

Location: the place where the historic property was constructed or the place where the historic event occurred;

Design: the combination of elements that create the form, plan, space, structure, and style of a property;

Setting: the physical environment of a historic property;

Materials: the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property.

Workmanship: the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory;

Feeling: a property's expression of the aesthetic or historic sense of a particular period of time;

Association: the direct link between an important historic event or person and a historic property.

Procedures for listing a property in the NRHP are outlined in Procedures for State, Tribal, and Local Government Historic Preservation Programs (36 C.F.R. § 61) and in Determinations of Eligibility for Inclusion in the National Register (36 C.F.R. § 63). The Secretary of the Interior's Professional Qualifications Standards for who is allowed to conduct cultural resources studies and evaluations are outlined in 36 C.F.R. § 61.

Procedures for artifact curation are noted in Curation of Federally Owned and Administered Archeological Collections (36 C.F.R. § 79) for artifacts recovered under the authority of the Antiquities Act (16 U.S.C. §§ 431- 433), the Reservoir Salvage Act (16 U.S.C. §§ 469-469c), Section 110 of the NHPA (16 U.S.C. § 470h-2), or the ARPA (16 U.S.C. §§ 470aa-mm).

National Historic Preservation Act of 1966 (NHPA)

The NHPA, as amended (54 U.S.C. § 470 *et seq*.), established guidelines to "preserve important historic, cultural, and natural aspects of our national heritage, and to maintain, wherever possible, an environment that supports diversity and a variety of individual choice." The NHPA includes requirements (Section 106) which pertain to all projects that are funded, permitted, or approved by any federal agency and which have the potential to affect cultural resources. Under the Section 106

consultation process (36 C.F.R. § 800 *et seq.*), federal agencies taking such actions are required to consult with the Advisory Council on Historic Preservation (ACHP), State Historic Preservation Officer (SHPO), local agencies, and Indian tribes, and avoid or mitigate adverse effects on National Register-listed or -eligible properties. Provisions of NHPA establish a National Register of Historic Places (National Register); see above for details.[11]

Archaeological and Historic Preservation Act of 1974

Passed and signed into law in 1974, The Archaeological and Historic Preservation Act of 1974 (AHPA), 16 U.S.C. § 469 *et seq.*) amended and expanded the Reservoir Salvage Act of 1960. The AHPA as amended requires that federal agencies provide for the preservation of historical and archaeological data (including relics and specimens) which might otherwise be irreparably lost or destroyed as the result of any alteration of the terrain caused by any federal construction project or federally-licensed activity or program.[12]

Archaeological Resources Protection Act of 1979

The ARPA (16 U.S.C.§ 470aa *et seq.*) applies when a project may involve archaeological resources located on federal or tribal land. ARPA requires that a permit be obtained before excavation of an archaeological resource on such land can take place.[13]

The American Indian Religious Freedom Act of 1978

The American Indian Religious Freedom Act of 1978 (AIRFA) (42 U.S.C. § 1996) proclaims that the US Government will respect and protect the rights of Indian tribes to the free exercise of their traditional religions; the courts have interpreted this as requiring agencies to consider the effects of their actions on traditional religious practices.

Native American Graves Protection and Repatriation Act of 1990

The Native American Graves Protection and Repatriation Act of 1990 (NAGPRA) (25 U.S.C. § 3001 *et seq.*) also applies if human remains of Native American origin are discovered on federal or tribal land. NAGPRA requires federal agencies and federally-assisted museums to return "Native American cultural

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11 National Park Service. *National Historic Preservation Act of 1966 as amended through 1992*. Available online at: https://www.nps.gov/history/local-law/nhpa1966.htm, accessed August 27, 2019.

12 National Park Service. *Archeological and Historic Preservation Act as Amended*. Available online at: https://www.nps.gov/history/local-law/FHPL_ArchHistPres.pdf, accessed August 27, 2019.

13 National Park Service. *The Archaeological Resources Protection Act of 1979 (ARPA).* Available online at: https://www.nps.gov/archeology/tools/Laws/ARPA.htm, accessed August 27, 2019.

items" to the federally recognized Indian tribes or Native Hawaiian groups with which they are associated. Regulations (43 C.F.R. Part 10) stipulate the following procedures be followed. If Native American human remains are discovered, the following provisions would be followed to comply with regulations:

- Notify, in writing, the responsible federal agency;
- Cease activity in the area of discovery and protect the human remains;
- Certify receipt of the notification;
- Take steps to secure and protect the remains;
- Notify the Native American tribes or tribes likely to be culturally affiliated with the discovered human remains within one working day; and
- Initiate consultation with the Native American tribe or tribes in accordance with regulations described in 43 C.F.R., Part 10, Subpart B, Section 10.5.

Archaeology and Historic Preservation; Secretary of the Interior's Standards and Guidelines

Offers non-regulatory technical advice about the identification, evaluation, documentation, study, and other treatment of cultural resources. Notable in these Guidelines are the Standards for Archaeological Documentation, Professional Qualifications Standards for Archaeology, and Standards for the Treatment of Historic Properties.

3.18.2.2 State

Office of Historic Preservation

As an office of the California Department of Parks and Recreation, the Office of Historic Preservation (OHP) implements the policies of the NHPA on a statewide level. The OHP also carries out the duties set forth in the Public Resources Code and maintains the California Historic Resources Inventory.

The State Historic Preservation Officer (SHPO) is an appointed official who implements historic preservation programs within the state's jurisdiction.

California Register of Historical Resources (California Register)

The California Register is "an authoritative listing and guide to be used by state and local agencies, private groups, and citizens in identifying the existing historical resources of the state and to indicate

which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change."[14] The criteria for eligibility for the California Register are based upon National Register criteria. These criteria are:

- Criterion 1 – Associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California of the United States;
- Criterion 2 – Associated with the lives of persons important to local, California or national history;
- Criterion 3 – Embodies the distinctive characteristics of a type, period, region or method of construction or represents the work of a master or possesses high artistic values; and
- Criterion 4 – Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation.

The California Register consists of resources that are listed automatically and those that must be nominated through an application and public hearing process. The California Register automatically includes the following:

- California properties listed in the National Register of Historic Places (Category 1 in the State Inventory of Historical Resources) and those formally Determined Eligible for listing in the National Register of Historic Places (Category 2 in the State Inventory);
- California Registered Historical Landmarks from No. 0770 onward; and
- Those California Points of Historical Interest that have been evaluated by the Office of Historic Preservation (OHP) and have been recommended to the State Historical Resources Commission for inclusion in the California Register.

Other resources which may be nominated for listing in the California Register include:

- Historical resources with a significance rating of Categories 3 through 5 in the State Inventory. (Categories 3 and 4 refer to potential eligibility for the National Register, while Category 5 indicates a property with local significance);
- Individual historical resources;
- Historical resources contributing to historic districts; and

14 Public Resources Code Section 50241 (e)

- Historical resources designated or listed as a local landmark.

Additionally, a historic resource eligible for listing in the California Register must meet one or more of the criteria of significance described above and retain enough of its historic character or appearance to be recognizable as a historic resource and to convey the reasons for its significance. Historical resources that have been rehabilitated or restored may be evaluated for listing.

California Public Resources Code, Sections 5097.5, 5097.9, 5097.98–99, and 50907.9

Section 5097.5 of the PRC defines as a misdemeanor the unauthorized disturbance or removal of archaeological, historical, or paleontological resources located on public lands. This Section also prohibits the knowing destruction of objects of antiquity without a permit (expressed permission) on public lands, and provides for criminal sanctions. In 1987, the Code was amended to require consultation with the California Native American Heritage Commission whenever Native American graves are found. It also established that violations for taking or possessing remains or artifacts are felonies.

PRC Section 5097.9 establishes the California Native American Heritage Commission to make recommendations to encourage private property owners to protect and preserve sacred places in a natural state and to allow appropriate access to Native Americans for ceremonial or spiritual activities. The Commission is authorized to assist Native Americans in obtaining appropriate access to sacred places on public lands, and to aid state agencies in any negotiations with federal agencies for the protection of Native American sacred places on federally-administered lands in California.

PRC sections 5097.98 through 5097.99 require that the Governor's California Native American Heritage Commission be consulted whenever Native American graves are found. According to these sections, it is illegal to take or possess remains or artifacts taken from Native American graves; however, it does not apply to materials taken before 1984. Violations occurring after January 1, 1988 are felonies.

PRC Section 50907.9 (Section 7050 of the Health and Safety Code) authorizes the NAHC to regulate Native American concerns regarding the excavation and disposition of Native American cultural resources. Among its duties, the Commission is authorized to resolve disputes relating to the treatment and disposition of Native American human remains and items associated with burials. Upon notification of the discovery of human remains by a county coroner, the Commission notifies the Native American group or individual most likely descended from the deceased. PRC 5097.98(b) requires that landowners ensure that the immediate vicinity (according to generally accepted cultural or archaeological standards of practices) are not damaged or disturbed by further development until the landowner has discussed and conferred with most likely descendants.

AB 52 and Tribal Cultural Resources

Approved by Governor Brown on September 25, 2014, AB 52 establishes a formal notification and, when requested, consultation process for California Native American Tribes to identify significant impacts to Tribal Cultural Resources (TCRs), as defined in PRC section 21074, as part of CEQA. Tribal cultural resources are defined in PRC section 21074, subdivision (a), as either: (1) sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are included or determined to be eligible for inclusion in the California Register of Historical Resources, or included in a local register of historical resources (as defined by statute); or (2) resources determined by the lead agency, and supported by substantial evidence, to be significant pursuant to subdivision (c) of Section 5024.1. If the following resources meet the requirements of subdivision (a), the they also be considered "tribal cultural resources": (1) a cultural landscape that is geographically defined in terms of the size and scope of the landscape; or (2) a historical resource described in Section 21084.1, or a unique archaeological resource defined in subdivision (g) of Section 21083.2, or a "nonunique archaeological resource" as defined in subdivision (h) of Section 21083.2.

In the project planning stage, AB 52 requires the Lead Agency to consult with any California Native American tribe that requests consultation and is traditionally and culturally affiliated with the geographic area of the proposed project, prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report. If the Lead Agency has not been contacted by any tribal parties who wish to consult on projects, the Lead Agency may contact the NAHC to obtain a list of traditionally and culturally affiliated groups affiliated with the geographic area of the proposed project to contact.

Consultation may include discussion concerning the type of environmental review necessary, the significance of the project's impacts on the tribal cultural resources, and, if necessary, project alternatives or the appropriate measures for preservation and mitigation that the California Native American tribe may recommend to the lead agency. The consultation should be considered concluded when either the parties agree to measures to mitigate or avoid a significant effect, if one exists, on a tribal cultural resource; or a party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached (PRC Section 21082.3.2[b]).

Pursuant to Government Code Sections 6254 and 6254.10, and PRC Section 21082.3(c), information submitted by a California Native American tribe during consultation under AB 52 should not be included in the environmental document or otherwise disclosed to the public by the lead agency, project applicant, or the project applicant's agent, unless written permission is given. Exemptions to the confidentiality provisions include any information already publicly available, in lawful possession of the project

applicant before being provided by the tribe, independently developed by the project applicant or the applicant's public agent, or lawfully obtained by a third party (PRC Section 21082.3[c]).

California Coastal Act

The California Coastal Act (CCA; PRC Sections 30000 et seq.) includes protection of archaeological resources into Land Conservation Plans that regulate land uses within the coastal zone.

California Health and Safety Code, Section 7050 and Sections 18950 through 18961

Consistent with the provisions of Section 50907.9 of the PRC, Section 7050 of the Health and Safety Code HSC) authorizes the NAHC to regulate Native American concerns regarding the excavation and disposition of Native American cultural resources. Among its duties, the Commission is authorized to resolve disputes relating to the treatment and disposition of Native American human remains and items associated with burials. Upon notification of the discovery of human remains by a county coroner, the Commission notifies the Native American group or individual most likely descended from the deceased.

The State Historic Building Code (HSC; Sections 18950–18961 provide alternative building regulations and building standards for the rehabilitation, preservation, restoration (including related reconstruction), or relocation of buildings or structures designated as historic buildings. Such alternative building standards and building regulations are intended to facilitate the restoration or change of occupancy so as to preserve their original or restored architectural elements and features, to encourage energy conservation and a cost-effective approach to preservation, and to provide for the safety of the building occupants.

California Penal Code Section 622 – Destruction of Historical Properties

This section of the California Penal Code makes it a misdemeanor for anyone (except the owner) to willfully injure or destroy anything of archaeological interest or value whether on private lands or within any public park or place. In addition, Penal Code Section 622.5 sets the penalties for the damage or removal of cultural resources.

Senate Bill 18 – Traditional Tribal Cultural Places

Senate Bill (SB) 18, enacted in 2004, requires local governments to consult with Native American groups at the earliest point in the local government land use planning process. The consultation intends to establish a meaningful dialogue regarding potential means to preserve Native American places of prehistoric, archaeological, cultural, spiritual, and ceremonial importance. It allows for tribes to hold conservation easements and for tribal cultural places to be included in open space planning.

Executive Order B-10-11

Executive Order B-10-11 states that it is the policy of the administration that every state agency and department subject to executive control is to encourage communication and consultation with California Native American tribes. It established the position of Governor's Tribal Advisor in the Office of the Governor of California. This position will serve as a direct link between the Governor's Office and tribal governments on matters including legislation, policy, and regulation.

3.18.2.3 Local

County General Plans

In addition to federal and state regulations, cities and counties in the SCAG region may also provide regulatory protection and advisement regarding cultural resources (**Table 3.18-3, County Policies and Ordinances Relevant to Tribal Cultural Resources in the SCAG Region**). California law requires that a general plan include seven elements (land use, open space, conservation, housing, circulation, noise, and safety). Many jurisdictions incorporate policies related to cultural and historical resources into the conservation element. Other jurisdictions choose to prepare a separate (optional) element dealing with cultural and/or historic preservation issues. Many jurisdictions also prepare ordinances addressing cultural resources and historic preservation.

Table 3.18-3
County Policies and Ordinances Relevant to Tribal Cultural Resources in the SCAG Region

County	County Policies and Ordinances
Imperial	Conservation and Open Space Element of General Plan
	Policy Numbers: Only one policy, Section IV.B.2
	Policies Specific to Archaeological Resources: Yes, brief
	Policies Specific to Paleontological Resources: No
	Policies Specific to Historic Resources: No
Los Angeles	Chapter 9: Conservation and Natural Resources Element of General Plan
	Policy Numbers: C/NR 14.1 – C/NR 14.6
	Policies Specific to Archaeological Resources: Yes, very brief
	Policies Specific to Paleontological Resources: Yes, very brief
	Policies Specific to Historic Resources: Yes, very brief
Orange	Chapter VI: Resources Element of General Plan
	Policy Numbers: Goals 1, 2 and 3, each with multiple policy numbers
	Policies Specific to Archaeological Resources: Yes, extensive
	Policies Specific to Paleontological Resources: Yes, extensive
	Policies Specific to Historic Resources: Yes, extensive
Riverside	Chapter 5: Multipurpose Open Space Element of General Plan
	Policy Numbers: 19.1 – 19.9
	Policies Specific to Archaeological Resources: Yes, brief
	Policies Specific to Paleontological Resources: Yes, brief
	Policies Specific to Historic Resources: Yes
San Bernardino	Conservation Element (Subchapter C2) of General Plan
	Policy Numbers: CO 3.1 – CO 3.18
	Policies Specific to Archaeological Resources: No – together with historic resources, extensive
	Policies Specific to Paleontological Resources: Yes, extensive
	Policies Specific to Historic Resources: No – together with archaeological resources, extensive
Ventura	Chapter 1: Resources (Subchapter 1.8) of General Plan
	Policy Numbers: 1 – 6
	Policies Specific to Archaeological Resources: Yes, Policies 1-3
	Policies Specific to Paleontological Resources: Yes, Policies 4 & 5
	Policies Specific to Historic Resources: Yes, Policy 6

City General Plans and Ordinances

In accordance with Sections 6530(c) and (d) of the California Government Code, like the six counties in the SCAG region, all cities are required to have a conservation element and an open space element, as mandatory elements of their general plans. Many city general plans have provisions for historic districts and protection of locally important cultural resources that may or may not meet the criteria for eligibility for listing in the NRHP or CRHR.

3.18.3 ENVIRONMENTAL IMPACTS

3.18.3.1 Thresholds of Significance

For the purposes of this PEIR, SCAG has determined that the Connect SoCal Plan could result in significant impacts to tribal cultural resources, if the project would cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

- Listed or eligible for listing in the California Register of Historical Resources, or in the local register of historical resources as defined in Public Resources. Code Section 5020.1(k); or

- A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

3.18.3.2 Methodology

The methodology for determining the significance of impacts to tribal cultural resources compares the existing conditions to the future (2045) Connect SoCal conditions, as required by *CEQA Guidelines* Section 15126.2(a). The known tribal cultural resources (i.e. historical or archeological), Native American sacred sites, and human remains located within the SCAG region were evaluated using criteria set forth by the OHP, the CRHR, and the State CEQA Guidelines. Native American sacred sites were analyzed using information provided by the NAHC from the SLF. The NAHC does not disclose the location or nature of the SLF listings, which limits the analysis to a count of resources within respective counties.

Nearly 50,000 archaeological resources have been identified in the SCAG region. Each of these sites is documented at an Archaeological Information Center, which holds location information on archaeological sites for each region in California. These known resources are limited to areas that have subject to various levels of research or investigation. Areas that have been subject to pedestrian surveys or sub-surface explorations represent only a fraction of the total area with the potential to yield such resources. Therefore, the analysis focuses on the potential for major transportation projects to necessitate ground-disturbing activities in areas where significant archeological resources have been previously recorded or require work in sediments that have not been previously investigated.

As described in **Section 3.18.2.1,** SWCA Environmental Consultants (SWCA) led the tribal consultation process undertaken by SCAG. SWCA contacted the NAHC to request a Sacred Lands File Search and CEQA Tribal Consultation List.

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

3.18.3.3 Impacts and Mitigation Measures

Impact TCR-1 **Cause a substantial adverse change in the significance of a tribal cultural resource defined in Public Resources Code section 21074 that is:**

a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or

b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1.

Significant and Unavoidable - Mitigation Required.

Transportation projects and anticipated growth under the Plan have the potential to cause a substantial adverse change in the significance of tribal cultural resources in the SCAG region, defined in Public Resources Code section 21074, as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe.

To assist in this analysis, pursuant to AB 52, SCAG contacted NAHC and is currently consulting with five parties – the Agua Caliente Band of Cahuilla Indians, the Fernandeño Band of Mission Indians, the Gabrieleno Band of Mission Indians – Kizh Nation, the Juaneño Band of Mission Indians Acjachemen

Nation, and the San Manuel Band of Mission Indians – who requested consultation and additional details. SCAG will be providing the cultural resources technical study to these parties once it is completed and will incorporate any information received from the parties as appropriate in the Final EIR.

Direct permanent impacts to TCRs (resources either listed or eligible for listing in the California Register of Historical Resources, or local register of historical resources, or resources determined by the lead agency to be significant) may result from ground disturbance associated with construction, such as grading and excavation. The development of new transportation facilities, construction of additional lanes, or the projected land use pattern stemming from the Plan may have a relatively higher potential to directly impact TCRs, primarily by grading or excavation in previously undisturbed soil and by the disturbance of buried resources that have not been previously identified. The potential for direct impacts to TCRs may be comparatively less for improvements to existing facilities and modifications to existing rights-of-way since these areas have been previously disturbed. Regardless of prior disturbance, however, any excavation has the potential to directly impact undocumented TCRs of an archaeological nature.

Tribal cultural resources are likely to be encountered near areas of prior Native American occupation and activity, which includes areas both within and outside areas of current development. Surficial archaeological deposits that are TCRs are more likely to be heavily disturbed within urban areas and more intact in rural settings; however, this does not preclude the presence of buried archaeological resources that may be significant in urban settings. Archaeological sites that may meet the TCR definition that have been buried below grade have no surface manifestations, making accurate prediction of their location during project planning problematic.

Direct permanent impacts would be significant if TCRs cannot be avoided or preserved in place by project design or redesign and are destroyed or substantially altered. Disturbance of TCR features or places would compromise the traditional use of or the cultural character and integrity of the resource and may result in a significant impact if its contributing characteristics or the character of its physical setting is destroyed or substantially altered. Permanent direct impacts may be addressed by advance project planning and consulting with tribes that have requested consultation to ensure known TCRs are avoided and preserved in place, or to develop project alternatives that would minimize impacts to known TCRs. Permanent direct impacts to TCRs of an archaeological nature discovered inadvertently during project construction may be addressed by project redesign to avoid and preserve the TCR, and by requested tribal consultation focused at minimizing the impact.

Permanent indirect impacts from construction and operational improvements may result from potential access-related damage to TCRs when public accessibility is increased due to changes in land use or new

or improved transportation networks stemming from the Plan. The likelihood of unauthorized artifact collecting and destruction (intentional or unintentional) of TCRs of an archaeological nature, or of damage to or destruction (intentional or unintentional) of TCRs that are traditional places for gathering natural resources, cultural landscapes or sacred places, increases with ease of access. Recreational use, overland vehicle travel, and vandalism would degrade the integrity and traditional use of the TCRs. Ensuring appropriate measures that would minimize or reduce damage to TCRs are devised during project planning, coupled with requested tribal consultation, may reduce indirect access-related impact.

While there are state requirements in place to minimize adverse impacts to TCRs, there is still the potential for access-related damage associated with construction and operation of projects under the Plan. Therefore, the potential direct regional impacts on TCRs related to the transportation projects and growth under the Plan could result in substantial alteration or removal of a TCR. Indirect impacts from access-related damage from construction projects and ongoing operations resulting from the Plan are also considered significant requiring the consideration of mitigation measures.

Mitigation Measures

SCAG Mitigation Measure

SMM TCR-1: Impacts to tribal cultural resources shall be minimized through cooperation, information sharing, and SCAG's ongoing regional planning efforts such as web-based planning tools for local governments including CA LOTS, and other GIS tools and data services, including, but not limiting to, Map Gallery, GIS library, and GIS applications; and direct technical assistance efforts and sharing of associated online Training materials. SCAG shall consult with the Native American Heritage Commission, as well as Native American tribes, to identify opportunities for early and effective consultation to identify tribal cultural resources to avoid such resources wherever practicable and feasible and reduce or mitigate for conflicts in compatible land use to the maximum extent practicable.

Project Level Mitigation Measures

See PMM CULT-1.

PMM TCR-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects on tribal cultural resources. Such

measures may include the following or other comparable measures identified by the Lead Agency:

a) Avoidance and preservation of the resources in place, including, but not limited to, planning and construction to avoid the resources and protect the cultural and natural context, or planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria;

b) Treating the resource with culturally appropriate dignity taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following: protecting the cultural character and integrity of the resource; protecting the traditional use of the resource; and protecting the confidentiality of the resource;

c) Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places; and protecting the resource.

Level of Significance after Mitigation

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

3.18.4 SOURCES

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3.19 UTILITIES AND SERVICE SYSTEMS

This section of the Program Environmental Impact Report (PEIR) describes the existing utilities and service systems in the SCAG region, identifies the regulatory framework with respect to laws and regulations that affect utilities and service systems, and analyzes the potential impacts of the Connect SoCal Plan ("Connect SoCal"; "Plan"). In addition, this PEIR provides regional-scale mitigation measures as well as project-level mitigation measures to be considered by lead agencies for subsequent, site-specific environmental review to reduce identified impacts as appropriate and feasible.

3.19.1 DEFINITIONS

To provide a context for analysis, definitions of terms used in the regulatory framework, characterization of baseline conditions, and impact analysis for utilities and service systems are provided below.

Nonhazardous Municipal Solid Waste: More commonly known as trash or garbage—consists of everyday items that are used and then thrown away, such as product packaging, grass clippings, furniture, clothing, bottles, food scraps, newspapers, appliances, paint, and batteries. This comes from homes, schools, hospitals, and businesses.

Regional Water Quality Control Board (RWQCB): There are nine RWQCBs in California. The RWQCBs protect ground and surface water quality and are responsible for implementing Water Quality Control Plans.[1]

Sanitary Landfill: Sanitary landfills are sites where waste is isolated from the environment until it is safe. It is considered safe when it has completely degraded biologically, chemically and physically.

Septic Tank: An underground vessel for treating wastewater from a single dwelling or building by a combination of settling and anaerobic digestion. Effluent is usually disposed of through a dispersal system which consists of one or a combination of leach fields, seepage pits, and/or subsurface drip dispersal system. Settled solids in septic tank are pumped out periodically and hauled to a treatment facility for disposal.

Storm Water and Stormwater: In layman's terms, stormwater is defined as an abnormal amount of surface water due to a heavy rain or snowstorm. The term "stormwater," instead of "storm water," is used when employed by the cited source of information. In all other instances, "stormwater" is used,

1 Water Education Foundation. *Regional Water Quality Control Boards in California.* Available online at: https://www.watereducation.org/aquapedia/regional-water-quality-control-boards-california, accessed September 4, 2019.

consistent with the provision of Appendix G of the *CEQA Guidelines* and as defined by the U.S. EPA. Stormwater runoff is generated when precipitation from rain and snowmelt events flows over land or impervious surfaces and does not percolate into the ground. As the runoff flows over the land or impervious surfaces (paved streets, parking lots, and building rooftops), it accumulates debris, chemicals, sediment, or other pollutants that could adversely affect water quality if the runoff is discharged untreated.[2]

Tier 1 Onsite Wastewater Treatment System (OWTS): Low Risk New or Replacement OWTS (Policy Section 7 & 8) applies to new or replacement OWTS that comply with conservative siting and design standards describe in the OWTS Policy. Tier 1 applies when a Local Agency Management Program (LAMP) has not been approved by the Regional Water Board. Maximum flow rate is 3,500 gallons per day (gpd).[3]

Tier 2 Onsite Wastewater Treatment System (OWTS): Local Agency Management Program (LAMP) for New or Replacement OWTS (OWTS Policy Section 9) applies to new or replacement OWTS that comply with the siting and design standards in an approved LAMP. LAMPs are developed by Local Agencies based on local conditions; siting and design standards may differ from Tier 1 standards. Maximum flow rate is 10,000 gpd.[4]

Tier 3 Onsite Wastewater Treatment System: Advanced Protection Management Program (OWTS Policy Section 10). Applies to OWTS located near impaired surface water bodies that are subject to a Total Maximum Daily Load (TMDL) implementation plan, a special provision contained in a LAMP, or is located within 600 feet of a water body listed on OWTS Attachment 2. Supplemental treatment requirements may apply to a Tier 3 system. Maximum flow rate is 10,000 gpd.[5]

Water Supply System: A water supply system is a system for the collection, transmission, treatment, storage and distribution of water from source to consumers, for example, homes, commercial establishments, industry, irrigation facilities and public agencies for water-related activities (firefighting, street flushing, and so forth).

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2 U.S. Environmental Protection Agency. *NPDES Stormwater Program*. Available online at: https://www.epa.gov/npdes/npdes-stormwater-program, accessed September 4, 2019.

3 California Water Boards. *Fact Sheet: Water Quality Control Policy for Siting, Design, Operation and Maintenance of Onsite Wastewater Treatment Systems (OWTS Policy)*. Available online at: https://www.waterboards.ca.gov/water_issues/programs/owts/docs/owts_fact_sheet_20180823.pdf, accessed September 4, 2019.

4 Ibid.

5 Ibid.

Wastewater: The spent or used water of a community or industry that contains dissolved and suspended matter.

3.19.1 SOLID WASTE

3.19.1.1 ENVIRONMENTAL SETTING

3.19.1.1.1 Existing Conditions

The majority of solid waste within the SCAG region is disposed of at landfills. Due to increased recycling and waste reduction initiatives, solid waste within the SCAG region has declined in recent years. CalRecycle's Solid Waste Information System (SWIS) tracks the total tonnage of solid waste disposed in 2018 (the most recent year for which data is available), by county. As shown below, in **Table 3.19.1-1, Solid Waste Tonnage within the SCAG Region (2018)**, the total amount of solid waste disposed of in the SCAG region was 19,550,712 tons in 2018.[1] This number includes waste trucked into the region from counties outside the SCAG boundaries.

Table 3.19.1-1
Solid Waste Tonnage within the SCAG Region (2018)

County	Total Tonnage
Imperial	305,522
Los Angeles	5,478,772
Orange	5,054,229
Riverside	4,899,025
San Bernardino	1,908,462
Ventura	1,908,462
Total	**19,550,712**

Source:
CalRecycle. 2019. Landfill Tonnage Reports. Available online at: https://www2.calrecycle.ca.gov/LandfillTipFees/, accessed September 5, 2019.

Solid Waste Management Departments

Landfills

A landfill is a waste management unit at which waste is discharged in or on land for disposal. Landfills do not include surface impoundment, waste pile, land treatment unit, injection well, or soil

1 This is approximately half the total solid waste disposed of in California in 2018.

amendments.[2] Landfills that receive solid waste in the SCAG region are listed in **Table 3.19.1-2** below.

Table 3.19.1-2
Active Solid Waste Landfills by SCAG County

County	Name
Imperial	Calexico Solid Waste Site
Imperial	Niland Solid Waste Site
Imperial	Salton City Solid Waste Site
Imperial	Imperial Landfill
Imperial	Monofill Facility
Imperial	Mesquite Regional Landfill
Los Angeles	Scholl Canyon Landfill
Los Angeles	Burbank Landfill Site No. 3
Los Angeles	Lancaster Landfill and Recycling Center
Los Angeles	Chiquita Canyon Sanitary Landfill
Los Angeles	Calabasas Landfill
Los Angeles	Pebbly Beach (Avalon) Disposal Site
Los Angeles	San Clemente Island Landfill
Los Angeles	ABC Waste Management Unpermitted D.S.
Los Angeles	Sunshine Canyon City/County Landfill
Los Angeles	Antelope Valley Public Landfill
Los Angeles	Savage Canyon Landfill
Orange	Prima Deshecha Sanitary Landfill
Orange	Olinda Alpha Sanitary Landfill
Orange	Frank R. Bowerman Sanitary LF
Riverside	Badlands Sanitary Landfill
Riverside	Lamb Canyon Sanitary Landfill
Riverside	Oasis Sanitary Landfill
Riverside	Desert Center Landfill
Riverside	Blythe Sanitary Landfill
Riverside	Mecca Landfill II
Riverside	El Sobrante Landfill
Riverside	Philadelphia Recycling Mine
San Bernardino	California Street Landfill
San Bernardino	Oro Grande Kiln Waste Dust Dump
San Bernardino	Victorville Sanitary Landfill
San Bernardino	Barstow Sanitary Landfill
San Bernardino	Mid-Valley Sanitary Landfill

2 California Department of Resources Recycling and Recovery (CalRecycle). *Permitting Landfills and Disposal Sites*. Available online at: https://www.calrecycle.ca.gov/swfacilities/permitting/facilitytype/landfill#Definitions, accessed January 14, 2019.

County	Name
San Bernardino	Landers Sanitary Landfill
San Bernardino	USMC - 29 Palms Disposal Facility
San Bernardino	Fort Irwin Sanitary Landfill
San Bernardino	Mitsubishi Cement Plant Cushenbury L.F.
San Bernardino	San Timoteo Sanitary Landfill
Ventura	Toland Road Landfill
Ventura	Simi Valley Landfill & Recycling Center
Total	**40**

Source: CalRecycle. 2019. SWIS Facility/ Site Search. Available online at: https://www2.calrecycle.ca.gov/SWFacilities/Directory/, accessed September 5, 2019.

Transfer Stations

Similar to the landfills, transfer stations accept trash for disposal. There are six county operated transfer stations. These stations accept waste of various types including general refuse and wood and green waste depending on size with flat and volume rates applying. These facilities collect material that is then "transferred" to be recycled or to the nearest landfill site. While not as all-inclusive as a landfill, transfer stations provide a broad collection opportunity for local residents.

Table 3.19.1-3, Active Transfer Stations by SCAG County, identifies active transfer stations within the region.

Table 3.19.1-3
Active Transfer Stations by SCAG County

County	Number of Active Transfer Stations
Imperial	5
Los Angeles	141
Orange	56
Riverside	49
San Bernardino	36
Ventura	11
Total	**298**

Source: CalRecycle. 2018. SWIS Facility/ Site Search. Available online at: https://www2.calrecycle.ca.gov/SWFacilities/Directory/, accessed January 14, 2018.

Waste Diversion and Recycling

The California Integrated Waste Management Act of 1989 (Chapter 1095, Statutes of 1989) requires every city and county, as part of the Countywide Integrated Waste Management Plan, to prepare a Source Reduction and Recycling Element that identifies how each jurisdiction would meet the mandatory state waste diversion goals of 50 percent of all solid waste through source reduction, recycling, and composting activities. The 50 percent diversion requirement is measured in terms of per-capita disposal expressed as pounds per person per day. CalRecycle calculates per-capita disposal for all counties and jurisdictions to monitor the success of program implementation, actual recycling, and other diversion programs.[3]

3.19.1.2 REGULATORY FRAMEWORK

3.19.1.2.1 Federal

Resource Conservation and Recovery Act of 1976

Subtitle D of the Resource Conservation and Recovery Act of 1976 (RCRA) (42 USC Section 6901 *et seq.*), focuses on state and local governments as the primary planning, regulating, and implementing entities for the management of non-hazardous solid waste, such as household garbage and nonhazardous industrial solid waste.[4] To promote the use of safer units for solid waste disposal, Subtitle D provides regulations for the generation, transportation, and treatment, storage, or disposal of hazardous wastes. EPA developed federal criteria for the proper design and operation of municipal solid waste landfills and other solid waste disposal facilities, but state and local governments are the primary planning, permitting, regulating, implementing, and enforcement agencies for management and disposal subject to approval by EPA.[5] EPA approved the State of California's program, a joint effort of the CIWMB, SWRCB, RWQCBs, and LEAs, on October 7, 1993.

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3 CalRecycle. 2018. *Goal Measurement*. November. Available online at: https://www.calrecycle.ca.gov/LGCentral/GoalMeasure/, accessed January 14, 2018.

4 U.S. Environmental Protection Agency. 2019. *Summary of the Resource Conservation and Recovery Act*. Available online at: https://www.epa.gov/laws-regulations/summary-resource-conservation-and-recovery-act, accessed August 28, 2019.

5 U.S. Environmental Protection Agency. 2019. *Non-hazardous Waste.* Available online at: https://www.epa.gov/rcra/resource-conservation-and-recovery-act-rcra-regulations#nonhaz, accessed August 28, 2019.

3.19.1.2.2 State

California Integrated Waste Management Act

As many of the landfills in the state are approaching capacity and the siting of new landfills becomes increasingly difficult, the need for source reduction, recycling, and composting has become readily apparent. In response to this increasing solid waste problem, in September 1989 the state assembly passed Assembly Bill 939, known as the California Integrated Waste Management Act. This statute emphasizes conservation of natural resources through the reduction, recycling and reuse of solid waste. Assembly Bill 939 required cities and counties in the state to divert 25 percent of their solid waste stream from landfills by 1995 and 50 percent by year 2000, or face potential fines of millions of dollars per year. In 2008, the California Integrated Waste Management Act also requires that all cities conduct a Solid Waste Generation Study and prepare a Source Reduction Recycling Element.

AB 939 established CalRecycle. The purpose was to direct attention to the increasing waste stream and decreasing landfill capacity, and to mandate a reduction of waste being disposed. All jurisdictions were required to meet diversion goals of 25 percent by 1995 and 50 percent by the year 2000. A disposal reporting system was established with CalRecycle oversight, facility and program planning was required, and cities and counties began to address waste problems.[6]

AB 341 (Chapter 476, Statutes of 2011) established a statewide goal to reduce, recycle, or compost at least 75 percent of solid waste by 2020. AB 341 also requires local jurisdictions to implement commercial recycling programs to divert recyclable material away from landfills and required commercial generators and multi-family residences to arrange for recycling services starting in 2012.[7]

AB 2020 The California Bottle Bill

AB 2020 (Public Resources Code Section 14500 *et seq.*) took effect in 1987 as litter prevention legislation. At present, the minimum refund value established for each type of eligible beverage container is 5 cents for each container under 24 ounces and 10 cents for each container 24 ounces or greater.[8]

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6 CalRecycle. 2018. *History of California Solid Waste Law, 1985-1989.* Available online at: https://www.calrecycle.ca.gov/laws/legislation/calhist/1985to1989, accessed August 28, 2019.

7 CalRecycle. 2019. *Mandatory Commercial Recycling.* Available online at: https://www.calrecycle.ca.gov/recycle/commercial, accessed August 28, 2019.

8 California Legislature. 2017. *An Overview of California's Beverage Container Recycling (Bottle Bill) Program*.

SB 20 Electronic Waste "E-Waste" Recycling

SB 20 (Public Resources Code Section 42460 *et seq.*) was signed in September of 2003; it establishes a system to recycle computers, TVs, and other video display devices (known as electronic waste) when they reach their end-of-life. Fees are collected from consumers at point of purchase to fund recycling programs.[9]

AB 2901 – Cell Phone Recycling

AB 2901 Public Resources Code Section 42490 *et seq.* was signed into law on September 29, 2004. It requires all cell phone retailers to take back used cell phones for recycling at no charge to the customer.[10]

AB 2449 and SB 270 - Plastic Bag Recycling

Adopted in 2006, AB 2449 (Chapter 845, Statutes of 2006) requires all California grocery stores to take back and recycle plastic grocery bags. The bill also requires retailers to provide consumers with a bag reuse opportunity by providing reusable bags which can be purchased and used in lieu of disposable ones.[11]

Many cities and counties have adopted plastic bag ordinances. SB 270 of 2014 (Chapter 850, Statutes of 2014) established a statewide prohibition on the sale or distribution of single-use carryout plastic bags in grocery stores and pharmacies, convenience food stores, and food marts. Retailers must charge customers at least 10 cents to buy a recycled paper bag or reusable grocery bag.[12] A referendum to repeal this law failed in the November 2016 election.

Solid Waste: Diversion Rule (AB 341)

Under commercial recycling law (Chapter 476, Statutes of 2011), Assembly Bill (AB) 341, directed CalRecycle to develop and adopt regulations for mandatory commercial recycling. The final regulation was approved by the Office of Administrative Law on May 7, 2012. AB 341 declared a policy goal of the state that not less than 75 percent of solid waste generated be source reduced, recycled, or composted by the year 2020.[13]

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9 CalRecycle. 2019. *Electronic Waste Recycling Act of 2003*. Available online at: https://www.calrecycle.ca.gov/electronics/act2003, accessed August 28, 2019.

10 California Legislative Information. *Assembly Bill No. 2901*.

11 California Legislative Information. *Assembly Bill No. 2449*.

12 California Legislative Information. *Senate Bill No. 270*.

13 California Legislative Information. *Assembly Bill No. 341*.

Assembly Bill 2675

Adopted in 2014, AB 2675 (Chapter 617, Statues of 2014) requires each state agency to ensure that at least 75% of reportable purchases are recycled products on and after January 1, 2020 with exception to paint, antifreeze, and tires.[14]

Assembly Bill 1045

Adopted in 2015, AB 1045 (Chapter 596, Statutes of 2015) requires the California Environmental Protection Agency (Cal EPA) in coordination with CalRecycle, the State Water Resources Control Board, CARB, and the Department of Food and Agriculture to develop and implement policies to aid in diverting organic waste from landfills with the goal of reducing at least 5 million metric tons of GHG emissions per year.[15]

Senate Bill 1383

Adopted in 2016, SB 1383 (Chapter 395, Statutes of 2016) requires the California Air Resources Board (CARB) to approve and implement a comprehensive strategy to reduce short-living GHG pollutants in organic waste landfills to achieve a 40% reduction in methane, 40% reduction in hydrofluorocarbon gases, and a 50% reduction in anthropogenic black carbon by 50% below 2013 levels by 2030. SB 1383 also requires CARB, in consultation with the Department of Food and Agriculture, to adopt regulations to reduce methane emissions from livestock and dairy manure management operations.[16]

In response to SB 1383, CalRecycle developed the Short-Lived Climate Pollutants: Organic Waste Reductions strategy, which proposes a series of strategies and requirements to reduce methane emissions from organic waste. Strategies include maintaining a list of food recovery organizations, public outreach, and specific bin requirements.[17]

Lead-Acid Battery Recycling Act of 2016 (AB 2153)

Adopted in 2016, AB 2153 (Chapter 666, Statues of 2016) updates the current law regarding the disposing of a lead-acid battery and creates numerous requirements related to lead-acid batteries. Some of these requirements include: starting April 2017, a $1 fee on both consumers and manufacturers of lead-acid

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14 California Legislative Information. 2014. *Assembly Bill No. 2675*.

15 California Legislative Information. 2015. *Assembly Bill No. 1045*.

16 California Legislative Information. 2016. *Senate Bill No. 1383*.

17 CalRecycle. 2019. *Short-Lived Climate Pollutants (SLCP): Organic Waste Reductions*. Available online at: https://www.cacities.org/Resources-Documents/Policy-Advocacy-Section/Regulations/PropTextJune2019-(1).aspx, accessed October 31, 2019.

batteries; 2022, the fee to consumers will increase to $2 and the fee to manufacturers will be eliminated; creates the Lead-Acid Battery Clean-Up Fund; and require dealers to charge consumers a refundable deposit for new lead-acid batteries.[18]

Assembly Bill 1250

Adopted in 2016, AB 1250 (Chapter 861, Statues of 2016) requires plastic beverage containers subject to the California Redemption Value to report to CalRecycle the amount of virgin plastic and postconsumer recycled plastic used by the manufacturer for plastic CRV-eligible beverages solid within the state.[19]

Title 14, California Code of Regulations, Division 7

CalRecycle regulations pertaining to nonhazardous waste management in California include minimum standards for solid waste handling and disposal; regulatory requirements for composting operations; standards for handling and disposal of asbestos containing waste; resource conservation programs; enforcement of solid waste standards and administration of solid waste facility permits; permitting of waste tire facilities and waste tire hauler registration; special waste standards; used oil recycling program; electronic waste recovery and recycling; planning guidelines and procedures for preparing, revising, and amending countywide IWMP; and solid waste cleanup program.[20]

Title 27, California Code of Regulations, Environmental Protection, Division 2, Solid Waste

CalRecycle and the SWRCB jointly issue regulations pertaining to waste disposal on land, including criteria for all waste management units, facilities and disposal sites; documentation and reporting; enforcement, financial assurance; and special treatment, storage, and disposal units.[21]

2016 California Green Building Standard Code

The California Green Building Standards Code (California Code of Regulations, Title 24, Part 11), commonly referred to as the CALGreen Code, is a statewide mandatory construction code that was developed and adopted by the California Building Standards Commission and the California Department of Housing and Community Development in 2008. The purpose of this code is to improve public health, safety and general welfare by enhancing the design and construction of buildings through the use of

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18 California Legislative Information. 2016. *Assembly Bill No, 2153.*

19 CalReycle. *History of California Solid Waste Law, 2015-2019.*

20 California Code of Regulations. *Title 14. Natural Resources – Division 7.*

21 California Code of Regulations. 2019. *Title 27 Environmental Protection, Division 2, Solid Waste*

building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices including recycling of construction (diversion of 50 percent) and other waste streams.[22]

The California Universal Waste Law

Special laws and regulations pertain to disposal of universal waste. (22 Cal. Code Regs. § 66260 *et seq.*) Examples of universal wastes are batteries, fluorescent tubes, and some electronic devices, that contain mercury, lead, cadmium, copper, and other substances hazardous to humans and the environment. Universal waste cannot be disposed in solid waste landfills. Rather, universal wastes can be recycled. Recycling requirements are less stringent than those of other hazardous wastes to encourage recycling and recovery of valuable metals.

California Solid Waste Reuse and Recycling Act

The California Solid Waste Reuse and Recycling Act of 1991 (Pub. Res. Code §§ 42900-42901) was enacted to assist local jurisdictions with accomplishing the goals of AB 939. In accordance with AB 2176, any development project that has submitted an application for a building permit must include adequate, accessible areas for the collection and loading of recyclable materials. Furthermore, the areas to be utilized must be adequate in capacity, number, and distribution to serve the proposed project. Moreover, the collection areas are to be located as close to existing exterior refuse collection areas as possible. [23]

3.19.1.2.3 Local

Countywide Integrated Waste Management Plan

Counties are required to prepare and submit to CalRecycle an integrated waste management plan which includes all Source Reduction and Recycling Element (SRREs), all Household Hazardous Waste Element (HHWEs), a Countywide Siting Element (CSE), all Non-Disposal Facility Elements (NDFEs), all applicable Regional SRREs, HHWEs. Public Resources Code Section 41751 requires that a countywide integrated waste management plan include a summary of significant waste management problems facing the county or city. The plan is required to provide an overview of the specific steps that will be taken by local agencies, acting independently and in concert, to achieve the purposes of this division. The plan is required to contain a statement of the goals and objectives set forth by the countywide task force.[24]

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22 California Building Standards Commission. 2017. *2016 California Green Building Standards Code.*,

23 California Legislative Information. *Article 1. Short Title and Findings and Declarations [42900-42901].*

24 California Legislative Information. *Article 1. Plan Preparation [41750-41751], Section 41751.*

Source Reduction and Recycling Element

The SRRE consists of the following components: waste characterization, source reduction, recycling, composting, solid waste facility capacity, education and public information, funding, special waste and integration. Each city and county is required to prepare, adopt, and submit to the California Department of Resources Recycling and Recovery (CalRecycle) an SRRE, which includes a program for management of solid waste generated within the respective local jurisdiction. The SRREs must include an implementation schedule for the proposed implementation of source reduction, recycling, and composting programs. In addition, the plan identifies the amount of landfill and transformation capacity that will be needed for solid waste which cannot be reduced, recycled, or composted.[25]

Household Hazardous Waste Element

Cities and counties are required to prepare, adopt, and submit to CalRecycle, a HHWE that identifies a program for the safe collection, recycling, treatment, and disposal of hazardous wastes that are generated by households. The HHWE specifies how household hazardous wastes generated by households within the jurisdiction must be collected, treated, and disposed of.[26]

Non-Disposal Facility Element (NDFE)

Cities and counties are required to prepare, adopt and submit to CalRecycle, an NDFE that includes a description of new facilities and expansion of existing facilities, and all solid waste facility expansions (except disposal and transformation facilities) that recover for reuse at least 5 percent of the total volume. The NDFE are to be consistent with the implementation of a local jurisdiction's SRRE. Each jurisdiction must also describe transfer stations located within and outside of the jurisdiction, which recover less than 5 percent of the material received.[27]

Countywide Siting Element (CSE)

Counties are required to prepare a CSE that describes areas that may be used for developing new disposal facilities. The element also provides an estimate of the total permitted disposal capacity needed

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25 CalRecycle. 2018. *Source Reduction and Recycling Element Adequacy*. Available online at: https://www.calrecycle.ca.gov/LGCentral/Library/Policy/CIWMPEnforce/Part1/SRREAdq/, accessed August 28, 2019.

26 CalRecycle. 2018. *Household Hazardous Waste Element (HHWE) Adequacy*. Available online at: https://www.calrecycle.ca.gov/LGCentral/Library/Policy/CIWMPEnforce/Part1/HWWEAdq/, accessed August 28, 2019.

27 CalRecycle. 2018. *Nondisposal Facility Element Adequacy.* Available online at: https://www.calrecycle.ca.gov/LGCentral/Library/Policy/CIWMPEnforce/Part1/NDFEAdq/, accessed August 28, 2019.

for a 15-year period if counties determine that their existing disposal capacity will be exhausted within 15 years or if additional capacity is desired (PRC Sections 41700-41721.5).[28]

General Plans

Local policies related to utilities and service systems are established in each jurisdiction's general plan. In general, jurisdictions have policies in place that state that utility and service systems must be provided at the same time (or in advance of) need. In addition to these general policies, jurisdictions may have more specific policies tailored to performance objectives including solid waste services. For further guidance regarding solid waste, some jurisdictions also produce an Integrated Waste Management Plan.

3.19.1.3 ENVIRONMENTAL IMPACTS

3.19.1.3.1 Thresholds of Significance

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

- Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals;
- Comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

3.19.1.3.2 Methodology

The methodology for determining the significance of impacts utilities and service systems compares existing conditions to the expected future use of landfills with the Plan. Factors such as existing capacity and expected demand (based on population and land use patterns) are reviewed at the regional level. The criteria above were applied to compare current conditions to future 2045 Plan conditions.

Implementation of Connect SoCal would affect the use of utility and service systems in the SCAG region. The analysis of these impacts is programmatic at the regional level. With regard to solid waste, the Plan's potential to exceed capacity of local infrastructure as well as compliance with applicable statutes and regulations were analyzed to determine whether or not there will be a significant impact.

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28 CalRecycle. 2018. *Countywide Siting Element Adequacy*. Available online at: https://www.calrecycle.ca.gov/LGCentral/Library/Policy/CIWMPEnforce/Part1/CSEAdq/, accessed August 28, 2019.

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

3.19.1.3.3 Impacts and Mitigation Measures

Impact USSW-1 **Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals**

Impact USSW-2 **Comply with federal, state, and local management and reduction statutes and regulations related to solid waste.**

Significant and Unavoidable – Mitigation Required.

Many of the transportation projects within the Plan have the potential to generate a substantial amount of solid waste during construction through grading and excavation activities, as well as debris resulting from removal of structures. Construction of development projects anticipated to occur during implementation of the Plan, would generate similar debris. Construction debris could be recycled or used as fill at other projects (clean dirt) or transported to the nearest landfill site and disposed of appropriately.

Although there are 40 landfills that serve the SCAG region **(Table 3.19.1-2, Active Solid Waste Landfills by SCAG County)**, the lifetime of many of these landfills does not extend out 25 years. The total population is expected to grow by approximately 3.2 million across the SCAG region by 2045 resulting in substantial generation of solid waste (**Table 3.14-8, 2019-2045 Population, Households, and Employment Projections in the SCAG Region**). CalRecycle estimates that the average resident in California disposes of 5.2 pounds of trash per day and the average employee disposes of 11.9 pounds of trash per day, as of 2017. From 1989 to 2012, solid waste generation per employee and resident in California was reduced by approximately half in large part due to compliance with AB 939.[29] AB 341 requires 75 percent diversion

29 CalRecycle. 2019. California Statewide per Resident, per Employee, and Total Disposed Since 1989. http://www.calrecycle.ca.gov/lgcentral/goalmeasure/disposalrate/graphs/disposal.htm, accessed September 5, 2019.

by 2020 as compared to 2000.[30] Because 2017 solid waste generation already reflects some reductions from AB 341 (which was implemented in 2012), an 18 percent reduction from the 2017 number was assumed for future years. This equates to approximately 4.2 pounds of trash per day for residences and 9.7 pounds of trash per day for employees in 2045. Because people both live and work in the region, calculating waste for total residents and total employees likely overestimates waste generation.

These solid waste generation rates were used to calculate the solid waste generated in 2045. As discussed above, solid waste generation per capita had been decreasing steadily each year, until 2013 when they began to rise again. Despite recent increases, it is expected that solid waste generation will return to a decreasing trend in the future due to sustainable policies and practices. As shown in **Table 3.19.1-4, Solid Waste Generated in the SCAG Region,** assuming solid waste generation for both residents and employees according to the factors discussed above, the waste generated per day in the SCAG region under the Plan in 2045 could be up to 96,001 tons per day as compared to 89,014 tons per day in 2019.[31] However, as noted above, because the calculation is for residents and employees likely there is some double counting in the calculated numbers shown in the table.

30 AB 341 requires a 75% reduction by 2020.

31 In order to estimate the amount of waste generated by residents and employees in 2019 and 2045, it was assumed that an even percentage of waste has been reduced from 2012 to 2020 to meet the AB 341 requirement. Therefore, each year represents a reduction of 6.25% (50% / 8 years = 6.25%/year). Based on this assumption, 2017's estimated waste stream will have already met 31.25% of the required reduction (6.25%/year x 5 years = 31.25%). From 2017 to 2019, an additional 12.5% of waste would be reduced (6.25%/year x 2 years = 12.5%). As a result, 2017 residential and employment per capita waste generation is reduced by approximately 12.5%, resulting in a 2019 residential waste generation of 4.55 lbs/day and an employment waste generation of 10.4 lbs/day. From 2019 to 2020, an additional 6.25% of waste would be reduced (18.75% reduction from 2017), resulting in a 2020 residential waste generation of 4.2 lbs/day and an employment waste generation of 9.7 lbs/day.

Table 3.19.1-4
Solid Waste Generated in the SCAG Region

Year	Number of People	Solid Waste Generation Rate (lbs/day) [a]	Solid Waste Generated (tons/day)
Population			
2019	19,339,700	4.55	43,998
2045	22,507,200	4.2	47,265
Employment			
2019	8,657,000	10.4	45,016
2045	10,048,700	9.7	48,736
Population and Employment			
2019 Total			**89,014**
2045 Total			**96,001**

a California Statewide per Resident, per Employee, and Total Disposed 1989-2017. http://www.calrecycle.ca.gov/lgcentral/goalmeasure/disposalrate/graphs/disposal.htm, accessed September 5, 2019 Assumes an even reduction in solid waste from 2012 to 2020. This table overestimates waste generated as people both live and work within the region.

Source: SCAG modeling, 2019; Impact Sciences, 2019.

The maximum daily disposal for the 40 landfills in the SCAG region is calculated to be 152,155 tons/day as of 2019. However, only 18 of the landfills are currently anticipated to be operational in 2045 with a combined daily disposal of 61,459 tons/day.[32] Therefore, the anticipated solid waste generated could exceed the projected landfill capacity resulting in a significant impact. Mitigation is required.

Plan projects would be required to comply with federal, state, and local statues and regulations related to solid waste, including county and city general plans. Local jurisdictions also have goals and policies for recycling and diversion of solid waste to ensure compliance with the California Integrated Waste Management Act (AB 939), the California Solid Waste Reuse and Recycling Act, and the Solid Waste Diversion Rule (AB 341). Local governments submit an annual report to CalRecycle on the implementation of waste diversion plans to comply with their respective per capita disposal targets. CalRecycle reviews each local government's progress in implementing its unique diversion program and progress in sustaining or achieving compliance. CalRecycle may refer some local governments for a compliance evaluation review, although the number of local governments referred is generally less than 1 percent. If a more thorough analysis reveals a jurisdiction is not meeting the "good faith" standard for implementing its diversion programs or for reaching per capita disposal targets, CalRecycle will issue a

32 CalRecycle. 2019. SWIS Facility/Site Search. Available online at: https://www2.calrecycle.ca.gov/swfacilities/Directory/13-AA-0004/Index, accessed September 5, 2019.

compliance order. If the jurisdiction fails to fulfill its implementation plan to correct the program deficiencies, then the jurisdiction will be subject to penalties.

There are also multiple additional laws aimed at reducing solid waste in California including, AB 1826 which sought to greatly reduce the amount of organic material deposited into landfills by further mandating waste recycling services for organic material. At the beginning of 2016, local jurisdictions were required under AB 1826 to implement an organic waste recycling program and measure and monitor their efforts. Also, Section 5.408 "Construction Waste Reduction, Disposal and Recycling" of the 2016 California Green Building Standards code (CalGreen) requires all new construction and demolition projects to develop a Construction Waste Management Plan which recycles or salvages a minimum of 65% of non-hazardous construction and demolition waste.

Transportation projects contained in the Plan and development projects anticipated to occur under the Plan would be required to comply with AB 341, as well as the additional laws sited above which would further reduce anticipated solid waste generation. However, due to the volume of solid waste debris expected to be generated with implementation of the Plan and lack of identified landfill capacity, impacts would be significant requiring mitigation measures.

Mitigation Measures

SCAG Mitigation Measures

SMM USSW-1: During the planning, design, and project-level CEQA review process for individual development projects, SCAG shall coordinate with waste management agencies and the appropriate local and regional jurisdictions to facilitate the development of measures and to encourage diversion of solid waste such as recycling and composting programs, as needed. This includes discouraging siting of new landfills unless all other waste reduction and prevention actions have been fully explored to minimize impacts to neighborhoods.

SMM USSW-2: SCAG shall coordinate with waste management agencies, and the appropriate local and regional jurisdictions, measures to facilitate and encourage diversion of solid waste such as recycling and composting programs.

Project Level Mitigation Measures

PMM USSW-2: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce the generation of solid waste, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

Integrate green building measures consistent with CALGreen (California Building Code Title 24) into project design including, but not limited to the following:

a) Reuse and minimization of construction and demolition (C&D) debris and diversion of C&D waste from landfills to recycling facilities.

b) Inclusion of a waste management plan that promotes maximum C&D diversion.

c) Source reduction through (1) use of materials that are more durable and easier to repair and maintain, (2) design to generate less scrap material through dimensional planning, (3) increased recycled content, (4) use of reclaimed materials, and (5) use of structural materials in a dual role as finish material (e.g., stained concrete flooring, unfinished ceilings, etc.).

d) Reuse of existing structure and shell in renovation projects.

e) Development of indoor recycling program and space.

f) Discourage the siting of new landfills unless all other waste reduction and prevention actions have been fully explored. If landfill siting or expansion is necessary, site landfills with an adequate landfill-owned, undeveloped land buffer to minimize the potential adverse impacts of the landfill in neighboring communities.

g) Discourage exporting of locally generated waste outside of the SCAG region during the construction and implementation of a project. Encourage disposal within the county where the waste originates as much as possible. Promote green technologies for long-distance transport of waste (e.g., clean engines and clean locomotives or electric rail for waste-by-rail disposal systems) and consistency with SCAQMD and Connect SoCal policies can and should be required.

h) Encourage waste reduction goals and practices and look for opportunities for voluntary actions to exceed the 80 percent waste diversion target.

i) Encourage the development of local markets for waste prevention, reduction, and recycling practices by supporting recycled content and green procurement policies, as well as other waste prevention, reduction and recycling practices.

j) Develop ordinances that promote waste prevention and recycling activities such as: requiring waste prevention and recycling efforts at all large events and venues; implementing recycled content procurement programs; and developing opportunities to divert food waste away from landfills and toward food banks and composting facilities.

k) Develop and site composting, recycling, and conversion technology facilities that have minimum environmental and health impacts.

l) Integrate reuse and recycling into residential industrial, institutional and commercial projects.

m) Provide education and publicity about reducing waste and available recycling services.

n) Implement or expand city or county-wide recycling and composting programs for residents and businesses. This could include extending the types of recycling services offered (e.g., to include food and green waste recycling) and providing public education and publicity about recycling services.

Level of Significance after Mitigation

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

infrastructure and consistency with plans could be significant and unavoidable even with implementation of mitigation.

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3.19.2 WASTEWATER

3.19.2.1 EXISTING CONDITIONS

Wastewater is defined as water that contains wastes from residential, commercial, and industrial processes. Sewage, gray water, and industrially polluted discharges can all be categorized as wastewater. Within the SCAG region, wastewater is generally conveyed through the storm drain and sanitary sewer systems.

3.19.2.1.1 Wastewater Treatment Facilities

Wastewater treatment is generally performed in three stages: primary treatment, secondary treatment, and tertiary treatment. During primary treatment, materials sink to the bottom of tanks and then microbes eat the organic material and settle out in the secondary treatment tanks. Tertiary treatment occurs last, in which remaining pollutants are filtered out via sand and coal. Along with the additions of disinfectant chemicals like chlorine and careful testing and monitoring, this process treats water to an acceptable level to be returned into natural water bodies or recycled for irrigation, industrial, and agricultural uses. More recently, advanced treatment techniques have achieved level of cleanliness that allows highly purified recycled water to recharge underground aquifers.[1]

A majority of wastewater within the SCAG region is treated by one of the 67 major wastewater treatment facilities in the area. Such facilities are often located in densely populated areas and in close proximity to bodies of water for simple discharge of treated water. Within each SCAG county, various smaller municipal wastewater systems and agencies manage wastewater from cities on a smaller scale, and private on-site sewage disposal systems are also available to serve wastewater generators without access to a municipal system. **Table 3.19.2-1, Major Wastewater Treatment Facilities in the SCAG Region,** lists the 67 large-scale facilities managing wastewater within the region, which have a combined design flow of approximately 3,088 millions of gallons per day (mgd).

1 Los Angeles County Sanitation Districts (LACSD). 2018. Wastewater Treatment and Water Reclamation. Available online at: https://www.lacsd.org/wastewater/wwfacilities/moresanj.asp, accessed January 14, 2019.

Table 3.19.2-1
Major Wastewater Treatment Facilities in the SCAG Region

County	Design Flow (mgd)
Imperial	**22.21**
Brawley City WWTP	6
Calexico City WWTP	4.3
Calipatria City WWTP	1.7
El Centro City WWTP	8
Herber PUD WWTP	0.81
Imperial City WWTP	1.4
Los Angeles	**1,250.1**
Avalon WWTF	1.2
Civic Center Water Treatment Facility	70
Burbank WWRP	12.5
Donald C. Tillman WWRP	80
Edward C. Little Water Recycling Plant	5.2
Groundwater Reliability Improvement Project (WDR GRIP/ AWTF)	--
Hyperion WWTP	450
Joint Water Pollution Control Plant, Carson	400
Juanita Millender-McDonald Carson Regional Water Recycling Plant	1.2
Long Beach WRP	25
Los Angeles-Glendale WWRP	20
Los Coyotes WRP	37.5
Newhall Ranch WRP	2
Pomona Water Reclamation Plant	15
San Jose Creek Water Reclamation Plant	62.5
Saugus Water Reclamation Plant	6.5
Tapia WRF	12
Terminal Island Water Reclamation Plant	30
Valencia WRP	4.5
Whittier Narrows Water Reclamation Plant, El Monte	15
Orange	**1,131.12**
City of San Clemente WRP	38.78
El Toro WD WRP	34.37
Irvine Desalter Project Shallow GW Unit	34.37
IRWD Los Alisos WRP	34.37
Latham WWP	38.78
Los Alisos WD WWTP	33.5
Michelson WWRF	33.5
OCSD Plant 1	332

County	Design Flow (mgd)
OCSD Plant 2	332
SMWD Oso Creek WRP	38.78
SMWD-Chiquita WRP	38.78
SOCWA Aliso Creek Ocean Outfall	34.37
SOCWA Coastal TP	34.37
SOCWA Regional TP	34.37
SOCWA San Juan Creek Ocean Outfall	38.78
Riverside	**128.4**
Beaumont WWTP No. 1	4
Coachella SD WWTP	2.4
Coachella Valley WD WWTP	7
Corona WWRF No. 1	11.5
Corona WWRF No. 3	1
EVMWD Regional WWRF	8
Riverside City WWRF	46
Temescal Creek Outfall	26
Valley SD WWTP	8.5
WRCRWA Regional WWRF	14
San Bernardino	**421.65**
Big Bear WWRF	3.2
Colton WRF	0
Colton/San Bernardino STP, RIX	40
Henry N. Wochholz WWRF	8.0
IEUA Carbon Canyon WWRF	85
IEUA Regional Plant No. 1	85
IEUA Regional Plant No. 4	85
IEUA Regional Plant No. 5	85
Lytle Creek North WWTP	1.75
Margaret H Chandler WWRF	4.5
Rialto WWRF	11.7
Victor Valley Wastewater Reclamation Authority WTP	12.5
Ventura	**90.09**
Camarillo WRP	7.25
Camrosa Water Reclamation Facility	2.25
Fillmore WWTP and Wastewater Recycling Plan	1.33
Hill Canyon WWTP	14
Moorpark WWTP	1.5
Ojai Valley WWTP	3
Oxnard Wastewater Treatment Plant	31.7
Santa Paula WWRP	2.55
Simi Valley WQCP	12.5

County	Design Flow (mgd)
Ventura WRF	14
Total	**3,043.57**

Source:
Cal EPA. 2015. Regulated Facility Report. Available online at: https://ciwqs.waterboards.ca.gov/ciwqs/readOnly/CiwqsReportServlet?reportID=2281746&inCommand=drilldown&reportName=RegulatedFacilityDetail&program=NPDES&majorminor=Major, accessed September 6, 2019.
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Wastewater Treatment Requirements

Created by the State Legislature in 1967, the SWRCB has jurisdiction throughout California, where it protects water quality by setting statewide policies.[2] The SCAG region incorporates five of the nine Regional Water Boards in the State:

- Region 4—Los Angeles Regional Water Quality Control Board: Los Angeles and Ventura Counties (and small portions of Kern and Santa Barbara Counties).
- Region 6—Lahontan Regional Water Quality Control Board: San Bernardino and Los Angeles (N/E corner) counties.
- Region 7—Colorado River Regional Water Quality Control Board: Imperial, San Bernardino, Riverside, and San Diego Counties.
- Region 8—Santa Ana Regional Water Quality Control Board: Orange, Riverside, and San Bernardino Counties.
- Region 9—San Diego Regional Water Quality Control Board: San Diego, Imperial, and Riverside Counties.

3.19.2.1.2 Storm Water Drainage Facilities

Each city and county within the SCAG region maintains a storm drain system. The systems vary by age, size, and type depending on the municipality, and may consist of day pipe, iron/steel pipe, very old brick collector sewers, and reinforced concrete pipe facilities.

2 California Water Boards. *Water Board Structure.* Available online at: https://www.waterboards.ca.gov/lahontan/about_us/water_boards_structure.html, accessed August 23, 2019.

California Water Board Districts 4, 6, 7, 8, and 9 are all within the SCAG region and manage their own storm water drainage facilities, utilizing NPDES program permits. Under a NPDES permit, operators must develop a storm water management program to prevent polluted storm water run-off from entering Municipal Separate Storm Sewer Systems (MS4s), which often discharge to local water bodies.

In April 2018, the State Water Resources Control Board released a storm water strategy called the Strategy to Optimize Resource Management of Storm Water, or STORMS. The report focuses on enhancing urban run-off capture and use by identifying barriers, providing incentives, and increasing pubic engagement. The STORMS report found that urban run-off can be a viable source of water and that hybrid strategies combining green and gray infrastructure will be imperative for future urban water management.[3]

3.19.2.2 REGULATORY FRAMEWORK

3.19.2.2.1 Federal

Clean Water Act/National Pollutant Discharge Elimination System Permits

The Clean Water Act (CWA) (33 USC Sections 1251 *et seq.*) was enacted by Congress in 1972 and has been amended several times since its adoption. It is the primary federal law regulating water quality in the U.S. Its objective is to reduce or eliminate water pollution in the nation's rivers, streams, lakes, and coastal waters. The CWA prescribes the basic federal laws for regulating discharges of pollutants and sets minimum water quality standards for all surface waters in the U.S. The CWA is administered by the U.S. Environmental Protection Agency (USEPA).[4]

In California, the State Water Resources Control Board (State Water Board) and the nine Regional Water Quality Control Boards (Regional Water Boards) implement many of the Clean Water Act's provisions. The Clean Water Act requires the State to adopt water quality standards and to submit those standards for approval by the U.S. Environmental Protection Agency (US EPA). For point source discharges to surface water, the Clean Water Act authorizes the U.S.EPA and/or approved states (such as California) to administer the National Pollutant Discharge Elimination System (NPDES) program. The NPDES program regulates the discharge of pollutants from point sources. Municipal point sources consist primarily of municipal wastewater treatment plant outfalls and stormwater conveyance system outfalls. The Clean

3 California State Water Resources Control Board. 2018. *Strategy to Optimize Resource Management of Storm Water (Storm Water Strategy, STORMS*). April. Available online at: https://www.waterboards.ca.gov/water_issues/programs/stormwater/storms/, accessed January 15, 2019.

4 U.S. Environmental Protection Agency. 2002. *Federal Water Pollution Control Act*. Available online at: https://www.epa.gov/sites/production/files/2017-08/documents/federal-water-pollution-control-act-508full.pdf, accessed August 23, 2019.

Water Act also establishes a loan program—the State Revolving Fund—for the implementation of water quality improvement projects.

MS4 Permit Guidance Provision C.3

On May 17, 1996, EPA published an Interpretive Policy Memorandum on Reapplication Requirements for Municipal Separate Storm Sewer Systems, which provided guidance on permit application requirements for regulated MS4s. MS4 permits include requirements for post-construction control of stormwater runoff in what is known as Provision C.3. The goal of Provision C.3 is for the Permittees to use their planning authorities to include appropriate source control, site design, and stormwater treatment measures in new development and redevelopment projects to address both soluble and insoluble stormwater runoff pollutant discharges and prevent increases in runoff flows from new development and redevelopment projects. This goal is to be accomplished primarily through the implementation of low impact development (LID) techniques.[5]

3.19.2.2.2 State

Porter-Cologne Water Quality Control Act

The Porter-Cologne Act is the principal law governing water quality regulation in California. It establishes a comprehensive program to protect water quality and the beneficial uses of water. The Porter-Cologne Act applies to surface waters, wetlands, and ground water and to both point and nonpoint sources of pollution. Pursuant to the Porter-Cologne Act (California Water Code section 13000 *et seq.*), the policy of the State is as follows:

- That the quality of all the waters of the State shall be protected;
- That all activities and factors affecting the quality of water shall be regulated to attain the highest water quality within reason; and
- That the State must be prepared to exercise its full power and jurisdiction to protect the quality of water in the State from degradation.

The Porter-Cologne Act established nine Regional Water Boards (based on hydrogeologic barriers) and the State Water Board, which are charged with implementing its provisions and which have primary responsibility for protecting water quality in California. The State Water Board provides program

5 Government Publishing Office. 1996. *Environmental Protection Agency 40 CFR Part 122.* Available online at: https://www.govinfo.gov/content/pkg/FR-1996-08-09/pdf/96-20228.pdf, accessed August 23, 2019.

guidance and oversight, allocates funds, and reviews Regional Water Boards decisions. In addition, the State Water Board allocates rights to the use of surface water. The Regional Water Boards have primary responsibility for individual permitting, inspection, and enforcement actions within each of nine hydrologic regions. The State Water Board and Regional Water Boards have numerous NPS-related responsibilities, including monitoring and assessment, planning, financial assistance, and management.

The Regional Water Boards regulate discharges under the Porter-Cologne Act primarily through issuance of NPDES permits and waste discharge requirements (WDRs for point and nonpoint source discharges. Anyone discharging or proposing to discharge materials that could affect water quality (other than to a community sanitary sewer system regulated by an NPDES permit) must file a report of waste discharge.

The Porter-Cologne Act also implements many provisions of the Clean Water Act, such as NPDES permitting program. Section 401 of the Clean Water Act gives the State Water Board the authority to review any proposed federally permitted or federally licensed activity that may impact water quality and to certify, condition, or deny the activity if it does not comply with State water quality standards.

The Porter-Cologne Act also requires adoption of water quality control plans (basin plans) that contain the guiding policies of water pollution management in California. A number of statewide water quality control plans have been adopted by the State Water Board. In addition, regional basin plans have been adopted by each of the Regional Water Boards and get updated as needed. These plans identify the existing and potential beneficial uses of waters of the State and establish water quality objectives to protect these uses. The basin plans also contain implementation, surveillance, and monitoring plans. Statewide and regional water quality control plans include enforceable prohibitions against certain types of discharges, including those that may pertain to nonpoint sources. Portions of water quality control plans, the water quality objectives and beneficial use designations, are subject to review by U.S.EPA, when approved they become water quality standards under the Clean Water Act.[6]

California Ocean Plan

The California Ocean Plan establishes water quality objectives for California's ocean waters and provides the basis for regulation of wastes discharged into the state's coastal waters. The plan applies to point and nonpoint source discharges. Both the SWRCB and the six coastal RWQCBs implement and interpret the California Ocean Plan. The California Ocean Plan identifies the applicable beneficial uses of marine waters. These beneficial uses include preservation and enhancement of designated Areas of Special Biological Significance (ASBS), rare and endangered species, marine habitat, fish migration, fish

6 California State Water Resources Control Board. 2019. *Porter-Cologne Water Quality Control Act*. Available online at: https://www.waterboards.ca.gov/laws_regulations/docs/portercologne.pdf, accessed August 23, 2019.

spawning, shellfish harvesting, recreation, commercial and sport fishing, mariculture, industrial water supply, aesthetic enjoyment, and navigation.

The California Ocean Plan establishes a set of narrative and numerical water quality objectives to protect beneficial uses. These objectives are based on bacterial, physical, chemical, and biological characteristics as well as radioactivity. The water quality objectives in Table 1 (formerly Table B) of the California Ocean Plan apply to all receiving waters under the jurisdiction of the plan and are established for the protection of aquatic life and for the protection of human health from both carcinogens and noncarcinogens. Within Table 1 there are 21 objectives for protecting aquatic life, 20 for protecting human health from noncarcinogens, and 42 for protecting human health from exposure to carcinogens. The Ocean Plan also includes an implementation program for achieving water quality objectives. Effluent limitations are established for the protection of marine waters.[7]

Strategy to Optimize Resource Management of Storm Water (STORMS)

In April 2018, the California State Water Resources Control Board published the STORMS report to advance the ideology that storm water is a valuable resource. The report explores policies for collaborative watershed level storm water management and pollution prevention, obstacles to funding and barriers to development. It also describes the importance of integrating regulatory and non-regulatory interests and how raised awareness of the benefits of storm water management invokes participation and enthusiasm with regards to this little-explored resource.[8]

NPDES General Permits

Construction General Permit

The California Construction Stormwater Permit (Construction General Permit) 1 (also, known as Industrial General Permit), adopted by the State Water Resources Control Board (SWRCB), regulates construction activities that include clearing, grading, and excavation resulting in soil disturbance of at least one acre of total land area. The Construction General Permit authorizes the discharge of stormwater to surface waters from construction activities. It prohibits the discharge of materials other than stormwater and authorized non-stormwater discharges and all discharges that contain a hazardous

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7 California Water Boards. 2015. *California Ocean Plan*. Available online at: https://www.waterboards.ca.gov/water_issues/programs/ocean/docs/cop2015.pdf, accessed August 27, 2019.

8 California State Water Resources Control Board. 2019. *Strategy to Optimize Resource Management of Stormwater*. Available online at: https://www.waterboards.ca.gov/water_issues/programs/stormwater/storms/docs/storms_capture_use.pdf, accessed August 23, 2019.

substance in excess of reportable quantities established in Title 40, Sections 117.3 or 302.4 of the CFR, unless a separate National Pollution Discharge Elimination System (NPDES) permit has been issued to regulate those discharges. The Construction General Permit requires that all developers of land where construction activities will occur over more than 1 acre do the following:

- Complete a risk assessment to determine pollution prevention requirements pursuant to the three risk levels established in the General Permit;
- Eliminate or reduce non-stormwater discharges to storm sewer systems and other waters of the US;
- Develop and implement a Stormwater Pollution Prevention Plan (SWPPP), which specifies BMPs that will reduce pollution in stormwater discharges to the Best Available Technology Economically Achievable/ Best Conventional Pollutant Control Technology standards; and
- Perform inspections and maintenance of all BMPs.

To obtain coverage under the NPDES Construction General Permit, the Legally Responsible Person must electronically file all permit registration documents with the SWRCB before the start of construction. Permit registration documents must include:

- Notice of Intent,
- Risk Assessment,
- Site Map,
- SWPPP,
- Annual Fee, and
- Signed Certification Statement.

Typical BMPs contained in SWPPPs are designed to minimize erosion during construction, stabilize construction areas, control sediment, control pollutants from construction materials, and address post construction runoff quantity (volume) and quality (treatment). The SWPPP must also include a discussion of the program to inspect and maintain all BMPs.[9]

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9 State Water Resources Control Board. *Construction General Permit Fact Sheet*. Available online at: https://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/constpermits/wqo_2009_0009_complete.pdf, accessed August 27, 2019.

Industrial General Permit

The Statewide General Permit for Storm Water Discharges Associated with Industrial Activities, Order 2014-0057-DWQ (Industrial General Permit or IGP) implements the federally required storm water regulations in California for storm water associated with industrial activities discharging to waters of the United States.[10]

Municipal Stormwater Program

The Municipal Storm Water Program regulates storm water discharges from municipal separate storm sewer systems (MS4s) throughout California. Pursuant to the Federal Water Pollution Control Act (Clean Water Act) section 402(p), storm water permits are required for discharges from an MS4 serving a population of 100,000 or more. The Municipal Storm Water Program manages the Phase I Permit Program (serving municipalities over 100,000 people), the Phase II Permit Program (for municipalities less than 100,000), and the Statewide Storm Water Permit for the State of California Department of Transportation (Caltrans).[11]

Caltrans is responsible for the design, construction, management, and maintenance of the State highway system, including freeways, bridges, tunnels, Caltrans' facilities, and related properties, and is subject to the permitting requirements of CWA Section 402(p). Caltrans' discharges consist of storm water and non-storm water discharges from state-owned rights-of-way.

Before July 1999, discharges from Caltrans' MS4 were regulated by individual NPDES permits issued by the RWQCBs. On July 15, 1999, the SWRCB issued a statewide permit (Order No. 99-06-DWQ) that regulated all discharges from Caltrans MS4s, maintenance facilities, and construction activities.[12] On September 19, 2012, Caltrans' permit was reissued (Order No. 2012-0011-DWQ), and it became effective on July 1, 2013.[13]

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10 State Water Resources Control Board. Industrial Stormwater Program. See https://www.waterboards.ca.gov/water_issues/programs/stormwater/industrial.html, accessed August 27, 2019.

11 State Water Resources Control Board. *Municipal Stormwater Program*. Available at: https://www.waterboards.ca.gov/water_issues/programs/stormwater/municipal.html, accessed October 31, 2019.

12 Caltrans. *Stormwater & Water Pollution Control.* Available online at: https://dot.ca.gov/programs/traffic-operations/ep/stormwater, accessed August 27, 2019.

13 California State Water Resources Control Board. *Order No. 2012-0011-DWQ NPDES No. CAS000003 National Pollutant Discharge Elimination System (NPDES) Statewide Storm Water Permit Waste Discharge Requirements (WDRS) for State of California Department of Transportation*. Available online at: https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2012/wqo2012_0011_dwq.pdf, accessed August 27, 2019.

The Caltrans permit requires development of a program for communication with local agencies, and coordination with other MS4 programs where those programs overlap geographically with Caltrans facilities. As part of the permit, Caltrans is required to create and annually update a Stormwater Management Plan (SWMP) that is used to outline the regulation of pollutant discharge caused by current and future construction and maintenance activities. SWMP requirements apply to discharges from Caltrans stormwater conveyances, including catch basins and drain inlets, curbs, gutters, ditches, channels, and storm drains. The SWMP applies to discharges consisting of stormwater and non-stormwater resulting from the following:

- maintenance and operation of state-owned highways, freeways, and roads;
- maintenance facilities;
- other facilities with activities that have the potential for discharging pollutants;
- permanent discharges from subsurface dewatering;
- temporary dewatering; and
- construction activities.

Caltrans' Storm Water Management Plan (SWMP) describes the procedures and practices used to reduce or eliminate the discharge of pollutants to storm drainage systems and receiving waters. The SWMP was most recently updated in July of 2016.[14]

California Department of Transportation NPDES Permit

The California Department of Transportation (Caltrans) was originally issued a statewide NPDES permit (Order 99-06-DWQ) in 1999, which requires Caltrans to regulate nonpoint source discharge from its properties, facilities, and activities. The Caltrans permit requires development of a program for communication with local agencies, and coordination with other MS4 programs where those programs overlap geographically with Caltrans facilities. As part of the permit, Caltrans is required to create and annually update a stormwater management plan (SWMP) that is used to outline the regulation of pollutant discharge caused by current and future construction and maintenance activities. SWMP requirements apply to discharges from Caltrans stormwater conveyances, including catch basins and drain inlets, curbs, gutters, ditches, channels, and storm drains. The SWMP applies to discharges consisting of stormwater and non-stormwater resulting from:

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14 Caltrans. 2016. *Statewide Stormwater Management Plan*. Available online at: https://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/caltrans/swmp/swmp_approved.pdf, accessed August 27, 2019.

- maintenance and operation of state-owned highways, freeways, and roads;
- maintenance facilities;
- other facilities with activities that have the potential for discharging pollutants;
- permanent discharges from subsurface dewatering;
- temporary dewatering; and
- construction activities.

The discharges addressed by the SWMP flow through municipal stormwater conveyance systems or flow directly to surface water bodies in the state. These surface water bodies include creeks, rivers, reservoirs, lakes, wetlands, lagoons, estuaries, bays, and the Pacific Ocean and tributaries.

This SWMP applies to the oversight of outside agencies' or non-Caltrans entities' (third parties) activities performed within Caltrans' MS4 to ensure compliance with stormwater regulations. Non-Caltrans activities include highway construction and road improvement projects, as well as residential use and business operations on leased property.

The SWMP must be approved by the SWRCB and, as specified in the permit, it is an enforceable document. Compliance with the permit is measured by implementation of the SWMP. Caltrans' policies, manuals, and other guidance related to storm water are intended to facilitate implementation of the SWMP. Caltrans also requires all contractors to prepare and implement a program to control water pollution effectively during the construction of all projects. In lieu of the more recently adopted General Construction Permit as described above, Caltrans continues to modify its current policies and procedures to be consistent with the new permit.[15]

California Administrative Code, Title 22

Under Title 22, the State Department of Health establishes State-wide effluent bacteriological and treatment reliability standards for recycled water uses. The standards are based on the potential for human contact with recycled water. The regional water quality control board (RWQCB) has established and enforces requirements for the application and use of recycled water. Permits are required from a RWQCB for any recycling operation. Applicants for a permit are required to demonstrate that the

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15 U.S. Environmental Protection Agency. *Program Evaluation Report Statewide NPDES Storm Water Permit for the State of California, Department of Transportation Properties, Facilities, and Activities (District 5) (Order No. 99-06-DWQ).* Available online at: https://www3.epa.gov/region9/water/npdes/pdf/ms4/ca/021108-caltrans-report.pdf, accessed August 23, 2019.

proposed recycled water operation is in compliance with Title 22 and will not exceed the ground and surface water quality objectives in the regional basin management plan.[16]

3.19.2.2.3 Regional

The water quality control plans and groundwater protection responsibilities for the SCAG region are described in Section 3.10, *Hydrology and Water Quality*.

Urban Water Management Plans

Under California Water Code Division 6, Part 2.6, Section 10610-10656, the Urban Water Management Planning Act (UWMPA) requires urban water suppliers that supply more than 3,000 acre-feet of water annually, or serve more than 3,000 connections, to submit an Urban Water Management Plan (UWMP). [17] The UWMP is a public document prepared by water suppliers to support their long-term resource planning over a 20-year period and ensure adequate water supplies are available to meet existing and future water demands. The UWMP must be submitted to the DWR every 5 years, and must demonstrate progress toward reduction in 20 percent per capita urban water consumption by the year 2020, as required in the Water Conservation Bill of 2009, Senate Bill X7-7.[18, 19] There are 138 service districts in the SCAG region required to develop a UWMP, which is typically prepared and submitted to DWR within 30 days and reviewed 60 days prior to public hearing for plan adoption and implementation. The preparation of the plan includes guidebook, workshops, and programming for comprehensive strategies to conserve water.

3.19.2.2.4 Local

Utility Master Plans & Utility Capital Improvement Programs

Jurisdictions usually have utility master plans or other planning documents that identify and prioritize projects needed to maintain adequate levels of utility service in the jurisdiction.

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16 Water Education Foundation. *Water Recycling and Title 22*. Available online at: https://www.watereducation.org/aquapedia/water-recycling-and-title-22, accessed August 23, 2019.

17 California State Water Control Board. *California Water Code Division 6 Part 2.6. Urban Water Management Plan*. Available online at: https://water.ca.gov/LegacyFiles/urbanwatermanagement/docs/water_code-10610-10656.pdf, accessed August 23, 2019.

18 California Department of Water Resources. *Urban Water Management Plans*. Available online at: https://water.ca.gov/Programs/Water-Use-And-Efficiency/Urban-Water-Use-Efficiency/Urban-Water-Management-Plans, accessed August 23, 2019.

19 California Department of Water Resources. SB X7-7. Available online at: https://water.ca.gov/Programs/Water-Use-And-Efficiency/SB-X7-7, accessed August 23, 2019.

General Plans

Local policies related to utilities and service systems are established in each jurisdiction's general plan. In general, jurisdictions have policies in place that state that utility and service systems must be provided at the same time (or in advance of) need. In addition to these general policies, jurisdictions may have more specific policies tailored to performance objectives including wastewater treatment services.

3.19.2.3 ENVIRONMENTAL IMPACTS

3.19.2.3.1 Thresholds of Significance

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

- Require or result in the relocation or construction of new or expanded wastewater treatment or storm drainage facilities, the construction or relocation of which could cause significant environmental effects;

- Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments

3.19.2.3.2 Methodology

The methodology for determining the significance of impacts to utilities and service systems, compares existing conditions to the expected future use of potable water supplies, wastewater, storm water facilities, and landfills with the Plan. The criteria above were applied to compare current conditions to future 2045 Plan conditions. Consideration was given to existing capacity and expected growth as well as transportation projects.

Implementation of the Plan would affect the use of utility and service systems in the SCAG region. The analysis of these impacts is programmatic at the regional level. With regards to wastewater, the Plan's potential to exceed capacity of local infrastructure and require the relocation or construction of new or expanded facilities or result in a determination that projected demand in addition to current demand will be used to determine the significance of the projects effects.

The mitigation measures in the PEIR are divided into two categories: SCAG mitigation and project-level mitigation measures. SCAG mitigation measures shall be implemented by SCAG over the lifetime of the

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

3.19.2.3.3 Impacts and Mitigation Measures

Impact USWW-1 **Require or result in the relocation or construction of new or expanded wastewater treatment or storm drainage facilities, the construction or relocation of which could cause significant environmental effects**

Significant and Unavoidable – Mitigation Required.

Implementation of some transportation projects and anticipated growth under the Plan would involve construction of new storm water drainage facilities and may require construction of new or expanded wastewater treatment facilities.

Projects that increase impervious surface area, including expanding roadways, and new development may increase urban runoff. This would result in greater quantities of contaminants to receiving waters that may currently be impaired and would require the construction of new storm water drainage facilities or expansion of existing ones. Construction activities related or identified in the Plan could increase pollutant loads carried by storm water runoff. For example, road cut erosion can increase long-term siltation in local receiving waters. The Los Angeles Basin includes approximately 100,000 acres of transportation related impervious surfaces.[20] According to the USGS, there is an inverse relationship between water quality as well as flooding and impervious area.[21] This relationship tends to become problematic when impervious surfaces within a watershed exceed 10 percent of land area. Where this percentage is greater than 25 percent, water quality is generally degraded and inhospitable for habitat or for recreation activities.[22] In addition, many of the pollutants in urban runoff are attributable to

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20 Los Angeles Basin. *Stormwater Conservation Study*. Available online at: https://www.usbr.gov/lc/socal/basinstudies/AppendixB.pdf, accessed September 9, 2019.

21 USGS. *Impervious Surfaces and Flooding.* Available online at: https://www.usgs.gov/special-topic/water-science-school/science/impervious-surfaces-and-flooding?qt-science_center_objects=0#qt-science_center_objects, accessed September 9, 2019.

22 Center for Watershed Protection. 1988. Rapid Watershed Planning Handbook – A Resource Guide for Urban Subwatershed Management. Ellicott City, MD.

landscape irrigation, highway runoff, and illicit dumping. Highway runoff is a component of urban runoff contributing oil and grease, sediment, nutrients, heavy metals, and toxic substances.

The Plan would increase impervious surfaces in the SCAG region through a combination of transportation projects and development, resulting in construction or expansion of storm water drainage facilities. As shown in **Table 3.19.2-2, Existing Lane Miles by County,** and **Table 3.19.2-3, 2045 Plan Lane Miles by County**, the Plan would increase total lane miles in the region, with the most increase in San Bernardino County (from 14,871 to 17,067 lane miles). Among all facilities toll has the most increase in lane miles from 453 in 2016 to 1,463 lane miles in 2045 with the Plan.

Table 3.19.2-2
Existing Lane Miles by County

County	Freeway (Mixed-Flow)	Toll*	Truck	Expressway /Parkway	Principal Arterial	Minor Arterial	Collector	Freeway (HOV)	Ramp	Total (All Facilities)
Imperial	380	-	-	337	271	556	2,469	-	36	44,048
Los Angeles	4,604	83	17	8	8,380	8,983	6,933	483	908	30,398
Orange	1,327	334	16	4	3,589	2,776	1,008	252	374	9,680
Riverside	1,785	36	2	126	1,152	2,972	4,906	80	249	11,307
San Bernardino	2,558	-	5	97	1,753	3,900	6,121	114	323	14,871
Ventura	536	-	-	-	810	997	1,048	8	122	3,521
Total	**11,189**	**453**	**41**	**571**	**15,955**	**20,184**	*22,484*	*935*	*2,012*	*73,824*

Note:
**Toll includes truck and High-occupancy toll (HOT)*
Source:
SCAG modeling, 2019.

Table 3.19.2-3
2045 Plan Lane Miles by County

County	Freeway (Mixed-Flow)	Toll*	Truck	Expressway/Parkway	Principal Arterial	Minor Arterial	Collector	Freeway (HOV)	Ramp	Total (All Facilities)
Imperial	417	-	-	323	316	595	2,462	-	38	4,152
Los Angeles	4,797	352	153	6	8,474	9,067	6,957	378	939	31,123
Orange	1,419	565	16	4	3,847	3,101	1,090	244	379	10,663
Riverside	1,863	267	13	122	1,512	3,600	5,705	45	363	13,490
San Bernardino	2,597	279	55	142	2,075	4,654	6,781	138	347	17,067
Ventura	568	-	-	-	860	1,007	1,059	60	122	3,676
Total	*11,661*	*1,463*	*237*	*597*	*17,084*	*22,023*	*24,053*	*864*	*2,189*	*80,170*

Note:
**Toll includes truck and High-occupancy toll (HOT)*
Source: SCAG modeling, 2019. Connect SoCal: Highways & Arterials Appendix..

Municipal wastewater is related to water use. Most of the water that is not used in landscaping becomes wastewater. California residents used an estimated average 85 gallons of water per day in 2016.[23] However, water demand varies substantially by community and by land use type and therefore wastewater is anticipated to similarly vary substantially by community. The reuse and recycling of wastewater would reduce the amount of wastewater to be discharged to the ocean, although the total benefits from wastewater reduction would be limited.

Wastewater generation rates are closely tied to population growth. The total population is expected to grow by approximately 16 percent across the SCAG region by 2045, wastewater generation would proportionally increase by up to 16 percent (although this increase is likely to be unevenly spread across the region with some wastewater agencies may experience greater increases than others). In addition to increased demand for wastewater treatment facilities, increases in housing and population would increase wastewater flows in existing wastewater conveyance infrastructure (sewers). Individual development projects would either be accommodated by existing infrastructure, or project proponents and/or local jurisdictions would be required to make improvements to wastewater infrastructure (replacing sewers and upgrading wastewater treatment facilities). In less developed areas of the region,

23 Legislative Analyst's Office. *Residential Water Use Trends and Implications for Conservation Policy*. Available online at: https://lao.ca.gov/Publications/Report/3611, accessed September 11, 2019.

new housing and employment developments could require additional wastewater infrastructure (new sewers and possibly new treatment facilities).

Due to anticipated transportation projects and anticipated growth under the Plan, construction of new storm water drainage or wastewater treatment facilities or expansion of existing facilities may be needed, thereby potentially resulting in a significant impact, requiring the consideration of mitigation measures.

Mitigation Measures

SCAG Mitigation Measure

SMM-USWW-1: SCAG shall work with local jurisdictions and wastewater agencies to encourage regional-scale planning for improved wastewater and stormwater management. Future impacts to wastewater and stormwater facilities shall be avoided to the extent practical and feasible through cooperative planning, information sharing, and comprehensive pollution control measure development within the SCAG region. This cooperative planning shall occur as part of current and existing coordination, an integral part of SCAG's ongoing regional planning efforts.

Project Level Mitigation Measures

See **PMM-HYD-1.**

PMM-USWW-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects on utilities and service systems, particularly for construction of wastewater facilities, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

- During the design and CEQA review of individual future projects, implementing agencies and projects sponsors shall determine whether sufficient wastewater capacity exists for the proposed projects. There CEQA determinations must ensure that the proposed development can be served by its existing or planned treatment capacity. If adequate capacity does not exist, project sponsors shall coordinate with the relevant service provider to ensure that adequate public services and utilities could accommodate the increased demand, and if not, infrastructure improvements for the

appropriate public service or utility shall be identified in each project's CEQA documentation. The relevant public service provider or utility shall be responsible for undertaking project-level review as necessary to provide CEQA clearance for new facilities.

Level of Significance after Mitigation

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

Impact USWW-2 **Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.**

Significant and Unavoidable – Mitigation Required.

Implementation of the Plan could result in a determination by one or more of the wastewater treatment providers in the region that there is inadequate capacity to serve the future population demand in addition to the provider's existing commitments, resulting in a significant impact. Wastewater generation rates are closely tied to population growth, and the total population is expected to grow by approximately 3.2 million or 16 percent across the SCAG region by 2045 (although this increase is likely to be unevenly spread across the region with some wastewater agencies experiencing greater increases than others). Therefore, wastewater generation could increase by 16 percent as well. Implementation of transportation projects contained in the Plan as well as anticipated growth under the Plan may increase demand for wastewater treatment facilities. Development projects would either be accommodated by existing infrastructure, or project proponents and local jurisdictions would be required, to make improvements to wastewater infrastructure (sewers and treatment facilities). In less developed areas of the region, new housing and commercial developments could require additional wastewater infrastructure (new sewers and treatment facilities). The higher density development reflected in the Plan's land use strategies could also require construction of new and/or replacement wastewater infrastructure including sewers with greater conveyance capacity in urban and urbanizing areas. In

addition, additional wastewater entering the existing wastewater treatment facilities may overload the current capacity levels of some wastewater treatment facilities. Therefore, impacts would be significant, requiring the consideration of mitigation measures.

Mitigation Measures

SCAG Mitigation Measures

See **SMM USWW-1, SMM HYD-1** through **SMM HYD-3.**

Project Level Mitigation Measure

See **PMM USWW-1.**

Level of Significance after Mitigation

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

3.19.2.4 SOURCES

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3.19.3 WATER SUPPLY

3.19.3.1 ENVIRONMENTAL SETTING

3.19.3.1.1 Water Supplies

California's water supply is a hotly debated topic, with limited water resources stretched tightly between the environment, agriculture, and residential uses. Severe weather patterns linked to climate change have exacerbated the water issue, resulting in record low snowpack in several recent years (although the 2018/2019 snowpack was high) and record high heat waves. Supply water includes natural, managed, and reclaimed water. Natural sources consist of surface water bodies like rivers and lake, and groundwater resources stored in underground aquifers. Manmade sources include run-off water that is captured, treated, and stored in reservoirs. Reclaimed water is wastewater, treated at a treatment plant and typically reused for uses like industrial operations and irrigation. As reclaimed water is often non-potable, it must be conveyed in a separate system to ensure no possibility of direct human consumption. Another source of potable freshwater that is being considered throughout regions of the world include desalination, which removes the dissolved salt in seawater.

Surface and groundwater within the SCAG region are insufficient to support the region's growing population. In the SCAG region, approximately three quarters of potable water comes from imported sources.[1] Restrictions on imported water as well as drought conditions have necessitated water conservation measures. These conservation measures have slightly lessened the use of potable water in many areas of the region. In addition, the demand for water is being partially fulfilled by the increasing use of reclaimed water for non-potable purposes such as greenbelt irrigation and industrial processing and servicing.

Counties within the SCAG region use groundwater and surface water to meet water demand. Integrated Regional Water Management Plans (IRWMPs) and Urban Water Management Plans (UWMPs), developed for cities and counties throughout the region, help guide water management and supply and demand projections. Water is imported by the Metropolitan Water District of Southern California (MWD) and the State Water Project (SWP), and groundwater is pumped from various local wells.

1 Southern California Association of Governments (SCAG). 2008. Regional Comprehensive Plan: Water. Available online at: http://www.scag.ca.gov/Documents/f2008RCP_Water.pdf, accessed September 26, 2019.

Watershed Management

Watershed management relates to sustaining watersheds at an acceptable level of quality, contributing to resource quality, and maintaining groundwater supplies. The watersheds in the SCAG region are shown in **Section 3.10, Hydrology** (**Figure 3.10-2, Watersheds in the SCAG Region)**. These large watersheds are further divided into smaller sections by internal surface water drainage areas and groundwater basins.

Colorado River

The Colorado River is a major source of water for Southern California, and is imported via the Colorado River Aqueduct, owned and operated by MWD.

Under water delivery contracts with the United States, California entities have enjoyed legal entitlements to Colorado River water, beginning with the 1922 Colorado River Compact.[2] California was entitled to 4.4 million-acre feet (af), as well as half on any surplus, as defined by the U.S. Department of the Interior. Typically, the river's surplus has allowed California entities to take an additional 800,000 af annually.

However, with increased urbanization in the Colorado River Basin states and limitation agreements between those states, surplus water for California was eliminated; the State will gradually return to its original allotment of 4.4 million af. Given these new terms, California water agencies are pursuing various strategies to offset this gradual, but certain loss of future water supply. Examples of these strategies include additional reservoir and storage agreements, new water transfers between agricultural and urban users, and more water conservation and recycling.[3]

The Colorado River Hydrologic Region (see discussion below) is of particular concern because it encompasses the Coachella Valley in the West Basin and the desert in the East Basin. Irrigation needs in the Coachella Valley are met almost exclusively by water imported from the Colorado River. Historical extraction of groundwater in the Coachella Valley has caused overdraft. Currently, an extensive groundwater recharge project is being undertaken by the Coachella Valley Water District that recharges Colorado River Water into spreading basins. Within the East Basin, irrigation and domestic water is provided by the Colorado River with only approximately 1 percent groundwater use and little direct reclamation. Agricultural runoff and some domestic wastewater do get returned to the Colorado River. Therefore, the water at the southern end of the watershed is a mixture of Colorado River water, agricultural runoff, and reclaimed water.

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2 U.S. Bureau of Reclamation. *Colorado River Compact, 1922.* Available online at: https://www.usbr.gov/lc/region/pao/pdfiles/crcompct.pdf, accessed September 9, 2019.

3 Metropolitan Water District of Southern California. 2016. *2015 Urban Water Management Plan*. Available online at: https://www.mwdoc.com/wp-content/uploads/2017/05/UWMP_May-2016-v2.pdf, accessed January 14, 2019.

State Water Project

The State Water Project supplies water to Southern California via the California Aqueduct, with delivery points in Los Angeles, San Bernardino, and Riverside Counties. SWP was constructed and is managed by the Department of Water Resources (DWR), and is the largest state-owned, multipurpose water project in the country. State Water Project has historically provided 25 to 50 percent of MWD's water, anywhere from 450,000 af to 1.75 million af annually.[4] In 2019, the State Water Project allocated 75 percent, or 3.1 million acre feet, of water to the state supply due to the previous winter's robust storms that resulted in above average snowpack and reservoir levels.[5] The State Water Project provides water to approximately 27 million people and irrigation water for roughly 750,000 acres of agricultural lands annually.

Los Angeles Aqueduct

The Los Angeles Aqueduct, originally built in 1913, carries water 233 miles south from Owens Valley to the City of Los Angeles. The original aqueduct project was extended in 1940 to the Mono Basin. The system was supplemented by a second project, parallel to the first, completed in 1970. Los Angeles Aqueduct deliveries from the Mono Basin and Owens Valley have ranged from a 2015 low of 36,000 af and a high of 467,000 af in 1998. Since 1990, average deliveries have been approximately 240,000 af per year. Due to environmental considerations, approximately half of the Los Angeles Aqueduct water supply has been reallocated to supply environmental mitigation and enhancement projects.[6]

Transfers

In an effort to diversify water sources and reduce reliance on specific water imports, water agencies have engaged in water transfer agreements. These contractual agreements, made with irrigation districts, reduce water use on agricultural lands either through agricultural conservation or fallowing land.[7] The water "freed" by these reductions is transferred to a municipal water district, where it may be used or

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4 California Department of Water Resources. 2013. *California Water Plan, Volume 1 – The Strategic Plan*. Available online at: https://water.ca.gov/Programs/California-Water-Plan/Water-Plan-Updates, accessed September 16, 2019.

5 California Department of Water Resources. 2019. *State Water Project Allocations Increase to 75 Percent*. Available online at: https://water.ca.gov/News/News-Releases/2019/June/State-Water-Project-Allocations-Increase-to-75-Percent, accessed September 26, 2019.

6 Metropolitan Water District of Southern California. 2016. *Integrated Water Resources Plan*.Available online at: http://www.mwdh2o.com/PDF_About_Your_Water/2015%20IRP%20Update%20Report%20(web).pdf , accessed September 26, 2019.

7 Some urban agencies also have the ability to enter "spot" water markets and to purchase water on an "as needed" basis.

stored in aquifers for future use, a practice called water banking. Water banking is also done during wet years, when rainwater is collected and directed toward recharge facilities for future use.

Water Suppliers

The SCAG region is served by many water suppliers, both retail and wholesale; the largest of these agencies is MWD. Created under state law in 1931, MWD serves the urbanized coastal plain from Ventura to the Mexican border in the west to parts of the rapidly urbanizing counties of San Bernardino and Riverside in the east. It provides water to about 90 percent of the urban population of Southern California. MWD is comprised of 26 member agencies, 12 of which supply wholesale water to retail agencies and other wholesalers, and 14 of which are individual cities which directly supply water to their residents.[8] The Imperial Irrigation District (IID), in Imperial County, is the fourth largest irrigation district in the country.[9]

3.19.3.1.2 Water Treatment Facilities

As identified below in **Table 3.19.3-1, Active Water Treatment Facilities in the SCAG Region,** there are 36 water treatment facilities that service the SCAG region. There are no water treatment facilities currently active in the County of the Imperial.

Table 3.19.3-1
Active Water Treatment Facilities in the SCAG Region

County	Design Flow (mgd)
Los Angeles	**17.258**
Alhambra Groundwater Treatment Plant	0.35
Aspan Wall WTP	6.2
Hawthorne Drinking WTP	0.027
Brewer Desalter (Reverse Osmosis Plant)	1.0
El Monte Operable Unit wells	0.131
Gould Electronics Treatment Facility and Wells 14, 15, 16	1.0
Gould Electronics Treatment Facility and Wells SEW-2,-3,-4,-5	0.4
La Puente Valley WTP	3.6
South Coulter Surface WTP	0.0185
Granular Activated Carbon Treatment Plant	0.021

8 Metropolitan Water District. *Metropolitan Facts*. Available online at: http://www.mwdh2o.com/PDF_NewsRoom/6.4.2_District_at_glance.pdf, accessed August 29, 2019.

9 Imperial Irrigation District. *Water Conservation*. Available online at: https://www.iid.com/water/water-conservation, accessed August 29, 2019.

County	Design Flow (mgd)
Delta Plant	.49
Well No. 5 WTP	0.3
Wells 201 and 205 Perchlorate Treatment	3.0
Pebbly Beach Desalinization Plant	0.72
Orange	164.110
Poseidon Huntington Beach Seawater Desalinization Facility	56.59
SCWD Aliso Creek Water Harvesting Project	34.37
Irvine Desalter Project Potable WT System	34.37
San Juan Capistrano GW TP	38.78
Riverside	--
JCSD Wells 27 and 28	--
San Bernardino	**0.511**
Richardson Treatment Plant	--
LLU Wellhead Treatment System	--
Riverside Public Utility's Wellhead Treatment Plants	0.021
San Bernardino MWD Wellhead Treatment Systems	0.49
Ventura	**0.067**
San Nicolas Desalinization Plant	0.067
Grand Total	**181.946**

Source: Cal EPA. 2019. California Integrated Water Quality System Project (CIWQS)- Regulated Facility Report (Detail). https://ciwqs.waterboards.ca.gov/ciwqs/readOnly/CiwqsReportServlet?reportID=9009425&reportName=RegulatedFacilityDetail&inCommand=displayCriteria

California's water-related assets and services are provided by many interdependent systems that historically have been managed on a project-by-project basis. The gap between water supply and water demand decreased substantially between 2001 and 2010 (see **Table 3.19.3-2, California Hydrologic Summary**). This narrowing gap has been further exacerbated in the SCAG region by the 2012-2015 California drought. There are typically three sources of supply water: (1) natural sources, (2) manmade sources, and (3) reclamation. Natural water sources include rivers, lakes, streams, and groundwater stored in aquifers. Manmade sources include runoff water that is treated and stored in reservoirs and other catchment structures. Reclaimed water is wastewater that has been conveyed to a treatment plant and then treated enough that it may be used again for certain uses (such as irrigation). However, reclaimed water is not potable (drinkable) and must be conveyed in a separate system in order to ensure there is no possibility of direct human consumption. See **Table 3.19.3-2, California Hydrologic Summary (in Millions of Acre-Feet)**.

Table 3.19.3-2
California Hydrologic Summary (in Millions of Acre-Feet)

	Water Year									
	2007	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**Average 1998-2015**
Percentage of normal precipitation	62%	77%	77%	104%	134%	75%	77%	56%	78%	
Water Entering the Region										
Precipitation	123	152	152	205	249.4	138.9	142	102.6	143.3	182.2
Inflow from Oregon/Mexico	1.2	1.2	1	0.9	1.3	1.0	0.8	0.8	0.7	1.3
Inflow from Colorado River	4.7	4.9	4.6	4.7	4.2	4.7	5.3	5.8	5.0	4.9
Imports from Other Regions	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total	**129**	**158**	**157**	**211**	**254.9**	**144.6**	**148.1**	**109.2**	**149.0**	**188.4**
Water Demand /Water Leaving the Region										
Consumptive use of applied water[a] (ag., municipal and industrial, wetlands)	28.6	29	28.1	25	26.5	30.6	30.9	30.8	29.4	27.3
Outflow to Oregon/Nevada/ Mexico	0.8	0.9	1	1.1	2.1	0.9	0.9	0.6	0.4	1.1
Exports to other regions	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Statutory required outflow to salt sink	20.3	20.6	18.3	24.4	32.6	22.6	18.8	13.1	16.6	25.3
Additional outflow to salt sink	9.2	10.6	8.6	13.8	28.8	8.0	9.8	3.8	7.2	19.2
Evaporation, evapotranspiration of native vegetation, groundwater subsurface outflows, natural and incidental runoff, agriculture effective precipitation, other outflows	89.8	114	113	149	164.7	102.7	107.4	84.4	115.2	126.8
Total	**149**	**175**	**169**	**214**	**254.6**	**164.8**	**167.8**	**132.7**	**168.8**	**199.6**
Change in Supply										
Surface reservoirs	–8	–3.9	1.1	5.1	6.2	-7.4	-4.1	-5.1	-0.8	-0.6
Groundwater[b]	–11.5	–13.1	–13.1	–8	-5.9	-12.8	-15.8	-18.4	-19.0	-10.6
Total	**–19.5**	**–17**	**–12**	**–2.9**	**0.3**	**-20.2**	**-19.9**	**-23.5**	**-19.8**	**-11.2**

Note:

a Consumptive use is the amount of applied water used and no longer available as a source of supply. Applied water is greater than consumptive use because it includes consumptive use, reuse, and outflows.

b Change in Supply: Groundwater – The difference between water extracted from and water recharged into groundwater basins in a region. All regions and years were calculated using the following equation: change in supply: groundwater = intentional recharge + deep percolation of applied water + conveyance deep percolation and see page - withdrawals. This does not include unknown factors such as natural recharge and subsurface inflow and outflow.

Source:

California Department of Water Resources. Accessed 9 September 2019. California Water Today, Volume 1 – The Strategic Plan. Available at: https://water.ca.gov/Programs/California-Water-Plan/Water-Plan-Updates

California Department of Water Resources. 2019. California Water Plan Update 2018: Supporting Documentation for Water Portfolios. Available at: https://data.ca.gov/dataset/water-plan-water-balance-data/resource/3e5bdae2-6352-4d8f-9e37-018357100fdf.

Surface and groundwater resources are largely managed as separate resources, when they are, in fact, a highly interdependent system of watersheds and groundwater basins. Water quality, land use, and flood management are also integral to the effective management of these systems.[10]

Within the SCAG region, water supply comes from a variety of sources. While the Metropolitan Water District (MWD) imports water from Colorado River and State Water Project and provides wholesale water supply to its coverage area, many cities and some county areas rely on groundwater, especially those along the coast. San Bernardino and Riverside Counties, for example, rely on a mixture of groundwater and surface water.

Following are the descriptions of the two primary hydrologic regions (South Coast and Colorado River) as well as associated regional water budgets.

Water Supply and Use in the South Coast Hydrologic Region

The South Coast Hydrologic Region has a diverse mix of both local and imported water supply sources. Local water sources include water recycling, groundwater storage, and infrastructure enhancements. The region imports water through the State Water Project, the Colorado River Aqueduct, and the Los Angeles Aqueduct. These resources allow the region flexibility in managing supplies and resources in wet and dry years. The MWD wholesales the water to a consortium of 26 member agencies, including 14 cities, 11 municipal water districts, and one county authority that serve nearly 19 million people living in six counties stretching from Ventura to San Diego. MWD imported an average of 1 million af of water per year from the SWP from 1995 to 2010, and just under 1 million af per year from the CRA during the same time period. **Table 3.19.3-3, South Coast Region Water Balance,** shows the water balance of the South Coast Hydrologic Region from 2011 to 2015.

10 California Department of Water Resources. 2013. *California Water Plan, Volume 1 – The Strategic Plan*. Available online at: https://water.ca.gov/Programs/California-Water-Plan/Water-Plan-Updates, accessed September 16, 2019.

Table 3.19.3-3
South Coast Region Water Balance

Water Use	2011	2012	2013	2014	2015
Urban	3,530	3,794	3,967	3,992	3,439
Agricultural	655	680	985	1,061	691
Environmental	240	68	50	66	50
Total	**4,425**	**4,542**	**5,002**	**5,119**	**4,179**
Supplies					
Local Projects	214	237	197	168	164
Local Imported Deliveries	351	229	100	79	35
Colorado River Project	959	905	1,307	1,733	1,601
Federal Projects	2	0	0	0	0
State Project	904	1,174	1,064	646	460
Groundwater Extraction	1,351	1,484	1,824	1,986	1,462
Reuse and Recycled Water	645	513	510	506	457
Total	**4,425**	**4,542**	**5,002**	**5,119**	**4,179**

Note: Figures in thousands of acre-feet of water.
Source: California Department of Water Resources. 2019. California Water Plan Update 2018: Supporting Documentation for Water Portfolios. Available at: https://data.ca.gov/dataset/water-plan-water-balance-data/resource/3e5bdae2-6352-4d8f-9e37-018357100fdf

Water Supply and Use in the Colorado River Hydrologic Region

About 85 percent of the Colorado River Region's urban and agricultural water supply comes from surface water deliveries from the Colorado River. Water from the river is delivered to this region via the All American and Coachella canals, local diversions, and the Colorado River Aqueduct by means of an exchange for SWP water. The Colorado River is an interstate and international river whose use is apportioned among the seven Colorado River Basin states and Mexico by a complex body of statues, decrees, and court decisions known collectively as the "Law of the River." Local surface water, groundwater, and the SWP provide the reminder of water to the region. In addition, many of the alluvial valleys in the regions are underlain by groundwater aquifers that are the sole source of water for many local communities. However, some alluvial valleys contain groundwater of such poor quality it is not suitable for potable uses.

Other cities such as Banning, Coachella, Indio, Palm Desert, Hesperia, and Victorville, are solely dependent on groundwater; while other cities in the SCAG region have supplemented their groundwater supplies with water from the State Water Projects or local streams and reservoirs. **Table 3.19.3-4, Colorado River Region Water Balance,** shows the water balance for the Colorado River Hydrologic Region from 2011 to 2015.

Table 3.19.3-4
Colorado River Region Water Balance

Water Use	2011	2012	2013	2014	2015
Urban	477	591	338	302	269
Agricultural	3,637	4,217	4,616	4,750	3,817
Environmental	44	44	30	45	45
Total	**4,158**	**4,852**	**4,985**	**5,098**	**4,130**
Supplies					
Local Projects	2	2	2	2	2
Local Imported Deliveries	0	0	0	0	0
Colorado River Project	3,260	3,782	3,998	4,115	3,448
Federal Projects	0	0	0	0	0
State Project	133	169	94	19	53
Groundwater Extraction	317	390	222	266	163
Reuse and Recycled Water	446	510	669	697	465
Total	**4,158**	**4,852**	**4,985**	**5,098**	**4,130**

Note: Figures in thousands of acre-feet of water.
Source: California Department of Water Resources. 2019. California Water Plan Update 2018: Supporting Documentation for Water Portfolios. Available at: https://data.ca.gov/dataset/water-plan-water-balance-data/resource/3e5bdae2-6352-4d8f-9e37-018357100fdf

Local Water Supply

Local sources of water account for approximately 30 percent of the total volume consumed annually in the SCAG region.[11] Local sources include surface water runoff, groundwater, and water reclamation. Some local agencies have led efforts to diversify water supply, such as South Coast Water District's Doheny Ocean Desalination Project and West Basin Municipal Water District's Ocean Water Desalination project.

Local Surface Water (within Each Hydrologic Unit [HU] Region)

The infiltration of surface runoff augments groundwater and surface water supplies. However, the regional water demand exceeds the current natural recharge of runoff water. The arid climate, summer drought, and increased impervious surface associated with urbanization contribute to this reduction in natural recharge. Urban and agricultural runoff often contains pollutants that decrease the quality of local water supplies. Runoff captured in storage reservoirs varies widely from year to year depending on the

11 California Department of Water Resources. Accessed 15 September 2015. *California Water Plan Update 2013.* Available at: http://www.waterplan.water.ca.gov/cwpu2013/final/index.cfm

amount of local precipitation. On average, precipitation contributes approximately 38,000 acre-feet per year (afy) within the MWD service area (not including San Diego County). Within the desert regions, the amount is considerably less, owing to climatic differences.

Local Groundwater

Groundwater represents most of the SCAG region's fresh water supply, making up approximately 34 percent of total water use, depending on precipitation levels.[12] The hydrologic regions vary in their dependence on groundwater for urban and agricultural uses (**Table 3.19.3-5, Groundwater Dependence in the SCAG Region**). The DWR estimates that the state has a groundwater overdraft of approximately 1 to 2 maf in average years.[13]

Table 3.19.3-5
Groundwater Dependence in the SCAG Region

Hydrologic Region	Percentage of Total Urban and Agricultural Water Supply Provided by Groundwater
Central Coast[a]	86%
South Coast[b]	34%
South Lahonton[c]	66%
Colorado River[d]	9%

Note:
a Includes part of Ventura County. The remainder is outside of the SCAG Region.
b Includes Orange County, most of San Diego and Los Angeles counties, parts of Riverside, San Bernardino, Ventura, Kern and Santa Barbara counties.
c Includes most of San Bernardino County, as well as Inyo, and parts of Mono, Kern and Los Angeles counties.
d Includes all of Imperial County, most of Riverside, and parts of San Bernardino and San Diego counties.
Source:
California Department of Water Resources. California Water Today, Volume 1 – The Strategic Plan. Available online at: https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/California-Water-Plan/Water-Plan-Updates/Files/Update-2013/Water-Plan-Update-2013-Volume-1.pdf?la=en&hash=D34DCEE71FBC479F6A86490CA639DE5D66D49720, accessed September 9, 2019.

Recent efforts to store recycled water and surplus water in groundwater basins for use during drought periods have proven successful. MWD has 10 projects with various water agencies for groundwater storage, resulting in approximately 421,900 af of added capacity per year. A number of agencies within the region are also active in the recharge of surface water, including the Orange County Water District,

12 California Department of Water Resources. 2013. *California Water Plan, Volume 1 – The Strategic Plan*. Available online at: https://water.ca.gov/Programs/California-Water-Plan/Water-Plan-Updates, accessed September 16, 2019.

13 Ibid.

Los Angeles County Department of Water and Power, Foothill Municipal Water District, San Bernardino County Water and Flood Control District, Coachella Valley Water District, the Water Replenishment District of Southern California, the San Gabriel Valley Municipal Water District, and the Calleguas Municipal Water District.

3.19.3.2 REGULATORY FRAMEWORK

3.19.3.2.1 Federal

Clean Water Act/National Pollutant Discharge Elimination System Permits

The Clean Water Act (CWA) (33 USC Sections 1251 *et seq.*) was enacted by Congress in 1972 and has been amended several times since its adoption. It is the primary federal law regulating water quality in the U.S. Its objective is to reduce or eliminate water pollution in the nation's rivers, streams, lakes, and coastal waters. The CWA prescribes the basic federal laws for regulating discharges of pollutants and sets minimum water quality standards for all surface waters in the U.S. The CWA is administered by the U.S. Environmental Protection Agency (USEPA).[14]

In California, the State Water Resources Control Board (State Water Board) and the nine Regional Water Quality Control Boards (Regional Water Boards) implement many of the Clean Water Act's provisions. The Clean Water Act requires the State to adopt water quality standards and to submit those standards for approval by the U.S. Environmental Protection Agency (US EPA). For point source discharges to surface water, the Clean Water Act authorizes the U.S.EPA and/or approved states (such as California) to administer the National Pollutant Discharge Elimination System (NPDES) program. The NPDES program regulates the discharge of pollutants from point sources. Municipal point sources consist primarily of municipal wastewater treatment plant outfalls and stormwater conveyance system outfalls. The Clean Water Act also establishes a loan program - the State Revolving Fund - for the implementation of water quality improvement projects.

Safe Drinking Water Act

Passed in 1974 and amended in 1986 and 1996, the Safe Drinking Water Act (SDWA) gives the EPA the authority to set drinking water standards. Drinking water standards apply to public water systems, which provide water for human consumption through at least 15 service connections, or regularly serve at least 25 individuals. There are two categories of drinking water standards, the National Primary

14 U.S. Environmental Protection Agency. *Clean Water Act, Section 402: National Pollutant Discharge Elimination System*. Available online at: https://www.epa.gov/cwa-404/clean-water-act-section-402-national-pollutant-discharge-elimination-system, accessed August 29, 2019.

Drinking Water Regulations (NPDWR) and the National Secondary Drinking Water Regulations. The NPDWR are legally enforceable standards that apply to public water systems. NPDWR standards protect drinking water quality by limiting the levels of specific contaminants that can adversely affect public health and are known or anticipated to occur in water.[15]

3.19.3.2.2 State

Porter-Cologne Water Quality Control Act

The Porter-Cologne Act is the principal law governing water quality regulation in California. It establishes a comprehensive program to protect water quality and the beneficial uses of water. The Porter-Cologne Act applies to surface waters, wetlands, and ground water and to both point and nonpoint sources of pollution. Pursuant to the Porter-Cologne Act (California Water Code section 13000 *et seq.*), the policy of the State is as follows:

- That the quality of all the waters of the State shall be protected;
- That all activities and factors affecting the quality of water shall be regulated to attain the highest water quality within reason; and
- That the State must be prepared to exercise its full power and jurisdiction to protect the quality of water in the State from degradation.

The Porter-Cologne Act established nine Regional Water Boards (based on hydrogeologic barriers) and the State Water Board, which are charged with implementing its provisions and which have primary responsibility for protecting water quality in California. The State Water Board provides program guidance and oversight, allocates funds, and reviews Regional Water Boards decisions. In addition, the State Water Board allocates rights to the use of surface water. The Regional Water Boards have primary responsibility for individual permitting, inspection, and enforcement actions within each of nine hydrologic regions. The State Water Board and Regional Water Boards have numerous NPS-related responsibilities, including monitoring and assessment, planning, financial assistance, and management.

The Regional Water Boards regulate discharges under the Porter-Cologne Act primarily through issuance of NPDES permits and waste discharge requirements (WDRs for point and nonpoint source discharges. Anyone discharging or proposing to discharge materials that could affect water quality (other than to a community sanitary sewer system regulated by an NPDES permit) must file a report of waste discharge.

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15 U.S. Environmental Protection Agency. *Safe Drinking Water Act (SDWA).* Available online at: https://www.epa.gov/sdwa, accessed August 29, 2019.

The Porter-Cologne Act also implements many provisions of the Clean Water Act, such as NPDES permitting program. Section 401 of the Clean Water Act gives the State Water Board the authority to review any proposed federally permitted or federally licensed activity that may impact water quality and to certify, condition, or deny the activity if it does not comply with State water quality standards.

The Porter-Cologne Act also requires adoption of water quality control plans (Basin plans) that contain the guiding policies of water pollution management in California. A number of statewide water quality control plans have been adopted by the State Water Board. In addition, basin plans have been adopted by each of the Regional Water Boards and get updated as necessary and practical. These plans identify the existing and potential beneficial uses of waters of the State and establish water quality objectives to protect these uses. The basin plans also contain implementation, surveillance, and monitoring plans. Statewide and regional water quality control plans include enforceable prohibitions against certain types of discharges, including those that may pertain to nonpoint sources. Portions of water quality control plans, the water quality objectives and beneficial use designations, are subject to review by U.S.EPA, when approved they become water quality standards under the Clean Water Act.[16]

California Administrative Code

California Administrative Code Title 24 contains the California Building Standards, including the California Plumbing Code (Part 5), promotes water conservation. Title 20 addresses Public Utilities and Energy and includes appliance efficiency standards that promote water conservation. In addition, a number of State laws listed below require water-efficient plumbing fixtures in structures:

- Title 20, California Administrative Code, Section1604(g) establishes efficiency standards that give the maximum flow rate of all new showerheads, lavatory faucets, sink faucets, and tub spout diverters.
- Title 20 California Administrative Code Section1606 prohibits the sale of fixtures that do not comply with established efficiency regulations.
- Title 24, California Administrative Code, Sections 25352(i) and (j) address pipe insulation requirements, which can reduce water used before hot water reaches equipment or fixtures. Insulation of water-heating systems is also required.
- Health and Safety Code Section17921.3 requires low-flush toilets and urinals in virtually all buildings.

16 California Water Boards. 2019. *Porter-Cologne Water Quality Control Act*. Available online at: https://www.waterboards.ca.gov/laws_regulations/docs/portercologne.pdf, accessed August 29, 2019.

Under Title 22, the State Department of Health establishes State-wide effluent bacteriological and treatment reliability standards for recycled water uses. The standards are based on the potential for human contact with recycled water. The regional water quality control board (RWQCB) has established and enforces requirements for the application and use of recycled water. Permits are required from a RWQCB for any recycling operation. Applicants for a permit are required to demonstrate that the proposed recycled water operation is in compliance with Title 22 and will not exceed the ground and surface water quality objectives in the regional basin management plan.[17]

The Water Conservation Act of 2009

These sections of the Water Code, enacted as SB X7-7—The Water Conservation Act of 2009, set water conservation targets and efficiency improvements for urban and agricultural water suppliers, Sections 10608.16 and Sections 10608.48, respectively. The legislation establishes a State-wide target to reduce urban per capita water use by 20 percent by 2020. Urban retail water suppliers are required, individually or on a regional basis, to develop an urban water use target by December 31, 2010, to meet their target by 2020, and to meet an interim target (half of their 2020 target) by 2015. Urban water suppliers cannot impose conservation requirements on process water (water used in production of a product) and are required to employ two critical efficient water management practices—water measurement and pricing. Urban retail water suppliers must include in a water management plan, to be completed by July 2011, the baseline daily per capita water use, water use target, interim water use target, and compliance daily per capita water use.[18]

California Urban Water Management Planning Act

This part of the State Water Code (Section 10610) states that each urban water supplier that provides water to 3,000 or more customers, or that provides over 3,000 AF of water annually, should make every effort to ensure the appropriate level of reliability in its water service sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry years by preparing a UWMP and updating it every five years. The Act describes the contents of UWMPs and requires each agency's UWMP to assess the reliability of the agency's water resources over a 20-year planning horizon.[19]

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17 California Department of Public Health. 2014. *Regulations Related to Recycled Water*. Available online at: https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/lawbook/RWregulations_20140618.pdf, accessed August 29, 2019.

18 California Department of Water Resources. 2019. *SB X7-7*. Available online at: https://water.ca.gov/Programs/Water-Use-And-Efficiency/SB-X7-7, accessed August 29, 2019.

19 California Department of Water Resources. 2019. *Urban Water Management Plan*. Available online at: https://water.ca.gov/Programs/Water-Use-And-Efficiency/Urban-Water-Use-Efficiency/Urban-Water-Management-Plans, accessed August 29, 2019.

California Senate Bill 610

Referred to as SB 610, the intent of this part of the State Water Code is to ensure that sufficient water supplies are available for growing communities. Water Code Section 10910 requires any project subject to CEQA of a specified minimum size to require a local public water provider with more than 3,000 service connections to prepare a water supply assessment (WSA) for the project. The WSA must document sources of water supply, quantify water demands, and compare future water supply and demand to show that sufficient water will be available to serve the development project. Water supply must be assessed for normal, single dry, and multiple dry water years during a 20-year forecast.[20] If supplies are found to be insufficient to serve the project, the WSA must include plans for acquiring sufficient supplies. The WSA must be included in the CEQA document for the project.[21]

California Senate Bill 221

SB 221 applies to subdivisions of more than 500 dwelling units (Water Code Section 10912). Like SB 610, it is intended to ensure an adequate water supply for new development. SB 221 requires that approval of a tentative map showing the design and improvement of a proposed subdivision shall include a requirement that a sufficient water supply is available.[22,23]

California Groundwater Management Act

The Groundwater Management Act (AB 3030, Water Code Sections 10750 et seq.) provides guidance for applicable local agencies to develop voluntary groundwater management plans (GMP) in State-designated groundwater basins. GMPs can allow agencies to raise revenue to pay for measures influencing the management of the basin, including extraction, recharge, conveyance, facilities' maintenance and water quality.[24]

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20 California Legislative Information. *Part 2.10. Water Supply Planning to Support Existing and Planned Future Uses [10910-10915}, Section 10910.*.

21 California Department of Water Resources. *Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001.* Available online at: https://water.ca.gov/LegacyFiles/pubs/use/sb_610_sb_221_guidebook/guidebook.pdf, accessed August 29, 2019.

22 Ibid.

23 California Legislative Information. *Part 2.10. Water Supply Planning to Support Existing and Planned Future Uses [10910-10915], Section 10912.*

24 California Department of Water Resources. *1992 Assembly Bill 3030 (AB3030).*

California Model Water Efficient Landscape Ordinance

The California Model Water Efficient Landscape Ordinance (MWELO) sets restrictions on outdoor landscaping. Because the City of Lincoln is a "local agency" under the MWELO, it must require project applicants to prepare plans consistent with the requirements of the MWELO for review and approval by the City. The MWELO was most recently updated by the Department of Water Resources and approved by the California Water Commission on July 15, 2015. All provisions became effective on February 1, 2016. The revisions, which apply to new construction with a landscape area greater than 500 square feet, reduced the allowable coverage of high-water-use plants to 25 percent of the landscaped area. The MWELO also requires use of a dedicated landscape meter on landscape areas for residential landscape areas greater than 5,000 square feet or nonresidential landscape areas greater than 1,000 square feet, and requires weather-based irrigation controllers or soil-moisture based controllers or other self-adjusting irrigation controllers for irrigation scheduling in all irrigation systems.[25]

Governor's Executive Order B-29-15 issued on April 1, 2015

Key provisions of Executive Order B-29-15 included ordering the State Water Resources Control Board to impose restrictions to achieve a 25-percent reduction in potable urban water usage through February 28, 2016; directing DWR to lead a statewide initiative, in partnership with local agencies, to collectively replace 50 million square feet of lawns and ornamental turf with drought tolerant landscapes, and directing the California Energy Commission to implement a statewide appliance rebate program to provide monetary incentives for the replacement of inefficient household devices.[26]

3.19.3.2.3 Regional

The water quality control plans and groundwater protection responsibilities for the SCAG region are described in **Section 3.10, Hydrology and Water Quality.**

Urban Water Management Plans

Under California Water Code Division 6, Part 2.6, Section 10610-10656, the Urban Water Management Planning Act (UWMPA) requires urban water suppliers that supply more than 3,000 acre-feet of water annually, or serve more than 3,000 connections, to submit an Urban Water Management Plan (UWMP).

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25 California Department of Water Resources. *Model Water Efficient Landscape Ordinance.* Available online at: https://water.ca.gov/LegacyFiles/wateruseefficiency/docs/MWELO09-10-09.pdf, accessed August 29, 2019.

26 California Water Boards. 2015. *Executive Order B-29-15 State of Emergency Due to Sever Drought Conditions.* Available online at: https://www.waterboards.ca.gov/waterrights/water_issues/programs/drought/docs/emergency_regulations/econ_analysis.pdf, accessed August 29, 2019.

The UWMP is a public document prepared by water suppliers to support their long-term resource planning over a 20-year period and ensure adequate water supplies are available to meet existing and future water demands. The UWMP must be submitted to the DWR every 5 years, and must demonstrate progress toward reduction in 20 percent per capita urban water consumption by the year 2020, as required in the Water Conservation Bill of 2009, Senate Bill X7-7. There are 138 service districts in the SCAG region required to develop a UWMP, which is typically prepared and submitted to DWR within 30 days and reviewed 60 days prior to public hearing for plan adoption and implementation. The preparation of the plan includes guidebook, workshops, and programming for comprehensive strategies to conserve water.[27]

3.19.3.2.4 Local

Utility Master Plans & Utility Capital Improvement Programs

Jurisdictions usually have utility master plans or other planning documents that identify and prioritize projects needed to maintain adequate levels of utility service in the jurisdiction.

General Plans

Local policies related to utilities and service systems are established in each jurisdiction's general plan. In general, jurisdictions have policies in place that state that utility and service systems must be provided at the same time (or in advance of) need. In addition to these general policies, jurisdictions may have more specific policies tailored to performance objectives including wastewater treatment services.

3.19.3.3 ENVIRONMENTAL IMPACTS

3.19.3.3.1 Thresholds of Significance

For the purposes of this PEIR, SCAG has determined that adoption and/or implementation of Connect SoCal could result in significant adverse impacts with regards to water supply if the Plan would result in any of the following:

- Require or result in the relocation or construction of new or expanded water facilities, the construction or relocation of which could cause significant environmental effects;

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27 California Department of Water Resources. *California Water Code Division 6 Part 2.6. Urban Water Management Planning*. Available online at: https://water.ca.gov/LegacyFiles/urbanwatermanagement/docs/water_code-10610-10656.pdf, accessed August 29, 2019.

- Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years.

3.19.3.3.2 Methodology

The methodology for determining the significance of impacts to utilities and service systems compares existing conditions to the expected future use of potable water supplies, wastewater, stormwater facilities, and landfills with the Plan. The criteria above were applied to compare current conditions to future 2045 Plan conditions.

Implementation of the Plan would affect the use of utility and service systems in the SCAG region. The analysis of these impacts is programmatic at the regional level. With regards to water supply, the Plan's potential to exceed capacity of local infrastructure and require the relocation or construction of new or expanded facilities or result in a determination that projected demand in addition to current demands is used to determine the significance of the projects effects.

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

3.19.3.3.3 Impacts and Mitigation Measures

Impact USWS-1 **Require or result in the relocation or construction of new or expanded water facilities, the construction or relocation of which could cause significant environmental effects.**

Significant and Unavoidable – Mitigation Required.

Population in the SCAG region is expected to increase by 3.2 million people by 2045 which may result in a significant impact to the existing water infrastructure in the region. In 2014, California passed Proposition 1 in order to guarantee approximately $7.12 billion for water infrastructure projects,

including $725 million for projects that treat wastewater or saltwater.[28] Moreover, the DWR announced in June 2019 that $14 million in grant funding will be appropriated for projects that increase water quality, supply, and infrastructure.[29] A number of desalination projects have been proposed or are under construction within the SCAG region, including the West Basin Desalination Project which could produce 20 million gallons per day (mgd) (with potential expansion to 60 million gallons per day),[30] the Doheny Ocean Desalination Project which could produce 5 million gallons per day (with potential expansion to 15 mgd),[31] and the Huntington Beach Desalination Plant which could produce 50 mgd.[32] Additionally, Los Angeles and Orange Counties will develop pilot projects to increase stormwater capture. Specifically, the Mayfair Park Capture Project and Caruthers Park Water Capture Project Los Angeles County will capture an estimated 710 and 780 acre-feet/year, respectively.[33] In Orange County, the San Juan Aquifer Recovery Project is in the preliminary design phases for a stormwater capture project in the San Juan Watershed.[34] In February 2019 the City of Los Angeles announced its commitment to 100 percent recycled water at the Hyperion, L.A. Glendale, Tillman, and Terminal Island water treatment facilities by 2035.[35]

Therefore, there is anticipated to be an increase in water supply within the SCAG region from recycling and desalination. California residents used an estimated average 85 gallons of water per day in 2016.[36] Assuming per capita water consumption remains consistent, the SCAG region could require approximately 312.4 million more gallons of water per day to meet the increase in population. In recent years, as a result of increased water conservation, urban water demand has remained relatively constant despite growing population. However, there may be a limit to how much water can be saved through

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28 Legislative Analyst's Office. 2014. *Water Quality, Supply, and Infrastructure Improvement Act of 2014. AB 1471 (Chapter 188, Statues of 2014), Rendon. Bond Measure.*

29 California Department of Water Resources. *$14 Million Awarded in Grant Funding for Water Desalination Projects.* Available online at: https://water.ca.gov/News/Blog/2019/June-2019/14-Million-Awarded-in-Grant-Funding-for-Water-Desalination-Projects, accessed September 12, 2019.

30 West Basin Municipal Water District. *Full Draft EIR.* Available online at: http://westbasindesal.com/draft-eir.html, accessed September 11, 2019.

31 South Coast Water District. Doheny Ocean Desalination Project. Available online at http://scwd.org/depts/engineering/projects/water_supply_projects/oceandesal3/default.htm, accessed September 11, 2019.

32 Poseidon Water. *Huntington Beach Desalination Project*. Available online at: http://www.poseidonwater.com/huntington-beach-desalination-plant.html, accessed September 12, 2019.

33 State Water Resources Control Board. *Potential Pilot Projects Identified by Interested Parties.* Available online at: https://www.waterboards.ca.gov/water_issues/programs/stormwater/storms/potential_projects.shtml, accessed September 11, 2019.

34 Ibid.

35 California Water News Daily. 2019. *Los Angeles Mayor Garcetti Announces Goal to Recycle 100 Percent of City's Wastewater by 2035*. Available online at: http://californiawaternewsdaily.com/conservation/los-angeles-mayor-garcetti-announces-goal-to-recycle-100-percent-of-citys-wastewater-by-2035/, accessed September 11, 2019.

36 Legislative Analyst's Office. *Residential Water Use Trends and Implications for Conservation Policy*.

conservation and even with increases in water efficiency, increasing population could increase water demand. As a result, new water facilities will likely need to be constructed or expanded in order to meet this demand. Water facility projects vary in sizes and locations, but larger regional-scale facilities may be constructed in sensitive environments (e.g. desalination plants adjacent to the ocean). The construction of these larger-scale facilities could result in significant impacts because of their size, prominence and location.

Mitigation Measures

SCAG Mitigation Measure

SMM USWS-1: SCAG shall coordinate with local agencies as part of SCAG's Sustainability Program regarding the implementation of Urban Greening, Greenbelts and Community Separator land use strategies. Primary features of land use strategies address the following:

- Increased trail and greenway connectivity;
- Improved water quality, groundwater recharge and watershed health;
- Reduce urban runoff;
- Expand the urban forest;
- Provision of wildlife habitat and increased biodiversity;
- Expand recreation opportunities and beautification;
- Preserving agrarian economies;
- Restore severed wildlife corridors.

Project Level Mitigation Measures

PMM USWS-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to ensure sufficient water supplies, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

a) Reduce exterior consumptive uses of water in public areas, and should promote reductions in private homes and businesses, by shifting to drought-tolerant native

landscape plantings, using weather-based irrigation systems, educating other public agencies about water use, and installing related water pricing incentives.

b) Promote the availability of drought-resistant landscaping options and provide information on where these can be purchased. Use of reclaimed water especially in median landscaping and hillside landscaping can and should be implemented where feasible.

c) Implement water conservation best practices such as low-flow toilets, water-efficient clothes washers, water system audits, and leak detection and repair.

d) For projects located in an area with existing reclaimed water conveyance infrastructure and excess reclaimed water capacity, use reclaimed water for non-potable uses, especially landscape irrigation. For projects in a location planned for future reclaimed water service, projects should install dual plumbing systems in anticipation of future use. Large developments could treat wastewater onsite to tertiary standards and use it for non-potable uses onsite.

Level of Significance after Mitigation

As discussed above, regulations and polices would reduce demand for water which could result in reduced need to construct new water facilities, but construction of new large-scale water facilities is reasonably foreseeable given the expected population increase and anticipated demand for water. Therefore, given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and polices designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and lack of project-specific detail, including project locations, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts with respect to new or expanded water facilities could be significant and unavoidable even with implementation of mitigation.

Impact USWS-2 Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years.

Significant and Unavoidable – Mitigation Required.

The Plan could result in insufficient water supplies from existing entitlements and resources resulting in significant impacts. Transportation projects and development projects anticipated to occur under the Plan have the potential to result in water use that could exceed available water supply. Potential factors that would lead water supply capabilities being exceeded include vulnerability and uncertainty of water supply, in relation to climate variability, resulting from increased temperatures and wildlife fires, as well as regulatory or legislative decisions that could affect the availability of imported water.

Water agencies in the SCAG region produce Urban Water Management Plans (UWMPs) and other long-range planning studies to provide a system adequate to supply water demand. At current usage rates, existing water supplies and infrastructure would not be sufficient to meet demand in 2045. The volume of water and water delivery infrastructure available within the SCAG region may not be sufficient to meet the future multiple dry year or average year water demand in 2045 without substantial reduction in water demand. **Table 3.19.3-6, Metropolitan Water District's Local Supplies for Average and Dry Years,** shows the anticipated water supply for the MWD area, which makes up a portion of the SCAG region, for 2020, 2030, and 2040.

Table 3.19.3-6
Metropolitan Water District's Local Supplies for Average and Dry Years

	2020		2030		2040	
	Average Year	**Dry Year**	**Average Year**	**Dry Year**	**Average Year**	**Dry Year**
Local Groundwater						
From Natural Recharge	1,011,000	1,007,000	1,004,000	1,005,000	1,005,000	1,006,000
Replenishment	292,000	298,000	297,000	297,000	297,000	297,000
Local Projects						
Groundwater Recovery	143,000	139,000	163,000	162,000	167,000	167,000
Recycling	436,000	427,000	486,000	482,000	509,000	507,000
Seawater Desalination	51,000	56,000	51,000	56,000	51,000	56,000
Local Runoff Stored	110,000	102,000	110,000	102,000	110,000	102,000
Los Angeles Aqueduct	261,000	113,000	264,000	125,000	268,000	133,000
IID-SDCWA Transfer and Canal Lining	274,000	274,000	282,000	282,000	282,000	282,000
Total	**2,578,000**	**2,416,000**	**2,657,000**	**2,511,000**	**2,689,000**	**2,550,000**

Source:
The Metropolitan Water District of Southern California. 2016. 2015 Urban Water Management District. Available online at: http://www.mwdh2o.com/PDF_About_Your_Water/2.4.2_Regional_Urban_Water_Management_Plan.pdf, accessed September 12, 2019.

Based on projected population growth under the Plan, the demand for municipal water would increase. Many agencies are implementing aggressive water conservation, recycling and planning strategies (water

transfer and water banking) to sustain the supply of water during wet and dry years. The City of Los Angeles for example has maintained relatively constant water demand over the past ten years as a result of water conservation despite increasing population. Additionally, the Plan's land use strategies encourage compact development and smaller single-family lots in urbanized areas such as HQTAs. Compact development tend to consume water more efficiently (lower per capita consumption). Nonetheless, when considering the Plan as a whole for the region, there is potential for demand in the region to exceed existing and reasonably foreseeable water supplies, due to increased population, drought conditions, and unreliable water supply in the region, constituting a significant impact.

Meeting future water demand is the responsibility of local and regional water agencies. Water supplies are either produced locally from groundwater and surface water sources or are imported via the Los Angeles Aqueduct, the California Aqueduct, the Colorado River Aqueduct, the All American Canal, or the Coachella Canal. Other means of providing water without increasing imported supplies include reclamation and recycling, conservation, water transfers, groundwater banking, developing brackish groundwater, and ocean desalination.

The Urban Water Management Plan Act of 1990 requires that local water agencies prepare plans showing projected water supplies and demands for average years and multiple dry years. These plans are updated every five years. As part of the statewide continued efforts on reducing water usage, the UWMP has been amended to further require urban water suppliers to include narrative descriptions of their water demand management measures in the UWMPs. The descriptions include discussions on progress on water demand management measures implemented over the last five year, and identify additional measures and water saving practices that will help suppliers achieve water use reduction targets. Additionally, the amended Act requires UWMPs to quantify distribution system water losses as a new category of past and current water use and allows water use projections to account for estimated water savings resulting from implementation of applicable codes, building design standards, ordinances, and transportation and land use plans.

The Metropolitan Water District of Southern California prepared the Integrated Water Resources Plan (IRP)[37] that provides a roadmap for maintaining regional water supply. The framework places an increased emphasis on regional collaboration. Earlier plans dating back to 1996 set a regional reliability goal of meeting full-service demands at the retail level under all foreseeable hydrologic conditions. This updated plan seeks to stabilize Metropolitan's traditional imported water supplies and to continue developing additional local resources.

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37 Metropolitan Water District of Southern California. *Integrated Water Resources Plan*. Available online at: http://www.mwdh2o.com/PDF_About_Your_Water/2015%20IRP%20Update%20Report%20(web).pdf, accessed August 28, 2019.

Over 80 percent of the projected population in the SCAG region for the year 2045 is within the MWD service area.[38] It is anticipated that moderate density development in suburban areas, and compact development in urbanized areas, would reduce the need to extract and haul waters to distances outside of the urbanized and undeveloped areas. Supplying the water necessary to meet future demand and/or minimizing that demand based on anticipated land use distribution would mitigate anticipated impacts. Each water district develops its own policy for determining its planning horizon and for acquiring and building water facilities. Water districts would provide water for the growth planned and authorized by the appropriate land use authority. However, given the challenges to imported water supplies, meeting future demand is difficult. Therefore, impacts would be significant, requiring the consideration of mitigation measures.

Mitigation Measures

SCAG Mitigation Measure

See **SMM USWS-1**.

Project Level Mitigation Measures

See **PMM-USWS-1.**

Level of Significance after Mitigation

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

3.19.3.4 SOURCES

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38 Metropolitan Water District of Southern California. n.d. Members Agency Map. Available online at: http://mwdh2o.com/PDF_In_The_Community/3.3_service_area_map.pdf, accessed August 29, 2019.

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3.20 WILDFIRE

This section of the Program Environmental Impact Report (PEIR) describes existing wildfire conditions within the SCAG region, identifies the regulatory framework with respect to laws and regulations that affect wildfire, and analyzes the potential impacts of the Connect SoCal Plan ("Connect SoCal"; "Plan"). In addition, this PEIR provides regional-scale mitigation measures as well as project-level mitigation measures to be considered by lead agencies for subsequent, site-specific environmental review to reduce identified impacts as appropriate and feasible. Other fire protection considerations are addressed in **Public Services, Section 3.15.1, Fire Protection,** in addition emergency access is addressed in **Section 3.17, Transportation, Traffic, and Safety,** and emergency response and evacuation plans are addressed in **Section 3.9, Hazards and Hazardous Materials.**

3.20.1 ENVIRONMENTAL SETTING

3.20.1.1 Definitions

Definitions of terms used in the regulatory framework, characterization of baseline conditions, and impact analysis for wildfire are provided.

CAL FIRE: California Department of Forestry and Fire Protection (abbreviated Cal Fire and styled CAL FIRE). CAL FIRE is the State of California's fire protection agency responsible for protection and stewardship of over 31 million acres of the state's privately-owned wildlands. CAL FIRE is an "all-risk" department, meaning its teams may respond to a car crash, medical incident, hazardous material spill, or natural disaster, not just fires. CAL FIRE is also responsible for managing 71,000 acres of Demonstration State Forests, overseeing enforcement of state forest management regulations, and operating training and certification course trainings.[1]

Clearance: Space cleared of vegetation as required by law, regulation, easement, etc. for the purpose of preventing fires.

Containment/Control: A fire is contained when it is completely surrounded by a boundary but is still burning and has the potential to jump a boundary line. The boundary may be a "fire line" which is a strip of area where the vegetation has been removed to deny the fire fuel, or a river, a freeway or some other barrier which is expected to stop the fire. Hose lines from fire engines may also contribute to a fire being

1 California Department of Forestry and Fire Protection. *About Us.* Available online at https://www.fire.ca.gov/about-us/, accessed September 10, 2019.

surrounded and contained. A fire is controlled when there is no further threat of it jumping a containment line. While crews continue to do mop-up work within the fire lines, the fire fight is over.

Contract Counties: Contract counties are counties where the local county fire department is contracted by CAL FIRE to protect a State Responsibility Area (SRA). Section 4133 of the Public Resources Code and Section 55607 of the Government Code permit the CAL FIRE Director to contract with counties for protection of SRAs. In California, six counties provide fire-prevention services in SRAs under contract with the state. These counties are Marin, Kern, Santa Barbara, Ventura, Los Angeles and Orange.

Damage Assessment: Amount of economic loss, including cost of fire suppression.

Defensible Space: An area either natural or manmade where material capable of causing a fire to spread unchecked has been treated, cleared, reduced or changed in order to act as barrier between the advancing wildfire and the loss to life, property, or resources. This concept is vital for firefighter safety and provides the single significant element of protection of individual property owners. California law requires homeowners to maintain 100 feet of defensible space around homes and structures.

Easement: A right to cross or otherwise use someone else's property for a specified purpose.

Fire Hazard: Dangerous accumulation of flammable fuels in wildland areas, usually referring to vegetation or the flammable materials that may be ignited by various fire risks or cause fires to increase in intensity or rate of spread.

Fire Hazard Zoning: A planning and regulatory activity (typically conducted by a local agency such as a city or county) which provides criteria for what kinds, how many and under what conditions development or other activities should be regulated in areas of various hazard classification.

Fire Season: In California fire season generally lasts for six to eight months, from summer to early fall. In recent years, fire season has extended into December.

Greenbelts: A facility or land use designed for a use other than fire protection, which will slow or resist the spread of a wildfire. Includes parking lots, irrigated or landscaped areas, golf courses, parks, playgrounds and maintained vineyards, orchards or annual crops that do not cure in the field.

Interface/ Wildland Interface: The meeting point of wildland and structures. At this interface, structures and vegetation are sufficiently close that a wildland fire could spread to structures or a structure fire ignites vegetation.

Intermix/ Wildland Intermix: Interspersing of developed land with wildland, where there are no easily discernible boundaries between the two systems. In this setting, there may be homes or other structures intermixed with wildland fuels, as opposed to a distinct area of wildland fuel adjacent to a developed area.

Local Responsibility Area (LRA): Areas where wildland fire protection is the responsibility of the local government. Local responsibility area fire protection is typically provided by city fire departments, fire protection districts, counties, and by CAL FIRE under contract to local governments.

Prescribed Burning: Controlled application of fire to wildland fuels, in either their natural or modified state, under conditions of weather, fuel moisture, soil moisture, etc., as to allow the fire to be confined to a predetermined area and at the same time to produce results to meet planned objectives of land management.

Santa Ana Winds: Santa Ana winds blow from the northeast toward the beaches as areas of strong high pressure build across the interior west. The wind speed can be magnified as air squeezes over mountain passes and rushes downhill, heating and drying as it descends in elevation. Severe Santa Ana Wind events pose a heightened wildfire risk.

State Responsibility Area (SRA): SRAs are areas in which the primary financial responsibility for preventing and suppressing fires is that of the state and is defined based on land ownership, population density and land use.[2] These include: lands covered wholly or in part by timber, brush, undergrowth or grass, whether of commercial value or not; lands which protect the soil from erosion, retard run-off of water or accelerated percolation; lands used principally for range or forage purposes; lands not owned by the Federal government; and lands not incorporated. By Board regulations, unless specific circumstances dictate otherwise, lands are removed from SRA when housing densities average more than 3 units per acre over an area of 250 acres. CAL FIRE has SRA responsibility for the protection of more than 31 million acres of California´s privately-owned wildlands.[3]

Wildland: Refers to unoccupied lands

Wildland Urban Interface: Refers to the geographical point where flammable vegetation meets man-made structures.

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2 CAL FIRE. 2017. *Fire Prevention Fee*. Available online at: https://www.cdtfa.ca.gov/taxes-and-fees/fire-prev-fee.htm, accessed September 7, 2019.

3 CAL FIRE. *Informational Report for State Responsibility Area Fire Prevention Fee: Fiscal Year 2016-2017*. Available online at: https://www.fire.ca.gov/media/8146/report-for-sra-fire-prevention-fee-fy16-17.pdf, accessed August 21, 2019.

3.20.1.2 Existing Conditions

A wildfire is defined as a non-structural fire in undeveloped area with the potential to spread to an urban area. While wildfires are common across California, a variety of factors can affect the likelihood of a fire occurring and the severity of the burn. Unsurprisingly, locations with hot, dry, and windy conditions face a greater fire hazard than wetter and cooler locations, and communities near wildland areas are more endangered than those in cities and towns. Vegetation, topography, roadways, and management methods also contribute to an area's potential for fire hazards. Steep hillsides and varied topography may also increase the risk of wildland fires, and could affect natural resources, as well as life and property. Most fires in California occur during late summer and early fall, but recently the fire season is starting earlier and lasting longer in the year, affecting areas longer, and resulting in more extreme events due to climate change.

CalFire publishes Fire Hazard Severity Zone Maps for the entire State of California, which include fire hazard measurements, as well as the areas that are under State Responsibility Areas (SRA) lands or Local Responsibility Area (LRA) lands, for each county in the State. These maps place areas of the state into different fire hazard severity zones (FHSZ) based on a hazard scoring system using subjective criteria for fuels, fire history, terrain influences, housing density, and occurrence of severe fire weather where urban fire could result in catastrophic losses. As part of this mapping system, land where CAL FIRE is responsible for wildland fire protection and generally located in unincorporated areas is classified as a SRA. In addition to establishing local or state responsibility for wildfire protection in a specific area, CAL FIRE designates areas as very high fire hazard severity (VHFHSZ) zones or non-VHFHS zones.[4]

In 2017, and then again in 2018, California experienced record-breaking heat as a part of a global warming trend. The heat, coupled with years of drought and an increase of forest pests and disease linked to climate change, created perfect fire conditions that allowed for some of the most destructive and deadliest fires in the state's history. Wind direction and intensity, particularly for fires close to populated areas pose not only safety issues, but also air quality related health issues.

Fire Hazard Severity Zones

Wildland fire protection in California is the responsibility of either the local, state, or federal government. Public Resources Code Section 4201-5 (Chapter 806, Statues of 1982) requires CAL FIRE to evaluate fire hazard severity and map FHSZ for all SRA.[5] FHSZs are based on factors such as fuel, slope, and weather

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4 CAL FIRE. 2007. *Fire Hazard Severity Zones in SRA*. Available online at: https://osfm.fire.ca.gov/media/6636/fhszs_map.pdf, accessed August 20, 2019.

5 California Legislative Information. 1982. *Article 9. Fire Hazards Severity Zones [4201-4204].*

and are designated as moderate, high, and very high. Zone classification is based on a combination of how a fire will behave and the probability of flames and embers threatening buildings. By identifying areas with the potential for more severe wildfire hazards, FHSZ maps allow for proper planning, prevention, and mitigation that reduce wildfire damages. As of 2018, CAL FIRE is in the planning stages of updating all FHSZ for SRA counties and upon completion, would make recommendations to LRAs.

After the Oakland Hills Fire of 1991, the "Bates Bill" (Senate Bill 337) was passed in 1992, calling on CAL FIRE to make recommendations to local jurisdictions where VHFHSZs exist. The bill provides direction for local jurisdictions to mitigate fire spread and reduce the intensity of uncontrolled blazes.

Fire hazard severity zone levels range from Moderate to Very High. Fire hazard severity zones are designated in three types of areas based on what level of government is financially responsible for preventing and suppressing wildfires:

- Federal Responsibility Areas (FRAs): The federal government is financially responsible for wildfire suppression. Within the District, the Angeles National Forest and federal land in the Santa Monica Mountains National Recreation Area are FRAs.

- State Responsibility Areas (SRAs): The state is financially responsible for wildfire suppression. Within the District, SRAs are in outlying areas such as the Santa Susana Mountains, foothills of the San Gabriel Mountains, and parts of the Santa Monica Mountains.

- Local Responsibility Areas (LRAs): Cities or the County are financially responsible for wildfire suppression. LRAs in Los Angeles County include foothills of the Santa Susana and San Gabriel Mountains, and in the Verdugo Mountains, Santa Monica Mountains, Hollywood Hills, San Rafael Hills, Puente Hills, and in other hills in the central Los Angeles area.

SCAG Region

Though wildland fires are a natural part of the ecological processes, in the past, it was presumed that all wildland fires should be extinguished promptly. This caused "protected" vegetation to grow denser, weakening vegetation in a struggle for living space and increasing destruction by pests and disease; and in turn, added fuel for future fire. In addition, the absence of fire can alter or disrupt the cycle of natural plant succession and the associated habitats that form. Recognizing this, land management agencies are now committed to finding ways, such as prescribed burning, to reintroduce fire into natural ecosystems. In addition, California has extended droughts, which increase dead and dying vegetation, dry fuel per acre volumes, and many days of low humidity. Furthermore, the majority of wildfires in the region are human caused by factors including but not limited to campfires and building fires. This remains true

even before accounting for the crisis of anthropogenic climate change, which exacerbates wildfires. Wildfire increases the potential for runoff and erosion, as fire removes ecological stabilizers such as vegetation and healthy soil. In coastal regions and other areas with steep slopes, scorched land left after a wildfire is particularly susceptible to debris flow and other hazards.

SRAs and LRAs have been mapped in every county in the SCAG region.[6] The majority of VHFHSZs are located where wildlands meet urbanized areas, usually near large recreation areas.

Los Angeles County

Northern and western Los Angeles County feature vast swaths of wildland areas. The County's largest wildland area is the Angeles National Forest, a 700,000-acre forest that stretches across northern Los Angeles County between Gorman and Mt. Baldy. Much of the forest is marked by dense chaparral shrubs and woodlands. The Santa Monica Mountains National Recreation Area, a 150,000-acre area in the western portion of Los Angeles County, is comprised of several contiguous open space areas, including Malibu Creek State Park, Topanga State Park, and Leo Carrillo State Park. The Woolsey Fire in November 2018 burned 88 percent of all National Park Service acres within the park boundary. Following the Woolsey Fire, a wet winter allowed black mustard plants to quickly establish a presence in the area. This non-native plant quickly dries and provides fuel for future fires.

In Los Angeles County, heavily urbanized areas in the northwest and southern parts of the County are largely excluded from VHFHSZ designations, whereas communities near Topanga State Park and Angeles National Forest are at a much higher risk of wildfire impacts. However, even densely populated areas may be designated as VHFHSZ depending on their proximity to wildlands, such as the highly urbanized area surrounding the Kenneth Hahn State Recreation Area in Los Angeles.[7]

Orange County

Orange County is highly urbanized with wildland areas located primarily in the east and southeast of the county. The largest wildland area is the Cleveland National Forest, a 460,000-acre forest partially located in Orange County along the boundary with Riverside County. The Cleveland National Forest is characterized by chaparral and a warm, dry Mediterranean climate. The South Coast Wilderness Area, located along the Orange County Coast between Newport Beach and Laguna Niguel, is comprised of

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6 CAL FIRE. *Fire Hazard Severity Zones Maps*. Available online at: https://osfm.fire.ca.gov/divisions/wildfire-prevention-planning-engineering/wildland-hazards-building-codes/fire-hazard-severity-zones-maps/, accessed September 7, 2019.

7 CAL FIRE. 2007. *Los Angeles County: Fire Hazard Severity Zones in SRA*. Available online at: https://osfm.fire.ca.gov/media/6705/fhszs_map19.pdf, accessed August 20, 2019.

several contiguous open space areas, including Crystal Cove State Park, Laguna Coast Wilderness Park, and Aliso and Wood Canyons Wilderness Park.[8] These parks feature rugged coastal canyons, grasslands, and riparian woodlands. Wildfire increases the potential for runoff and erosion, as fire removes ecological stabilizers such as native vegetation and healthy soil and replaces them with invasive plants and debris. In addition, a portion of the 14,173-acre Chino Hills State Park is located in northern Orange County and features chaparral plant communities.

CAL FIRE marks portions of the following cities as VHFHSZs: Aliso Viejo, Anaheim, Brea, Dana Point, Fullerton, Irvine, La Habra, Laguna Beach, Laguna Niguel, Laguna Woods, Lake Forest, Mission Viejo, Newport Beach, Orange, Rancho Santa Margarita, San Clemente, San Juan Capistrano, Tustin, Villa Park, and Yorba Linda.

San Bernardino County

Most of San Bernardino County is in an FRA. Thus, fire protection is typically provided by city fire departments, fire protection districts, counties, and by CAL FIRE under contract to local government. The San Bernardino County Fire Protection District is one of the largest providers of fire protection services in these areas. Due to its dry, desert climate San Bernardino County has limited areas of very high FHSZ. The only very high FHSZs in the county are located in the southwest corner, stretching along the San Gabriel Mountains from the county's western border to Yucca Valley.[9] Most of the very high FHSZs in San Bernardino County are along its north and northeast edges at the foot of the San Bernardino and San Gabriel mountains; at its southeast margin in the north end of the San Timoteo Badlands; and in the southwest corner of the region in Chino Hills. Nearly the entire Mountain Region is mapped as very high FHSZ, while most of the desert regions are mapped outside of high or very high FHSZs. As of 2019, it is estimated that more than 34,000 residents in the unincorporated county live in very high fire hazard areas, and more than 63,000 live in high fire hazard areas.[10]

Imperial County

Imperial County is a predominantly agricultural area and approximately 50 percent of County lands are undeveloped and under federal jurisdiction. The potential for a major fire in the unincorporated areas of the County is generally low.

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8 CAL FIRE. 2007. *Orange County: Fire Hazard Severity Zones in SRA*. Available online at: https://osfm.fire.ca.gov/media/6737/fhszs_map30.pdf, accessed August 20, 2019.

9 CAL FIRE. 2007. *SW San Bernardino County: Fire Hazard Severity Zones in SRA.* Available online at: https://osfm.fire.ca.gov/media/6781/fhszs_map62.pdf, accessed August 20, 2019.

10 San Bernardino Countywide Plan Draft PEIR, June 2019

From the standpoint of fire safety, building and fire codes are the tool most commonly used by local jurisdictions. The County implements the Uniform Building Code (UBC) and the Uniform Fire Code (UFC).[11,12] The Imperial County Codified Zoning Ordinance also contains provisions which act to reduce fire hazards. The Imperial County Subdivision Ordinance is also used to reduce the risk of fire by securing, as a condition of subdivision of land, water systems of adequate size and pressure for firefighting, and adequate roadway widths for emergency service vehicle access including maneuverability of fire trucks.[13] Additionally, the County's Fire Prevention and Explosives Ordinance, contains provisions for the purpose of prescribing regulations governing conditions hazardous to life and property from fire or explosion. This program enables the public to be better prepared when an emergency fire situation occurs.

Imperial County's Fire Prevention Bureau runs the Imperial County Fire Prevention Program. The purpose of the Imperial County Fire Prevention Program is to assist in preventing injuries, deaths, business interruption and property damages resulting from fires and other emergencies. The Fire Prevention Bureau currently enforces the 2010 California Fire, Building, Electrical, County Ordinances, as amended by the County of Imperial Municipal Code, in addition to National Fire Protection Association standards; Title 19, of the California Public Safety Code; and, the California Health and Safety Code.[14]

Imperial County has virtually no VHFHSZ, with only extremely small areas located near the northwest and southwest corners of the county.[15] Similar to Imperial, the eastern half of Riverside County contains essentially no VHFHSZ.[16] The western half of Riverside County, however, is where a significant amount of the county's wildland interface occurs, and a majority of the land is designated VHFHSZ. Lands near the San Bernardino National Forest and the Santa Ana mountains are largely within SRA, while urban

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11 Imperial County Municipal Code. *91003.00 – Adoption of the California Building Code*. Available online at: https://library.municode.com/ca/imperial_county/codes/code_of_ordinances?nodeId=TIT9LAUSCO_DIV10BUSEGRRE_CH3CABUCO_91003.00ADCABUCO, accessed August 21, 2019.

12 Imperial County Municipal Code. *8.20.010 – Findings and adoption of the Uniform Fire Code.* Available online at: https://library.municode.com/ca/imperial_county/codes/code_of_ordinances?nodeId=TIT8HESA_CH8.20UNFICOAD_8.20.010FIADUNFICO, accessed August 21, 2019.

13 Imperial County Planning & Development Services. *Title 9, Division 8: Subdivision Ordinance*. Available online at: http://www.icpds.com/CMS/Media/TITLE9Div8_2014.pdf, accessed August 21, 2019.

14 Imperial County Fire Department & Office of Emergency Services. *Prevention*. Available online at: https://www.co.imperial.ca.us/firedept/index.asp?fileinc=prevention, accessed September 7, 2019.

15 CAL FIRE. 2007. *Imperial County: Fire Hazard Severity Zones in SRA*. Available online at: https://osfm.fire.ca.gov/media/6680/fhszs_map13.pdf, accessed August 20, 2019.

16 CAL FIRE. 2007. *Eastern Riverside County: Fire Hazard Severity Zones in SRA*. Available online at: https://osfm.fire.ca.gov/media/6749/fhszl06_1_map61.pdf, accessed August 20, 2019.

communities near smaller portions of wildland, such as Terra Cotta and eastern Sun City, are under the jurisdiction of an LRA.[17]

Ventura County

Much of Ventura County is considered a VHFHSZ and is primarily located in a SRA. Specifically, the central and northern portions of the County are part of the Los Padres National Forest, accounting for 46 percent of the overall landmass. The forest features semi-arid, chaparral vegetation, which is prone to wildfire. The Fire Hazard Reduction Program is the cornerstone of Ventura County Fire Department's (VCFD) Wildland Fire Action Plan. In partnership with property owners and neighbors, VCFD recommends a 100-foot defensible space radius between structures and vegetation and places restrictions on certain types of vegetation.[18]

Several major freeways in Ventura County are located within VHFHSZs, including US-101 between Camarillo and Thousand Oaks, SR-33 between Ventura and Ojai, and SR-118 between Moorpark and Simi Valley. Much of the housing in these cities is located within an urban-wildland intermix area, and as such, wildfires and subsequent evacuations are a concern. In December 2017, the Thomas Fire burned through Ventura and Santa Barbara Counties and was the largest wildfire in California history at the time. The fire spread quickly, destroying hundreds of structures, prompting evacuations, and leading to deadly mudflows after a rainstorm the following month.

Riverside County

With development growing into outlying hill and grassland areas and an increasing number of people owning homes and businesses in Riverside County, wildfires are becoming a growing and catastrophic hazard in the County. As more and more people are moving into areas of wildland-urban interface, the danger for wildfire conditions from the mix of fuels, topography, and accessibility, are posing increasing risks to residents, as well as to fire protection service providers. In some parts of Riverside County, fire danger can be worsened by steep, rugged topography, which would allow wildland fire to spread quickly and make it more difficult to fight.

The Riverside County Hazard Reduction Office, a division within the Riverside County Fire Department, enforces the abatement of hazardous vegetation and abandoned or neglected orchards, groves, and vineyards. The County's Hazard Abatement Program requires property owners to maintain 100 feet of

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17 CAL FIRE. 2007. *Western Riverside County: Fire Hazard Severity Zones in SRA.* Available online at: https://osfm.fire.ca.gov/media/6752/fhszs_map60.pdf, accessed August 20, 2019.

18 Ventura County Fire Code, Fire Hazard Reduction Program, Appendix W, available online: https://vcfd.org/images/FHRP/Ord-30-Appendix-W-FHRP.pdf, accessed September 12, 2019.

defensible space between structures and vegetation. Guidelines on horizontal and vertical spacing of plants and trees are also enforced.

CAL FIRE's recommendations on VHFHSZs for Riverside County bisect the county into an eastern and western portion. Eastern Riverside County is primarily comprised of dry, desert land and is sparsely populated. This region is designated as a Moderate Fire Hazard Severity Zone. Western Riverside County has a greater variety of climates, topography, and flora. The 800,000-acre San Bernardino National Forest is located in this half of Riverside County within a VHFHSZ. At the boundary with Orange County, the Cleveland National Forest is also a designated VHFHSZ. Additionally, several major freeways in Riverside County are located within VHFHSZs, including I-15 between Lake Elsinore and Temecula, I-215 between Sun City and Murrieta, and SR-60 between Moreno Valley and Beaumont.

Climate Change

In the last decade, California has experienced five of the state's 10 largest wildfires and seven of its 10 most destructive fires in its history. Between 2017 and 2018, the State spent over $1.5 billion on fire suppression, far more than any previous 2-year period. Over the past five decades, summertime forest fires have increased in size by roughly 800 percent. Though no single wildfire can be attributed solely to climate change, evidence shows that the increase in average temperatures statewide is creating conditions more prone to wildfires.[19] Southern California has warmed about three degrees Fahrenheit in the last century, and every additional increment of warming speeds up evaporation, dries out soil and vegetation, and increases the amount of fuel available for a wildfire.[20] In 2018, wildfires in California released approximately 68 million tons of carbon dioxide, or about 15 percent of the State's annual emissions.[21] Studies suggest that greenhouse gas emissions from wildfires create a positive feedback loop, wherein the emissions warm the planet further, leading to more wildfires and more emissions.

19 Williams, A. P., Abatzoglou, J. T., Gershunov, A., Guzman-Morales, J., Bishop, D. A., Balch, J. K., & Lettenmaier, D. P. (2019). Observed impacts of anthropogenic climate change on wildfire in California. Earth's Future, 7, 892–910. Available online at: https://doi.org/10.1029/2019EF001210, accessed September 16, 2019.

20 US Environmental Protection Agency, *What Climate Change Means for California.* Available online at: https://www.epa.gov/sites/production/files/2016-09/documents/climate-change-ca.pdf, accessed September 16, 2019.

21 US Department of Interior, *Press Release, November 30, 2018.* Available online at: https://www.doi.gov/pressreleases/new-analysis-shows-2018-california-wildfires-emitted-much-carbon-dioxide-entire-years, accessed September 17, 2019.

3.20.2 REGULATORY FRAMEWORK

3.20.2.1 Federal

Disaster Mitigation Act (DMA) of 2000

DMA 2000 (Public Law 106-390) provides the legal basis for FEMA mitigation planning requirements for state, local and tribal governments as a condition of mitigation grant assistance. DMA 2000 amended the Robert T. Stafford Disaster Relief and Emergency Assistance Act by repealing the previous mitigation planning provisions and replacing them with a new set of requirements that emphasize the need for state, local, and tribal entities to closely coordinate mitigation planning and implementation efforts. The requirement for a state mitigation plan is continued as a condition of disaster assistance, adding incentives for increased coordination and integration of mitigation activities at the state level through the establishment of requirements for two different levels of state plans. DMA 2000 also established a new requirement for local mitigation plans and authorized up to 7 percent of Hazard Mitigation Grant Program (HMGP) funds available to a state for development of state, local, and tribal mitigation plans.[22]

Federal Response Plan

The Federal Response Plan of 1999 is a signed agreement among 27 federal departments and agencies, including the American Red Cross, that (1) provides the mechanism for coordinating delivery of federal assistance and resources to augment efforts of state and local governments overwhelmed by a major disaster or emergency; (2) supports implementation of the Robert T. Stafford Disaster Relief and Emergency Act, as well as individual agency statutory authorities; and (3) supplements other federal emergency operations plans developed to address specific hazards. The Federal Response Plan is implemented in anticipation of a significant event likely to result in a need for federal assistance or in response to an actual event requiring federal assistance under a Presidential declaration of a major disaster or emergency.[23]

Federal Emergency Management Agency (FEMA) Regulation

The primary mission of FEMA is to reduce the loss of life and property and protect the nation from all hazards, including natural disasters, acts of terrorism, and other human-made disasters, by leading and supporting the nation in a risk-based, comprehensive emergency management system of preparedness,

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22 FEMA. *Disaster Mitigation Act of 2000*. Available online at: https://www.fema.gov/media-library/assets/documents/4596, accessed August 20, 2019.

23 *Federal Response Plan, April 1999*. Available online at: http://www1.mwcog.org/security/security/otherplans/fed_response_sum.pdf, accessed August 21, 2019.

protection, response, recovery, and mitigation.[24] SCAG is under the jurisdiction of FEMA Region 9, which covers Arizona, California, Hawaii, Nevada, Guam, American Samoa, Commonwealth of Northern Mariana Islands, Republic of Marshall Islands, Federated State of Micronesia, and more than 150 sovereign tribal entities. In Southern California, FEMA Region 9 specifically plans for hazards such as major earthquakes and wildfires.[25]

National Fire Plan

The Department of the Interior's National Fire Plan is intended to ensure an appropriate federal response to severe wildland fires, reduce fire impacts to rural communities, and ensure sufficient firefighting capacity in the future.[26] The Rural Fire Assistance program is funded to enhance the fire protection capabilities of rural fire districts and safe and effective fire suppression in the wildland/urban interface. The program promotes close coordination among local, state, tribal, and federal firefighting resources by conducting training, equipment purchase, and prevention activities on a cost-shared basis.[27]

3.20.2.2 State

Senate Bill 99

In November 2018, the Camp Fire devastated the town of Paradise, California, killing 86 people and destroying nearly 19,000 structures. One reason the Camp Fire was so deadly was the lack of adequate evacuation routes to simultaneously allow residents to leave and first responders to enter. Although modern developments require adequate ingress and egress routes, many existing developments, such as those in Paradise, predate these requirements. SB 99, signed into law on August 30, 2019, requires cities to identify in the safety element of their general plans any residential developments in any wildfire hazard areas that do not have at least two emergency evacuation routes.[28]

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24 Government Publishing Office. *Title 44: Emergency Management and Assistance*. Available online at: https://www.ecfr.gov/cgi-bin/text-idx?rgn=div5&node=44:1.0.1.4.53, accessed August 20, 2019.

25 FEMA. *FEMA Region IX: Arizona, California, Hawaii, Nevada. & the Pacific Islands.* Available online at: https://www.fema.gov/fema-region-ix-arizona-california-hawaii-nevada-pacific-islands, accessed August 20, 2019.

26 *Wildland Fire Management: The National Fire Plan*. Available online at: https://www.forestsandrangelands.gov/documents/resources/reports/2007/nfp2007_budget_justification.pdf, accessed August 20, 2019.

27 U.S. Fish & Wildlife Services Fire Management. 2009. *Rural Fire Assistance*. Available online at: https://www.fws.gov/fire/living_with_fire/rural_fire_assistance.shtml, accessed August 21, 2019.

28 California Legislative Information. 2019. *Senate Bill No. 99.*

Senate Bill 901

After record-breaking drought in California from 2011 to 2017, perfect wildfire conditions allowed faulty PG&E utility lines to spark devastating fires that would scorch over 4,000 square miles of land across the state. In response to the deadly season, the California Legislature developed Senate Bill 901 (Utility Wildfire Management Plans) as the "centerpiece measure" in its attempt to rectify damages from the 2017 wildfires and prevent future wildfire disasters. SB 901 mandates all electric utilities to prepare and submit wildfire mitigation plans that describe the utilities' plan to prevent, combat, and respond to wildfires affecting their service territories. The California Public Utilities Commission (CPUC) will review and refine the plans before implementing and enforcing them. In the short-term, SB 901 allows PG&E to lean on its customers in paying for billions of dollars in fire-related damages. It also provides over $1 billion for vegetation management over five years.[29]

Assembly Bill 1054 (AB 1054)

AB 1054 was signed into law by Governor Gavin Newsom on July 12, 2019, creating a $21 billion fund to help California's investor-owned utilities cover liabilities caused by wildfires. Under the legislation, the state's investor-owned utilities will put a combined $5 billion toward improvements in their electrical grids to access the fund. Ratepayers will also contribute $10.5 billion by way of a 15-year extension of an existing rate increase. The bill also imposes several conditions on utilities, including $5 billion in safety investments and utility participation in a new annual safety certification process overseen by CPUC.[30] The legislation was passed in the wake of the Camp Fire, California's deadliest and most destructive wildfire in history. Pacific Gas & Electric (PG&E) Corp's equipment failure was responsible for the blaze. PG&E sought bankruptcy protection after the Camp Fire so it could reorganize its finances to pay $30 billion in liabilities from multiple wildfires.[31]

Senate Bill 1079 (SB 1079)

SB 1079 (Forest Resources: Fire Prevention Grant Fees) builds from existing laws establishing grants to private entities, Native American tribes, and public agencies to assist in the implementation and administration of projects and programs relating to improving forest health and reducing GHG emissions. SB 1079 authorizes CAL FIRE to make advance payments to grantees (such as fire safe

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29 California Public Utilities Commission (CPUC). *Utility Wildfire Mitigation Plans* (*SB 901)*. Available online at: http://cpuc.ca.gov/SB901/, accessed March 29, 2019.

30 California Legislative Information. 2019. *Assembly Bill No. 1054.*

31 New York Times. *California Says PG&E Power Lines Caused Camp Fire That Killed 85.* Available online at: https://www.nytimes.com/2019/05/15/business/pge-fire.html, accessed September 18, 2019.

councils, Native American tribe, or special district), which receive funds from the healthy forest and local fire-prevention grant programs.[32]

Senate Bill 1241 (SB 1241)

In 2012, SB 1241 added Section 66474.02 to Title 7 Division 2 of the California Government Code, commonly known as the Subdivision Map Act. The statute prohibits subdivision of parcels designated very high fire hazard, or that are in a SRA, unless certain findings are made prior to approval of the tentative map. The statute requires that a city or county planning commission make three new findings regarding fire hazard safety before approving a subdivision proposal. The three findings are, in brief: (1) the design and location of the subdivision and its lots are consistent with defensible space regulations found in PRC Section 4290-91, (2) structural fire protection services will be available for the subdivision through a publicly funded entity, and (3) ingress and egress road standards for fire equipment are met per any applicable local ordinance and PRC Section 4290.The Occupational Safety and Health Act (29 Code of Federal Regulations [CFR] Parts 70 to 2400), which is implemented by the Federal Occupational Safety and Health Administration (OSHA), contains provisions with respect to hazardous materials handling. Federal OSHA requirements, as set forth in 29 CFR Section 1910 et seq., are designed to promote worker safety, worker training, and a worker's right–to-know. In California, OSHA has delegated the authority to administer OSHA regulations to the State of California.[33]

Assembly Bill 301

Assembly Bill 301 was enacted to amend Section 4213.1, and to add Section 4213.2 to the Public Resources Code elated to fire prevention. Section 4213.1 requires CAL FIRE to notify a property owner that the property's terms of sale could include a portion of the Fire Prevention Fee. Section 4213.2 allows a property owner to negotiate a portion of the fee as one of the terms of sale.[34]

Assembly Bill 38 (California Emergency Services Act)

This bill would require the Natural Resources Agency, by July 1, 2021, and in consultation with the State Fire Marshal and the Forest Management Task Force, to review the regional capacity of each county that contains a very high fire hazard severity zone to improve forest health, fire resilience, and safety, as specified. On or after July 1, 2021, the bill would require a seller of real property located in a high or very high fire hazard severity zone to provide specified documentation to the buyer that the real property is in

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32 California Legislative Information. 2018. *Senate Bill No. 1079*..

33 California Legislative Information. 2012. *Senate Bill No. 1241*.

34 California Legislative Information. 2015. *Assembly Bill No. 301*.

compliance with the wildfire protection measures or a local vegetation management ordinance, or enter into an agreement with the buyer pursuant to which the buyer will obtain documentation of compliance.[35]

Assembly Bill 2551

Approved in 2018, Assembly Bill 2551 Forestry and Fire Prevention: Joint Prescribed Burning Operation (AB 2551) authorizes CAL FIRE to collaborate with private landowners on controlled burns to reduce wildfire fuel. Mismanagement of the forests can lead to a build-up of forest underbrush that serves as a perfect fuel for wildfires. By allowing small, non-industrial landowners to choose to individually implement various fire prevention programs, such as prescribed burns, AB 2551 promotes good, local forest management in the state.[36]

State California Department of Forestry and Fire Protection

CAL FIRE protects the people of California from fires, responds to emergencies, and protects and enhances forest, range, and watershed values providing social, economic, and environmental benefits to rural and urban citizens. CAL FIRE's firefighters, fire engines, and aircraft respond to an average of more than 5,600 wildland fires each year. The Office of the State Fire Marshal supports CAL FIRE's mission by focusing on fire prevention. It provides support through a wide variety of fire safety responsibilities including regulating buildings in which people live, congregate, or are confined; controlling substances and products which may, in and of themselves, or by their misuse, cause injuries, death, and destruction by fire; providing statewide direction for fire prevention in wildland areas; regulating hazardous liquid pipelines; reviewing regulations and building standards; and providing training and education in fire protection methods and responsibilities.[37]

State Fire Regulations

Fire regulations for California are established in Sections 13000 et seq. of the California Health and Services Code and include regulations for structural standards (similar to those identified in the California Building Code); fire protection and public notification systems; fire protection devices such as extinguishers and smoke alarms; standards for high-rise structures and childcare facilities; and fire suppression training. The State Fire Marshal is responsible for enforcement of these established

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35 California Legislative Information. 2008. *Assembly Bill No. 38*.

36 California Legislative Information. 2018. *Assembly Bill No. 2551*.

37 CAL FIRE Office of the State Fire Marshal. 2019. *About the Office of State Fire Marshal*. Available online at: https://osfm.fire.ca.gov/about-us/, accessed August 20, 2019.

regulations and building standards for all state-owned buildings, state-occupied buildings, and state institutions within California.[38]

California Governor's Office of Emergency Services (OES)

Cal OES is the Emergency Management authority for the State of California. The California Governor's Office of Emergency Services (Cal OES) began as the State War Council in 1943. With an increasing emphasis on emergency management, it officially became OES in 1970. On July 1, 2013, Governor Edmund G. Brown Jr.'s Reorganization Plan #2 eliminated the California Emergency Management Agency (Cal EMA); restored its powers, purposes, and responsibilities to Cal OES; and also merged it with the Office of Public Safety Communications. Cal OES' mission statement is the following: "Protect lives and property, build capabilities, and support our communities for a resilient California." OES goals include:[39]

- **Goal 1:** Anticipate and enhance prevention and detection capabilities to protect our State from all hazards and threats.
- **Goal 2:** Strengthen California's ability to plan, prepare for, and provide resources to mitigate the impacts of disasters, emergencies, crimes, and terrorist events.
- **Goal 3:** Effectively respond to and recover from both human-caused and natural disasters.
- **Goal 4:** Enhance the administration and delivery of all state and federal funding, and maintain fiscal and program integrity.
- **Goal 5:** Develop a united and innovative workforce that is trained, experienced, knowledgeable, and ready to adapt and respond.
- G**oal 6:** Strengthen capabilities in public safety

California Public Resources Code

Fire Hazard Severity Zones – Public Resources Code Sections 4201–4204 Public Resources Code (PRC) Sections 4201–4204 and Government Code Sections 51175–89 direct CAL FIRE to map areas of significant fire hazards based on fuels, terrain, weather, and other relevant factors. FHSZ define the application of various mitigation strategies to reduce risk associated with wildland fires.[40, 41]

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38 California Legislative Information. *Division 12. Fires and Fire Protection*.

39 Governor's Office of Emergency Services. *2014-2018 Strategic Plan Summary.* Available online at: https://www.caloes.ca.gov/NewsMediaSite/Documents/Cal%20OES%20Strategic%20Plan%20Summary%20Booklet%20(FINAL).pdf, accessed August 20, 2019.

40 California Legislative Information. 1982. *ARTICLE 9. Fire Hazard Severity Zone [4201-4204].*

California Fire Code

Part 9 of the 2019 California Building Standards Code (CBC) (Cal. Code Regs., Title 24) covers the California Fire Code (2019, Title 24, Part 9). The purpose of the California Fire Code is to establish the minimum requirements consistent with nationally recognized good practices to safeguard the public health, safety, and general welfare from the hazards of fire, explosion or dangerous conditions in new and existing buildings, structures, and premises.

The purpose of the California Fire Code is to establish the minimum requirements consistent with nationally recognized good practices to safeguard the public health, safety, and general welfare from the hazards of fire, explosion or dangerous conditions in new and existing buildings, structures, and premises. The Fire Code also establishes requirements intended to provide safety for and assistance to firefighters and emergency responders during emergency operations. The provisions of the Fire Code apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal, and demolition of every building or structure throughout California. The Fire Code includes regulations regarding fire-resistance-rated construction, fire protection systems such as alarm and sprinkler systems, fire services features such as fire apparatus access roads, means of egress, fire safety during construction and demolition, and wildland-urban interface areas. Several jurisdictions within the SCAG region have adopted the California Fire Code as part of their building regulations.[42]

California Fire Plan

The Fire Plan is a cooperative effort between the State Board of Forestry and Fire Protection and the California Department of Forestry and Fire Protection. By placing the emphasis on what needs to be done long before a fire starts, the Fire Plan looks to reduce firefighting costs and property losses, increase firefighter safety, and to contribute to ecosystem health. The current plan was adopted in 2018, which reflects CAL FIRE's goals of 1) fire prevention and suppression activities to protect lives, property, and ecosystem services, and 2) natural resource management to maintain the state's forests as a resilient carbon sink to meet California's climate change goals and to serve as important habitat for adaptation and mitigation.[43]

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41 California Legislative Information. 1992. *CHAPTER 6.8. Very High Fire Hazard Severity Zones [51175-51189].*

42 Building Standards Commission. *California Building Standards Code*. Available online at: https://www.dgs.ca.gov/BSC/Codes, accessed August 20, 2019.

43 CAL FIRE. *Strategic Fire Plan for California.* Available online at: https://osfm.fire.ca.gov/divisions/wildfire-prevention-planning-engineering/fire-plan/, accessed September 7, 2019.

California Disaster Assistance Act (CDAA)

The California Disaster Assistance Act (CDAA; CCR Title 19, Chapter 6) authorizes the Director of the California Governor's Office of Emergency Services (Cal OES) to administer a disaster assistance program that provides financial assistance from the state for costs incurred by local governments as a result of a disaster event. Funding for the repair, restoration, or replacement of public real property damaged or destroyed by a disaster is made available when the Director concurs with a local emergency proclamation requesting state disaster assistance.[44]

Governor's Office of Planning and Research (OPR)

The Governor's Office of Planning and Research serves the Governor and his Cabinet as staff for long-range planning and research and constitutes the comprehensive state planning agency (Government Code Section 65040). OPR is empowered to draft *CEQA Guidelines* for adoption by the Secretary of Natural Resources in collaboration with the Natural Resources Agency. In January 2018, OPR transmitted its proposal for comprehensive updates to the *CEQA Guidelines* to the Natural Resources Agency, who finalized the updates in late 2018. The updated Guidelines became effective on December 28, 2018.

California Public Utilities Commission Fire Safety Rulemaking

In December 2017, CPUC issued Decision (D.) 17-12-024 adopting regulations to enhance fire safety in the High Fire Threat District (HFTD) and subsequently adopted CPUC's final fire threat map. This map, together with CAL FIRE's Tier 1 High Hazard Zones comprise the HFTD Map where stricter fire-safety regulations apply. These regulations include requiring utilities to prioritize safety hazards, maintain more stringent wire-to-wire clearances in certain areas, and prepare a fire prevention plan annually if they have overhead facilities in the HFTD. Further, electric utilities may disconnect service to customers who refuse to provide access to their property for the removal of trees that pose an immediate threat for contacting a power line.[45]

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44 Governor's Office of Emergency Services. 2019. *California Disaster Assistance Act (CDAA).* Available online at: https://www.caloes.ca.gov/cal-oes-divisions/recovery/public-assistance/california-disaster-assistance-act, accessed August 20, 2019.

45 California Public Utilities Commission, Press Release December 14, 2017. *CPUC Adopts New Fire-Safety Regulations.* Available online at: http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M201/K352/201352402.PDF, accessed September 26, 2019.

3.20.2.3 Local

County General Plans

In addition to federal and state requirements, general plans and municipal codes of counties and cities in the SCAG region may include safety elements that goals and policies related protecting people and property from risks from wildfires and associated hazards.

Los Angeles County General Plan

The Safety Element of the Los Angeles County General Plan 2035 Update, in conjunction with the All-Hazard Mitigation Plan prepared by the Chief Executive Office, Office of Emergency Management (CEO OEM), sets strategies for natural and man-made hazards in Los Angeles County.[46] The 2014 All-Hazard Mitigation Plan, which has been approved by FEMA and Cal OES, includes a compilation of known and projected hazards in Los Angeles County.[47] Specific applicable goals and policies related to fire hazards within the County of Los Angeles include, but are not limited to:

- Goal S: An effective regulatory system that prevents or minimizes personal injury, loss of life, and property damage due to fire hazards.
- Policy S 3.1: Discourage high density and intensity development in VHFHSZs.
- Policy S 3.2: Consider climate change implications in fire hazard reduction planning for FHSZs.
- Policy S 3.3 Ensure that the mitigation of fire related property damage and loss in FHSZs limits impacts to biological and other resources.
- Policy S 3.5: Encourage the use of low-volume and well-maintained vegetation that is compatible with the area's natural vegetative habitats.
- Policy S 3.8: Support the retrofitting of existing structures in FHSZs to help reduce the risk of structural and human loss due to wildfire.

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46 County of Los Angeles, Department of Regional Planning. *General Plan 2035, Safety Element.* Available online at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan-ch12.pdf, accessed September 10, 2019.

47 County of Los Angeles, Chief Executive Office – Office of Emergency Management. *2014 All-Hazard Mitigation Plan*. Available online at: https://ceo.lacounty.gov/wp-content/uploads/OEM/hazmitgplan.pdf, accessed September 8, 2019.

San Bernardino County General Plan

The San Bernardino County General Plan contains a Hazards Element, which addresses wildfires. It mandates the development of Community Wildfire Protection Plans (CWPP) for mountain communities, compliance with the County's Tree Preservation Ordinance, improvements to public notification systems, and the continued monitoring of post-wildfire debris flow hazard evaluation and prediction methodologies. Specific applicable goals and policies related to fire hazards within the County of San Bernardino include, but are not limited to:[48]

- Goal HZ-1: Minimized risk of injury, loss of life, property damage, and economic and social disruption caused by natural environmental hazards and adaptation to potential changes in climate
- Policy HZ-1.2: All new development is required to be built outside of high or very high fire hazard severity zones. For any lot or parcel that does not have sufficient buildable area outside of such hazard areas, mitigation is required.
- Policy HZ-1.7: Underground utilities are required to be designed to withstand seismic forces, accommodate ground settlement, and be hardened to fire risk.

Imperial County General Plan

The Land Use Planning and Public Safety and Emergency Preparedness Elements of the Imperial County General Plan have established goals related to protection of public health and safety for consideration in the land use planning process. The specified goals and objectives are intended to minimize potential hazards to public health and safety and prevent the loss of life and damage to properties and rely heavily on ensuring conformance with established applicable state codes. However, the Plan does not include any goals or policies relating directly to wildfire at this time.[49]

Orange County General Plan

The Safety Element of the Orange County General Plan provides for the protection of people and property from risks associated with hazards, including those affiliated with wildfire, through the implementation of mitigation measures as outlined in the California Emergency Plan, the California Master Mutual Aid Agreement, the Orange County Emergency Plan, the Orange County Operational

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48 County of San Bernardino. 2014. *2007 General Plan*. Available online at: http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGP.pdf, accessed August 20, 2019.

49 Imperial County Planning & Development Services. 2015. *Land Use Element of the Imperial County General Plan*. Available online at: http://www.icpds.com/CMS/Media/Land-Use-Element-(2015).pdf, accessed August 20, 2019.

Area Plan, S.O.N.G.S. Plan, County of Orange and Orange County Fire Authority Hazard Mitigation Plan, and other emergency management plans. The Safety Element of the Orange County General Plan focuses primarily upon the County's planned response to extraordinary emergency situations associated with natural disasters, technological incidents, intentional acts of terrorism and nuclear protection operations. To reduce the County's susceptibility and vulnerability to extraordinary emergency situations, the Safety Element recommends continued emphasis is placed on several coordinated efforts:[50]

- Mitigation
- Emergency planning
- Training of full-time, auxiliary, and reserve personnel
- Public awareness and education; and assuring the adequacy and availability of sufficient resources to cope with such emergencies

In November 2015, the Board of Supervisors adopted a new County of Orange and Orange County Fire Authority Hazard Mitigation Plan (HMP) in compliance with federal and state regulations.[51]

The County's Wildland Fire Defense Planning and Prevention oversees it's READY! SET! GO! program, which aims to reduce wildland fire risk through a formalized fuel modification inspection and enforcement program, and monitors wildland and vegetation conditions to identify potential hazards, ensuring communities in the wildland urban interface areas are better protected from the risk of wildland fire. Specific applicable goals and policies related to fire safety within the Safety Element of the Orange County General Plan are:

Goal 1: Provide a safe living environment, ensuring adequate fire protection facilities and resources to prevent and minimize the loss of life and property fire.

> Policy 1: To encourage periodic updating of fire hazard mapping and continue to analyze existing fire hazard data as it pertains to Orange County.
>
> Policy 13: To improve emergency response times for emergency responders through the use of computer-aided dispatch system and "preempt traffic signal control" system.

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50 Orange County Planning & Development. *General Plan: Chapter IX. Safety Element*. Available online at: https://www.ocgov.com/civicax/filebank/blobdload.aspx?blobid=40234, accessed August 20, 2019.

51 County of Orange, Orange County Fire Authority. 2015. *Local Hazard Mitigation Plan.* Available online at: https://www.smwd.com/DocumentCenter/View/2193/APPENDIX-H_OC-HMP-Final, accessed August 20, 2019.

Ventura County General Plan

The Safety Element of the Ventura County General Plan contains specific goals to minimize the risk of loss of life, injury, serious illness, damage to property, and economic and social dislocations resulting from fire hazards and wildfire. Additionally, the Plan identifies areas with high fire hazard severity zones and lists specific management practices to protect those who currently live within such a zone, and prepare appropriate development and management in the future. Specific policies related to fire hazards within Ventura County include, but are not limited to:[52]

- Minimize the risk of loss of life, injury, damage to structures, and economic and social dislocations resulting from fire hazards.
- Ensure that development in high fire hazard areas is designed and constructed in a manner that minimizes the risk from fire hazards.
- Require at least two means of access for emergency vehicles and resident evacuation for new residential subdivisions, except if otherwise permitted by County Fire Chief.

City General Plans

The SCAG region spans six counties and 191 cities, each of which has a general plan that contains policies related to hazards, including those related to fires. Additional plans and ordinances at the master plan level, city-level, and specific plan level may also apply within the SCAG region. Furthermore, fire departments and other agencies in the SCAG region have a variety of local laws that regulate reporting, storage, handling, and transporting hazardous substances and materials.

3.20.3 ENVIRONMENTAL IMPACTS

3.20.3.1 Thresholds of Significance

For the purposes of this PEIR, SCAG has determined that adoption and/or implementation of the Plan could result in significant adverse impacts related to wildfire risk, if transportation projects and anticipated development projects are located in or near SRAs or lands classified as very high hazard severity zones and would result in any of the following:

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52 Ventura County. 2019. *2040 General Plan: Preliminary Public Review Draft*. Available online at: https://vc2040.org/images/2040_General_Plan_Files_-_May_2019/PPRD_2040_General_Plan_COMPLETE-compressed.pdf, accessed August 20, 2019.

- Substantially impair an adopted emergency response plan or emergency evacuation plan (this criterion is addressed in **Section 3.17, Transportation, Traffic, and Safety**);

- Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire;

- Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment; or

- Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

In addition, the following criterion from **Section 3.9, Hazards and Hazardous Materials,** is addressed along with wildfire:

- Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires

3.20.3.2 Methodology

The methodology for determining the significance of the Plan's impacts to wildfire response and related hazards and infrastructure compares the existing conditions to future (2045) conditions. Wildfire conditions and hazards within the SCAG region were evaluated at the programmatic level of detail, in relation to the general plans of the six counties and 191 cities within the SCAG region; the management plans for the four national forests in the SCAG region, Angeles National Forest, San Bernardino National Forest, Los Padres National Forest, and Cleveland National Forest; the California Department of Forestry and Fire Protection, and a review of related literature germane to the SCAG region.

The Plan includes transportation projects as well as regional transportation and land use strategies. Although land use development is anticipated to occur within the region even without the Plan, Connect SoCal includes regional land use strategies that could influence growth, including distribution patterns, throughout the region. This analysis considers the Plan's impacts on wildfire hazards, provides mitigation measures, where necessary, and addresses the environmental effects related to wildfire hazards. The potential for impacts related to wildfire was assessed by evaluating the location of existing and planned major transportation projects in relation to surrounding land uses and fire hazard severity zones. Because some transportation projects and growth under the Plan could be located in or near SRAs or lands classified as very high hazard severity zones, all potential wildfire impacts are analyzed below.

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

3.20.3.3 Impacts and Mitigation Measures

Impact WF-2 **Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.**

Impact HAZ-7 **Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.**

Significant and Unavoidable Impact - Mitigation Required.

The SCAG region is susceptible to wildfires particularly during the summer and fall seasons, especially during Santa Ana wind conditions. Examples of recent fires in the SCAG region include the October 2019 Getty Fire in Los Angeles which was sparked by a tree branch that broke off and landed on nearby powerlines, and the December 2017 Thomas Fire sparked by two power lines touching. Both fires were ignited during strong Santa Ana wind conditions.[53,54] Wildfires have the potential to occur not only in fire-prone undeveloped areas, but also in developed areas where existing transmission lines, lightning strikes, lawn equipment operated over dry grass, fireworks, and even arson may ignite a wildfire. While the urban and developed areas of Riverside, San Bernardino, Imperial, and Ventura counties, may include fire resistant and drought tolerant plants that offer some protection to existing structures, these counties also have more undeveloped areas susceptible to wildfire risks than Los Angeles and Orange counties. According to the Fire Hazard Severity Zones for the area, the rural areas in the SCAG region

53 Los Angeles Times. *DWP power liens hit by tree branch sparked Getty fire that destroyed homes.* Available online at: https://www.latimes.com/california/story/2019-10-29/getty-fire-arson-investigation, accessed October 30, 2019.

54 Los Angeles Times. *Southern California Edison power lines sparked deadly Thomas fire, investigators find.* Available online at: https://www.latimes.com/california/story/2019-10-29/getty-fire-arson-investigation, accessed October 30, 2019.

range from Moderate to Very High under the State's Wildfire Hazard Severity Zones.[55] Population in the SCAG region is expected to grow by 3.2 million people by 2045 and SCAG estimates that an additional 343,000 people and 154,300 dwelling units would be in areas at risk of wildfire (very high fire hazard severity zones). The Plan recognizes inherent constraints to expansive regional growth, and areas that are susceptible to natural hazards and a changing climate must be recognized. Because of this, Connect SoCal sets forth land use strategies that encourage conservation of farmland, resource areas and habitat corridors, and guide growth away from lands that are vulnerable to wildfire, flooding and near-term sea–level rise.

During peak wildfire season where high winds and low humidity may occur, electrical utilities may preemptively shut off power to customers in wildfire-prone areas as a precautionary measure. For example, Southern California Edison began this practice in 2017 and notifies customers two days in advance. At the direction of CPUC, customers who live in high fire risk areas, as defined by CPUC maps, are more likely to experience a power shutoff.[56]

The ongoing crisis of climate change has worsened wildfire conditions in California and the SCAG region. Since the early 1970s, California's annual wildfire extent increased fivefold, punctuated by extremely large and destructive wildfires in 2017 and 2018. This trend was mainly due to an eightfold increase in summertime forest-fire area and was very likely driven by drying of fuels promoted by human-induced warming.[57] Since climate change makes droughts more frequent and severe and makes temperatures warmer in California, the drying of fuels is likely to continue worsening conditions in wildfire-prone areas of the SCAG region.

Wildfires pose a significant public health risk due to their air quality impacts, particularly with regard to smoke and particulate matter exposure. This risk persists even after a wildfire is extinguished because particulate matter from fire ash can be picked up by winds. In addition, as discussed in **Section 3.8, Greenhouse Gases**, wildfires release substantial amounts of greenhouse gases.

Connect SoCal's land use strategies deemphasize development on agricultural lands in unincorporated counties, and in areas subject to future two–foot sea level rise. To further prioritize natural habitat areas

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55 CAL FIRE. *Fire Hazard Severity Maps.* Available online at: https://osfm.fire.ca.gov/divisions/wildfire-prevention-planning-engineering/wildland-hazards-building-codes/fire-hazard-severity-zones-maps/, accessed September 8, 2019.

56 Southern California Edison. *Public Safety Power Shutoffs.* Available online at: https://www.sce.com/safety/wildfire/psps, accessed September 26, 2019.

57 Williams, A. P., Abatzoglou, J. T., Gershunov, A., Guzman-Morales, J., Bishop, D. A., Balch, J. K., & Lettenmaier, D. P. (2019). Observed impacts of anthropogenic climate change on wildfire in California. Earth's Future, 7, 892–910. Available online at: https://doi.org/10.1029/2019EF001210, accessed September 10, 2019.

and avoid impacts to the environment, Connect SoCal's strategies seek to avoid growth in wetlands, wildlife corridors, biodiverse areas, wildfire prone areas and floodplains. The Plan includes greenbelts and community separators to serve as contiguous areas that support land conservation. Creating a sustainable, "green" region requires that the built environment and natural resource areas coexist in a well–balanced land use pattern that encourages mutual co–benefits. The quality and range of conservation, natural and agricultural areas present in the region can be reinforced and enhanced by a range of regional and local tools. Paired with an emphasis on compact development, Connect SoCal's conservation strategies promote the economic and ecological benefits of preserving natural areas and farmlands, while also maximizing their potential for greenhouse gas reduction. New housing and employment development is emphasized in Growth Priority Areas, such as Job Centers, TPAs, HQTAs and NMAs, and away from natural and farm lands on the edges of urban and suburban areas, to incentivize infill development and the concentration of varied land uses. This emphasis on concentrated, compact growth makes it easier to travel shorter distances, which reduces per–capita greenhouse gas emissions. In addition, natural areas and farmlands have the capacity to absorb and store atmospheric carbon dioxide, preventing additional contributions of GHG emissions. Natural lands conservation has the co-benefit of protecting communities from major hazards caused or exacerbated by climate change, such as wildfires and flooding.

Furthermore, wildfire-prone areas tend to pose accessibility challenges for vehicular access points due to topography. These roads could face more gridlock in the event of a sudden emergency evacuation than flat, urbanized areas may experience. Such circumstances could expose vehicle occupants to active flames and potential death, as was seen in the recent Camp Fire in Paradise and the Woolsey Fire in Malibu in 2018.[58] Transportation projects and anticipated development projects may be located in wildfire-prone areas which could potentially exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from wildfires or the uncontrolled spread of wildfires, particularly those populations living down wind of the fire. As such, impacts would be significant and unavoidable. Mitigation is required.

Mitigation Measures/

SCAG Mitigation Measures

SMM WF-1: SCAG shall facilitate minimizing future impacts to fire protection services through information sharing regarding Fire-wise Land Management (vegetation data, fire-resistant building materials, locations where development is vulnerable to wildfire, and best

58 New York Times, *Forced Out by Deadly Fires, Then Trapped in Traffic.* Available online at: https://www.nytimes.com/2018/11/11/us/california-fire-paradise.html, accessed September 18, 2019.

practices for safe land management) with county and city planning departments. Furthermore, SCAG shall examine wildfire risk management strategies in areas where at-risk critical electrical infrastructure is located based on CPUC and CAL FIRE maps.

SMM WF-2: SCAG, in partnership with technical experts and stakeholders shall launch or continue existing initiatives to help local cities and counties to protect Southern California communities and economies from the disruption of wildfire occurrences. Initiatives could include but not be limited to seminars that review the risk of wildfire and approaches for preparation, including strengthening of infrastructure, emergency services, emergency evacuation plans and reviewing building safety codes.

SMM WF-3: SCAG shall develop a regional resilience program and identify specific strategies to reduce vulnerabilities from natural disasters related to land based or atmospheric hazards, climate change, wildfire and other extreme weather events.

Project Level Mitigation Measures

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

a) Launch fire prevention education for local cities and counties such that local fire agencies, homeowners, as well as commercial and industrial businesses are aware of potential sources of fire ignition and the related procedures to curb or lessen any activities that might initiate fire ignition.

b) Ensure structures in high fire risk areas are built to current state and federal standards which serve to greatly increase the chances the structure will survive a wildfire and also allow for people to shelter-in-place.

c) Improve road access for emergency response and evacuation so people can evacuate safely and timely when necessary.

d) Improve, and educate regarding, local emergency communications and notifications with residents and businesses.

e) Enforce defensible space regulations to keep overgrown and unmanaged vegetation,

accumulations of trash and other flammable material away from structures.

f) Provide public education about wildfire risk and fire prevention measures, and safety procedures and practices to allow for safe evacuation and/or options to shelter-in-place

Level of Significance after Mitigation

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

Impact WF-3 **Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risks or that may result in temporary or ongoing impacts to the environment.**

Significant and Unavoidable Impact - Mitigation Required.

The SCAG region is a mix of urban and rural communities, natural woodland areas, as well as semi-desert areas. Future development and/or re-development in these areas has the potential to require the installation of new roadways or infrastructure facilities such that there is an increased risk of new ignition sources generating the spread of wildfires. Areas with dry vegetation have the potential to exacerbate wildfire risk due to future development activities that could generate flammable debris piles. This is particularly true in the rural and underdeveloped parts of the SCAG region. Future roadway and development construction in such areas, while likely to be less in the future, may still occur, such development has the potential to result in significant impacts as a result of construction equipment generating sparks or oil spill and other combustible materials leading to the start and spread of wildfires. Newer electrical equipment providing power to any new homes developed in fire prone areas is anticipated to be fitted with fire-safe devices, but hazards may remain as a result of electricity infrastructure as well as common fire hazards associated with human habitation.

The Plan includes land use strategies that encourage further development in urban areas. As discussed above, natural lands conservation has the co-benefit of protecting communities from major hazards caused or exacerbated by climate change, such as wildfires and flooding.

Nonetheless, it is expected that new development will also occur in rural or suburban areas which may have a greater wildfire risk. Increased development, in combination with a push for more electrical infrastructure (e.g., SB 100), may result in increased wildfire risk due to power lines. SCE maintains a policy to shut off power to its lines during high wildfire probability events (i.e., when conditions are such that wildfire is a high probability) which would help to reduce potential impacts.[59] In addition, many local jurisdictions and plans require undergrounding of electrical infrastructure which also helps to reduce risk of wildfire. Due to the anticipated number of greenfield areas that would be converted to other land uses under the Plan, development may continue to occur in urban/wildlands interface areas which would necessitate infrastructure such as power poles that could result in wildfire risk. As such, significant impacts would occur and mitigation measures are required.

Mitigation Measures

SCAG Mitigation Measures

See **SMM-WF-1, SMM WF-2, SMM AG-4,** and **SMM BIO-3.**

Project Mitigation Measures

See **PMM HAZ-4**.

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

a) New development or infrastructure activity within very high hazard severity zones or SRAs shall be required to

1) Submit a fire protection plan including the designation of fire watch staff;

2) Maintain water and other fire suppression equipment designated solely for firefighting on site for any construction and maintenance activities;

59 Southern California Edison. *Public Safety Power Shutoff.* Available online at: https://www.sce.com/safety/wildfire/psps, accessed October 30, 2019.

3) Locate construction and maintenance equipment in designated "safe areas" such that they do not discharge combustible materials; and

4) Designate trained fire watch staff during project construction to reduce risk of fire hazards.

Level of Significance after Mitigation

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

Impact WF-4 **Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope stability, or drainage changes.**

Significant and Unavoidable Impact - Mitigation Required.

Wildfires are becoming more and more common and intense in all areas within the SCAG region. While the Plan focuses development in urban and compact areas, SCAG recognizes there will continue to be development towards, and through natural wildland areas. The Plan estimates consumption of 41,546 greenfield acres and identifies and additional 154,300 housing units in very high fires hazard zones by 2045, These potential fire-prone spaces have created situations where people and property could be impacted by wildfire and associated subsequent hazards (flooding, landslides, etc.). As discussed **in Section 3.10, Hydrology and Water Quality**, in Southern California, intense rainfall may occur during the winter months, creating natural flooding events when the ground in saturated and water levels are high. This has the potential for flooding issues, and fire hazards may exacerbate such flooding and debris flows along waterways. Since debris flows may occur quickly and without warning, such flows can damage structures, block drainage or even sweep away vegetation resulting in tenuous post-fire slope stability. Fast moving debris flows can be one of the most dangerous post-fire hazards. Due to the loss of vegetation and potential resulting soil erosion, debris flows may cause a risk to life and physical property, destroy or strip vegetation, block existing drainage patterns, and impact roadways and other

infrastructure. If this were to occur within the 100-year floodplain areas, existing flow conditions may be altered, or new sources of flooding may be created. This has the potential to alter peak flow conditions and affect upstream, as well as downstream areas. Typically, debris flow from fire damaged areas may be a result of excessive rainfall runoff and surface erosion, since previously-burned slopes repel water and generate higher runoff rates. This can be especially true in the higher elevation areas, with steep slopes and limited drainage basins. Post-fire debris flows are typically triggered by heavy rainfall in areas already damaged by recent wildfire events, and susceptible to soil erosion.

Debris flows could affect both the transportation network, utilities, and new development. In December 2018, the Thomas Fire burned through Ventura and Santa Barbara Counties, leading to loss of vegetation and soil erosion along sloped hillsides. Subsequently, a strong storm poured five inches of rain onto charred hillsides over a short period of time on January 9, 2019. The storm resulted in deadly mudslides, caused extensive property damage, and caused the closure of US-101 for nearly two weeks.[60,61] A similar incident occurred in Malibu as a result of a mudslide following the Woolsey Fire, which forced the closure of a 13-mile stretch of Pacific Coast Highway.[62] Furthermore, mudflows could expose people to hazards posed by ruptured methane gas pipelines, as occurred in Burbank in January 2018 following the La Tuna Fire of September 2017.[63] Development of homes and infrastructure is anticipated to continue to occur in areas of the region that are subject to wildfire hazards, despite the Plan's focus on adding development to existing urban areas. Due to the anticipated increased consumption of greenfields under the Plan, development may continue to occur in urban/wildlands interface areas which would result in significant risks for people and structures. Therefore, the impacts would be significant and unavoidable, requiring mitigation.

Mitigation Measures

SCAG Mitigation Measures

60 NASA, *NASA Calculated Heavy Rainfall Leading to California Mudslides.* Available online at: https://www.nasa.gov/feature/goddard/2018/nasa-calculated-heavy-rainfall-leading-to-california-mudslides, accessed September 18, 2019.

61 Ventura County Star, *Highway 101 reopens in Montecito after long closure from deadly mudslide.* Available online at: https://www.vcstar.com/story/news/local/communities/ventura/2018/01/21/highway-101-reopens-montecito-after-long-closure-deadly-mudslides/1052292001/, accessed September 18, 2019.

62 ABC Los Angeles, *PCH could stay closed until Tuesday near Malibu after mudslides.* Available online at: https://abc7.com/weather/pch-could-stay-closed-until-tuesday-after-mudslides/5024931/, accessed September 18, 2019.

63 CBS Los Angeles, *Evacuation Orders Lifted for Burbank Neighborhood, Still In Place For La Tuna Canyon.* Available online at: https://losangeles.cbslocal.com/2018/01/11/evacuation-orders-lifted-burbank/, accessed September 18, 2019.

See **SMM-WF-1, SMM WF-2, SMM HYD-3, SMM GEO-1** and **SMM GEO-2.**

Project Level Mitigation Measures

See **PMM WF-1, PMM WF-2, PMM HYD-1** and **PMM HAZ-4**.

Level of Significance after Mitigation

As discussed above, regulations and policies would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and the lack of project specific-detail, including project components and locations, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts related to exposing people and structures to significant risks, as a result of runoff, post-fire slope stability, and drainage changes could be significant and unavoidable even with implementation of mitigation.

3.20.4 SOURCES

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3.21 CUMULATIVE IMPACTS

Section 15130 of the *State CEQA Guidelines* requires that an EIR evaluate potential environmental impacts that are individually limited but cumulatively significant. CEQA defines cumulative impacts as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts" (*State CEQA Guidelines* § 15355). "'Cumulatively considerable' means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects" (*State CEQA Guidelines* § 15065(a)(3)).

The purpose of a cumulative analysis is to determine if several projects when evaluated together could result in a significant "cumulative" impact that would otherwise not be considered significant when projects are evaluated one at a time. If several projects considered together have the potential to result in a significant cumulative impact (that is not already identified as a significant project impact), the question becomes whether the project being analyzed would result in a "considerable" contribution to such a significant cumulative impact. Therefore, if a project results in a significant impact by itself, then its contribution to a cumulative impact is considerable. Mitigation measures that reduce project impacts would similarly reduce a project's contribution to cumulative impacts.

Connect SoCal is a planning project that is comprised of multiple other planning projects as well as transportation and development projects. Therefore, the analysis of the Plan is cumulative in nature. At this regional-scale, cumulative projects that are considered cumulative to and similar to the proposed Plan are other regional-scale projects primarily consisting of RTPs/SCSs for adjacent jurisdictions and AQMPs.

The proposed Plan includes transportation projects throughout the SCAG region and land use development patterns to accommodate projected regional growth through 2045. The Plan also includes land use and transportation strategies that complement the projects and vice versa. As such, the impacts of Connect SoCal is cumulative on a regional scale. Therefore, the environmental analysis included in each issue area of this PEIR is, in essence, a cumulative analysis of the potential impacts of the transportation projects and growth anticipated to occur under the Plan. Furthermore, this PEIR considers other regional-scale projects that have similar regional-scale impacts that could overlap with impacts of the Plan, for identified CEQA impact areas. Such regional scale cumulative projects include RTPs and similar regional-scale plans for neighboring jurisdictions (Santa Barbara, Kern and San Diego counties) as well as Air Quality Managements Plans within the SCAG region and neighboring jurisdictions.

CEQA allows for analysis of cumulative impacts based on a list of cumulative projects or projections of growth. This PEIR uses a combination of approaches. The analysis of cumulative impacts is qualitative and based on anticipated growth in adjacent jurisdictions assuming that each jurisdiction will adopt an RTP and AQMP as applicable and that growth will be consistent with Department of Finance (DOF) forecasts.

Cumulative impacts occur in one of two ways: 1) impacts from one project overlap with impacts from another project, so for example with respect to the Plan, traffic from within the SCAG region could overlap with traffic from an adjacent county to impact the same transportation facilities (the SCAG Regional Travel Demand Model accounts for travel from adjacent jurisdictions); 2) the other way that cumulative impacts occur is when a resource is of value to a broader community than just the immediate project vicinity, for example, impacts to a cultural or biological resource that has more than local significance, for example state or even national significance, impacts to such a resource would be cumulative with impacts to other resources of similar significance wherever they occur in the state or across the entire US.

The geographic area for evaluation of cumulative impacts is the area within which impacts of the proposed Plan could overlap with impacts of other regional-scale projects. In general, the areas that could experience overlapping impacts are on the periphery of the region where growth from the Plan and growth in accordance with other plans could occur and result in overlapping impacts.

The potential for cumulative or overlapping impacts is contemplated at four basic geographies, the SCAG region, adjacent jurisdictions, the state, and global (see **Table 3.21-1, Cumulative Impact Analysis Geographies**). Although there is some potential for categories to overlap, for example, recreational impacts may occur at the SCAG regional geography as well as the adjacent county and state level.

For purposes of the cumulative analysis, the qualitative discussion identifies how impacts could overlap; **Table 3.21-1** provides an approximate guide of the primary focus of the cumulative analysis and is not intended to limit the geography of a particular cumulative analysis where impacts may overlap at a number of levels.

Table 3.21-1
Cumulative Impact Analysis Geographies

SCAG Region	Adjacent Jurisdictions (San Diego, Santa Barbara, Kern)	State of California	Global
Air Quality -- Localized Impacts	Air Quality – Regional Impacts	Agriculture and Forestry Resources	Greenhouse Gases
Biological Resources	Biological Resources	Public Services – Park and Recreation (Regional Facilities)	Paleontological
Cultural Resources	Cultural Resources	Solid Waste Wastewater	
	Transportation and Traffic	Water Supply	
Noise	Public Services – Fire, Police, Schools, Libraries, Parks and Recreation (Local Facilities)	Energy	
	Aesthetics	Mineral Resources	
	Noise	Tribal Cultural Resources	
	Hazards and Hazardous Materials	Biological Resources	
	Hydrology and water quality	Paleontological	
	Population and Housing	Transportation	
	Land Use and Planning		
	Mineral Resources		
	Wildfire		

Source, Impact Sciences, 2019

3.21.1 AESTHETICS

Connect SoCal includes transportation projects and land use strategies that would shape the region over the next 25 years. As discussed in **Section 3.1, Aesthetics,** these changes include the extension of transportation and related infrastructure and expansion of urbanized areas that would impact scenic resources. Transportation projects could facilitate access not only within SCAG boundaries but also to areas outside the region. In addition, Plan projects would connect with projects outside the region facilitating and potentially inducing construction of transportation infrastructure and development outside the region. Some of these changes would be expected on the fringe of the region (e.g. projects along the border of Los Angeles and Kern Counties). Urbanization or loss of these visual resources could also affect areas outside the region as many of these scenic areas extend beyond SCAG borders. As a result, the Plan could indirectly cause changes to the visual character or to scenic areas outside the region. Therefore, the Plan would contribute to cumulative impacts to scenic resources and visual character. Implementation of **Mitigation Measures SMM AES-1** and **PMM AES-1** through **PMM AES-2** would

reduce potential impacts to aesthetic resources. However, even with the implementation of mitigation measures, impacts are considered significant and could add to such impacts from cumulative projects (for example other RTPs for surrounding jurisdictions) outside the region.

3.21.2 AGRICULTURE AND FORESTRY

Under the Connect SoCal Plan, consumption of farmland is anticipated. These impacts would be the direct result of either implementation of transportation projects or development anticipated to occur due to projected growth under the Plan. As discussed in **Section 3.2**, **Agriculture and Forestry Resources**, impacts to agricultural and forestry resources from the Plan are considered significant and unavoidable. Loss of farmland would worsen the conversion of agricultural lands due to urbanization throughout the state. The 2015 California Farmland Conversion Report ranks the Southern California region at the top in net acres converted to urban land, with Riverside County ranked second at the county level.[1] The Southern California and San Joaquin Valley regions accounted for the largest urban growth in terms of acreage.[2] Implementation of **Mitigation Measures SMM AG-1,** through **SMM AG-4** and **PMM AG-1** would reduce impacts, but as other California regions continue to urbanize, agricultural land in the state may continue to be lost due to land use conversion, contributing to cumulative statewide significant impacts.

The Plan has the potential to conflict with Williamson Act lands or existing zoning for agricultural use. **Mitigation Measures SMM AG-1** through **SMM AG-2** and **PMM AG-1** through **PMM AG-2** would reduce impacts, but they are still considered significant. As noted above, through the increasing urbanization, other regions adjacent to SCAG boundaries may also convert agricultural lands to urban uses and conflict with existing zoning.

The Plan would have a significant impact regarding forest lands. Transportation projects included in the Plan that would result impact to forest lands include highway expansion, highway widening projects, and potential connectors. Projects in adjacent regions could convert forestry resources and forest lands due to development, resulting in cumulative impacts.

The Plan would involve other changes in the environment which, due to their location or nature, could convert Farmland to non-agricultural use or conversion of forest land to non-forest use. Implementation of **Mitigation Measures SMM AG-1** through **SMM AG-2** as well as **SMM GHG-1** through **SMM GHG-**

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1 California Department of Conservation. 2015. *California Farmland Conversion Report 2015*. Available at: https://www.conservation.ca.gov/dlrp/fmmp/Documents/fmmp/pubs/2010-2012/FCR/FCR%202015_complete.pdf, accessed November 5, 2019.

2 Ibid.

5 and **PMM AG-2** as well as **PMM GHG-2** would reduce impacts, but they are still considered significant. As development pressure from conversion of Farmland to urban uses increases, lands adjacent to SCAG boundaries may feel the same indirect pressure to develop and convert lands. Therefore, there would be a significant cumulative impact.

3.21.3 AIR QUALITY

Connect SoCal is a regional plan that integrates transportation investments with land use strategies for the SCAG region. As such, the analysis of air quality impacts presented is inherently cumulative. As discussed in **Section 3.3, Air Quality**, the Plan would result in significant impacts as a result of short-term emissions of criteria pollutants and as a result of sensitive receptors being in proximity to sources of TACs (**Impact AQ-4**). However, the Plan could also contribute to air quality impacts outside the SCAG region itself. The cumulative analysis impact area for air quality consists of air basins that extend beyond the SCAG boundaries, such as the Mojave Desert Air Basin that extends into Kern County. Implementation of the Connect SoCal Plan combined with cumulative development outside of the SCAG region would add to the significant air quality impacts of the Plan.

Implementation of **Mitigation Measures SMM AQ-1** through **SMM AQ-3** and **PMM AQ-1** through **PMM AQ-3** would reduce the contribution to cumulative air quality impacts; however, the Plan's impacts would remain significant and would add to the impacts of other RTPs in surrounding jurisdictions.

3.21.4 BIOLOGICAL RESOURCES

As discussed in **Section 3.4**, **Biological Resources,** Connect SoCal would result in impacts to sensitive species as well as habitat fragmentation and loss and disturbance. Implementation of **Mitigation Measures SMM BIO-1** through **SMM BIO-2 and PMM BIO-1** through **PMM BIO-6** would reduce impacts to biological resources but impacts would remain significant. Many of these impacts would be the direct result of either transportation improvements or development. Impacts to sensitive species, as well as loss of habitat and habitat fragmentation would contribute to similar statewide impacts. Many important habitat corridors cross the SCAG region's boundaries. As a result, the loss of an important corridor, or fragmentation of habitat could limit the movement of wildlife species resulting in additional cumulative impacts. Similarly, fragmentation could reduce the viability of a species beyond the plan area. Therefore, the significant impacts to biological resources anticipated to result from transportation and development projects occurring under the Plan would contribute to cumulative biological resources impacts outside of just the SCAG region, including effects throughout California.

3.21.5 CULTURAL RESOURCES

The Plan includes transportation projects and land use strategies that will shape the region over the next 25 years. As discussed in **Section 3.5**, **Cultural Resources,** these changes include the extension of transportation and related infrastructure that would impact cultural resources through activities such as demolition of historical resources or indirect impacts such as changing the historic context of the resource. In addition, Plan projects will connect with projects outside the region, thereby facilitating and potentially inducing construction of transportation infrastructure outside the region. This additional infrastructure could lead to additional development, both inside and outside the region. Plan impacts would add to cultural resource impacts of cumulative projects (transportation projects and development in accordance with RTP plans of adjacent jurisdictions). Implementation of **Mitigation Measures SMM CULT-1** and **PMM CULT-1** and **PMM CULT-2**, would reduce the contribution to cumulative impacts to cultural resources. However, the Plan would still result in significant impacts to historical resources as well as archaeological resources and would contribute to significant cumulative impacts. Although in general cultural and historical impacts are specific to a smaller area (region), there is the potential for the project to contribute to impacts in adjacent counties.

3.21.6 ENERGY

Impacts to energy related to implementation of the Plan are analyzed in **Section 3.6, Energy.** The increase in energy demand that is anticipated to occur as population increases in the SCAG region would contribute cumulatively to state increases in energy consumption. The state population is anticipated to continue to grow throughout the implementation period of the Connect SoCal Plan, reaching over 47 million by 2045.[3] Inland areas within the state will grow at higher rates, as the Inland Empire, San Joaquin Valley, and the Sacramento region experience faster growth.[4] The population growth reflects California's increasing energy demand, with the lowest 2030 estimates indicating an annual consumption demand of 326,026 GWh.[5] Transportation energy demand will see significant changes in response to increasing vehicle electrification, higher vehicle fuel economy, and hydrogen fuel demand. Although California's population and economy are expected to grow, gasoline consumption is projected to decline by 2030.[6] Diesel demand and demand for hydrogen fuel will continue to rise during same period.[7] The

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3 California Department of Finance. 2019. *Total Estimated and Projected Population for California and Counties: 1-Year Increments*. Available at: http://www.dof.ca.gov/Forecasting/Demographics/Projections/, accessed November 6, 2019.

4 Public Policy Institute of California. 2016. *California's Future*. Available at: https://www.ppic.org/content/pubs/report/R_116HJ3R.pdf, accessed November 6, 2019.

5 California Energy Commission. 2018. *California Energy Demand 2018-2030 Revised Forecast*. Available at: https://ww2.energy.ca.gov/2017_energypolicy/documents/, accessed November 6, 2019.

6 California Energy Commission. 2017. *Transportation Energy Demand Forecast, 2018-2030*.

various counties and cities within the SCAG region, in accordance with state law, will require the implementation a variety of energy efficiency measures to decrease energy consumption as a means to reduce GHG emissions. The Plan aims to reduce energy consumption and GHG emissions, and would comply with the state's goals, as adjacent counties' regional plans would also comply with state goals. Energy impacts would be less than significant. Therefore, the Plan would not cumulatively contribute to wasteful, inefficient, or unnecessary consumption of energy resources.

3.21.7 GEOLOGY AND SOILS

Impacts to geology and soils related to implementation of the Plan are analyzed in **Section 3.7, Geology and Soils**. The SCAG region extends primarily over four California geomorphic provinces: the Mojave Desert, the Transverse Ranges, the Peninsular Ranges, and the Colorado Desert.[8] These geomorphic provinces include several active faults, and they extend beyond SCAG's boundaries to neighboring counties. However, geologic effects occur independently of one another and are related to site-specific and project-specific characteristics and conditions. In addition, existing regulations specify mandatory actions that must occur during project development, which would adequately address the potential for effects from construction or operation of projects related to exposure to seismic hazards. Since the implementation of the Plan would not exacerbate existing geologic hazards including fault rupture, in addition to the fact that there are already numerous regulations in place to reduce such risks to any planned development or transportation project, geologic impacts would be less than significant and the Plan would not result in a considerable contribution to cumulative impacts.

The paleontology of the SCAG region is as equally diverse as the geologic diversity. The Plan's ground disturbing activities would potentially impact paleontological resources. Ground-disturbing activities such as excavation for building foundations and bridges, trenching for utility lines, tunneling, and grading, could damage or destroy sensitive paleontological resources on or near the surface or at depth. Implementation of **Mitigation Measures SMM-GEO-3** and **PMM-GEO-1** would reduce the level of impacts but would still be considered significant. Paleontological resources, and important paleontological finds may still occur. For example, in 2005 a Mammoth was discovered in the City of Moorpark. The fossils were dated as between 400,000 and 1.8 million years old Such finds, while locally important, provide important contextual information to the state's history and beyond. The loss of such resources would be cumulatively considerable.

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7 Ibid.

8 California Geological Survey. 2002. *California Geomorphic Provinces*. Available online at: https://www.conservation.ca.gov/cgs/Documents/Note_36.pdf, accessed June 12, 2019.

3.21.8 GREENHOUSE GASES

In general, GHG emissions analyses are by nature cumulative as impacts from GHG emissions are global, and there is currently no method to tie local impacts to specific sources. Emissions from any single project mix in the atmosphere and contribute to local, regional, and global impacts over long periods of time. Consequently, any project specific GHG analysis is inherently a cumulative analysis. The analysis presented in **Section 3.8, Greenhouse Gases,** is also a cumulative analysis in that it considers the entire SCAG region as the project site, includes all growth in residential and commercial space as well as region-wide vehicle traffic, and compares these impacts to statewide plans and regulations. In this way, it includes all projects of a similar nature and compares the total impact to regional thresholds. Adjacent jurisdictions in preparing their RTPs will similarly evaluate GHG emissions; in addition, air quality management districts will evaluate emissions associated with stationary and other non-mobile sources and local jurisdictions will more precisely quantify emissions associated with individual projects. Consequently, the analysis presented in **Section 3.8** of this PEIR is a cumulative analysis, and no separate assessment of cumulative effects is needed.

3.21.9 HAZARDS AND HAZARDOUS MATERIALS

Impacts associated with hazards and hazardous materials related to implementation of the proposed Plan are analyzed in **Section 3.9, Hazards and Hazardous Materials**. Hazards and hazardous materials impacts may be related to the transport, use, or disposal of hazardous materials, create a significant hazard through upset or accident conditions involving release of hazardous materials, hazardous materials within one-quarter mile of an existing or proposed school, location on a known hazardous materials site, airport-related hazards, and conflict with an emergency response plan. These effects occur independently of one another, related to site-specific and project-specific characteristics and conditions. However, the analysis in **Section 3.9** concluded there would be significant and unavoidable effects regarding impacts to transport of hazardous materials, release of hazardous materials, hazardous materials within one-quarter mile of a school, location on a known hazardous materials site, and conflict with an emergency response plan. Implementation of **Mitigation Measures SMM HAZ-1** through **SMM HAZ-5** as well as **SMM TRA-5** and **PMM HAZ-1** through **PMM HAZ-1** through **PMM HAZ-5** as well as **PMM TRA-5** would reduce the Plan's impacts, but they would remain significant. These impacts have the potential, due to transportation projects and land use strategies, to have effects beyond SCAG boundaries, particularly to adjacent jurisdictions. Therefore, implementation of the Plan would have significant cumulative impacts.

3.21.10 HYDROLOGY AND WATER QUALITY

As discussed in **Section 3.10, Hydrology and Water Quality,** the Plan would result in significant impacts related to water quality, groundwater recharge, flood hazards and water supply. The land use strategies included in the Plan would result in a more compact development pattern that would be more water efficient. The water providers within the SCAG region that serve the population would need to coordinate water supply with nearby jurisdictions. Given the unreliability of water supply in the region, the increase of approximately 3.2 million people would result in a significant impact to water supply that would add to the impacts of development in surrounding jurisdictions. The Plan could also facilitate access to other areas of the state by increasing infrastructure which could ultimately influence growth (and associated impermeable surfaces) in areas outside SCAG boundaries. **Mitigation Measures SMM HYD-1** through **SMM HYD-2** and **PMM HYD-1** through **PMM HYD-2** would reduce impacts, but they would remain significant. This could result in greater impacts to water quality and could affect water in areas outside the SCAG region. Therefore, the Plan would result in significant cumulative impacts.

3.21.11 LAND USE AND PLANNING

As discussed in **Section 3.11, Land Use and Planning,** implementation of the Connect SoCal Plan has the potential to physically divide an established community and to conflict with existing land use plans. The Plan would result in an increase in density and land use development. Improved accessibility from the Plan could help facilitate urbanization to areas outside the region. Furthermore, changes in land use patterns in the region (i.e. increased urbanization) could affect areas outside the region, resulting in increased urbanization in adjacent jurisdictions. Implementation of **Mitigation Measures SMM LU-1** through **SMM LU-4** and **PMM LU-1** through **PMM LU-2** would reduce impacts, but they would remain significant. Therefore, the Plan would result in significant cumulative land use impacts.

3.21.12 MINERAL RESOURCES

Impacts to mineral resources related to implementation of the Plan are analyzed in **Section 3.12**. The analysis concluded that there would be a significant and unavoidable impact regarding the loss of known mineral resources occurring from transportation projects and land use strategies in the Plan. Aggregate resources used in construction activities throughout the SCAG region would potentially be reduced due to the Plan's transportation projects and anticipated development under the Plan. The Plan could worsen depletion of aggregate supply which would impact surrounding areas and the state. **Mitigation Measures SMM MIN-1** and **PMM MIN-1** would reduce impacts, but they would remain significant. Therefore, the Plan would have significant cumulative impact on mineral resources adding to the impact from development of areas outside the SCAG region.

3.21.13 NOISE

As discussed in **Section 3.13, Noise,** the Plan would result in significant impacts related to increases in noise. Changes resulting from the Plan include the extension of transportation and related infrastructure that would result in new noise sources as well as increased noise from some existing sources. Implementation of **Mitigation Measures SMM NOISE-1** and **PMM NOISE-1** would reduce noise and vibration impacts, however they would remain significant. Many of the transportation projects could facilitate access not only within SCAG boundaries but also areas outside the region to adjacent jurisdictions. In addition, Plan projects will connect with projects outside the region, facilitating and potentially inducing construction of transportation infrastructure outside the region. Construction noise and vibration impacts are generally site specific, but to the extent that the Plan might influence growth outside the region, it could result in construction noise outside the region. As population in the region continues to increase, the Plan could also contribute to a cumulatively considerable temporary or permanent increase in noise and vibration outside the region as a result of increased travel. This activity would include railroads, as well as freeway, arterial and transit noise. As a result, there would be a significant cumulative impact.

3.21.14 POPULATION AND HOUSING

As discussed in **Section 3.14, Population and Housing,** implementation of the Connect SoCal Plan could facilitate an increase in population, housing, and employment (although the same increases are anticipated whether or not the Plan is adopted). It is possible that the improved accessibility gained by transportation investments and key land use strategies could result in an increase in population in areas outside the region (as people find it easier to move from outside the region to employment centers within the region). If population increases in areas outside the SCAG region were in excess of forecasts and plans, it could add to cumulative impacts in other jurisdictions. Impacts would be reduced by **Mitigation Measures SMM POP-1** through **SMM POP-4** and **PMM POP-1** would reduce impacts, but they would remain significant. Therefore, the significant impacts of the Plan could contribute to population and displacement impacts of other Plans in neighboring jurisdictions, resulting in a significant cumulative impact.

3.21.15 PUBLIC SERVICES

Fire Protection

As discussed in **Section 3.15.1, Fire Protection,** the Plan would result in significant impacts related to the need for new facilities, the construction of which could cause physical impacts. In general impacts to fire services would be confined to the region and would result from transportation projects and anticipated

growth. It is possible that developments that occur near the region's boundary could result in the need for new or expanded fire protection facilities outside the region. This impact would be cumulatively considerable. In addition, wildfire impacts would be significant. Large fires can extend across regional boundaries requiring firefighters from adjacent regions and beyond to assist on a case-by-case basis. To the extent that the Plan would increase urban uses along the wildland interface and increase fire risk, the chance of a fire requiring multi-regional support also increases. **Mitigation Measures SMM PSF-1** through **SMM PSF-3** and **PMM PSF-1** would reduce impacts but they would remain significant. As a result, the Plan would have a significant cumulative impact.

Police Protection

As discussed in **Section 3.15.2, Police Protection,** the Plan would result in significant impacts related to the need for new facilities. Impacts would be reduced by **Mitigation Measures SMM PSP-1** through **SMM PSP-4** and **PMM PSP-1** would reduce impacts but they would remain significant. In general, impacts as a result of construction of new police facilities would be confined to the immediate area of the construction of each facility. However, as with fire protection, where development and transportation projects are located on the boundary of the region, it is possible that new or expanded facilities would be necessary outside the region. If the construction of such facilities results in a significant impact, the Plan's impact would be cumulatively considerable.

Schools

As discussed in **Section 3.15.3, Schools,** the Plan would result in significant impacts related to the need for new school facilities. **Mitigation Measure SMM PSS-1** would reduce impacts, but they would remain significant. In general, impacts as a result of construction of new schools would be confined to the immediate area of each school. However, if development and transportation projects occur on the boundary of the region, it is possible that new or expanded school facilities would be necessary. If the construction of such facilities results in significant impacts, the Plan's impact would be cumulatively considerable.

Library Services

As discussed in **Section 3.15.4,** the Plan would result in significant impacts related to the need for new facilities. **Mitigation Measure PMM PSL-1** would reduce impacts, but they would remain significant. In general, impacts as a result of construction of new library facilities would be confined to the immediate area of each library. However, if development and transportation projects occur on the boundary of the region, it is possible that new or expanded library facilities would be necessary. If the construction of such facilities results in significant impacts, the Plan's impact would be cumulatively considerable.

3.21.16 PARKS AND RECREATION

To the extent that development may occur on the periphery of the SCAG region, it could increase demand for recreation facilities in surrounding jurisdictions as discussed in **Section 3.16, Parks and Recreation**. Similarly, development on the periphery of these other regions, such as adjacent counties, would result in demand for recreational facilities within the SCAG region. In addition, given the natural resources in the SCAG region, any development in other counties would tend to increase demand for recreation facilities with statewide appeal that are within the SCAG region. Improved transportation infrastructure would facilitate access to these recreational facilities. Impacts would be reduced by **Mitigation Measures SMM REC-1** and **PMM REC-1, PMM AQ-2(b),** and **PMM NOISE-1(b)** but would remain significant. Therefore, the significant impacts of the Plan on existing facilities of statewide appeal would add to similar impacts anticipated to result from RTPs in other jurisdictions, resulting in a significant cumulative impact.

3.21.17 TRANSPORTATION, TRAFFIC, AND SAFETY

As discussed in **Section 3.17, Transportation, Traffic and Safety,** the Plan would result in increases in total VMT and vehicle hours of delay but reductions in per capita VMT and vehicle hours of delay. Implementation of the Connect SoCal Plan would result in an increase in density and land use development over the life of the Plan. Transportation and traffic related impacts would be reduced by **Mitigation Measures SMM TRA-1** through **SMM TRA-8** and **PMM TRA-1** through **PMM TRA-2** but they would remain significant. Implementation of the Plan, combined with growth outside the region, has the potential to conflict with congestion management programs outside SCAG boundaries. Congestion and delay from RTPs in adjacent counties would add to these significant impacts, which would result in a significant cumulative impact. Further, as discussed in Section 3.17 Transportation, the per capita VMT reductions may not be enough to meet the state goals established by CARB. This, combined with other MPO's not achieving reductions in VMT beyond those identified by CARB, would result in a cumulative statewide impact.

3.21.18 TRIBAL CULTURAL RESOURCES

Plan projects will facilitate access to areas outside the region. In addition, Plan projects will connect with projects outside the region, thereby facilitating and potentially inducing construction of transportation infrastructure outside SCAG boundaries. As discussed in **Section 3.18,** implementation of the Plan would result in significant impacts to tribal cultural resources. **Mitigation Measures SMM TCR-1** and **PMM TCR-1** would reduce impacts but they would remain significant. Therefore, the impacts would contribute

to significant cumulative impacts to tribal cultural resources throughout the state as resources are impacted by new development and land is disturbed.

3.21.19 UTILITIES AND SERVICE SYSTEMS

Solid Waste

The Plan would result in significant impacts related to solid waste generation in the region, as discussed in **Section 3.19.1, Solid Waste**. Implementation of **Mitigation Measures SMM USW-1** through **SMM USW-2** and **PMM USW-1** would reduce impacts but they would remain significant. As population increases across the state, it is expected that additional demands will be placed on landfills with remaining capacity both from inside the SCAG region and from nearby areas such as adjacent counties. The increased demand on landfill capacity could result in the need to truck waste long distances, including to sites outside the region which could result in localized impacts outside the region (noise, air quality, traffic). Further, landfill capacity is finite and by reducing landfill capacity outside the region, there would be less capacity available for areas outside the region. As a result, the Plan would add to impacts on available landfill capacity and result in a cumulatively considerable impact.

Wastewater

The Plan would result in a significant impact related to wastewater capacity and the need for new facilities, as discussed in **Section 3.19.2, Wastewater**. Impacts would be reduced by **Mitigation Measures SMM HYD-1** through **SMM HYD-3** and **PMM UWW-1** but impacts would remain significant. Connect SoCal includes transportation projects and regional land use strategies, targeting growth in urban areas. However, due to planned transportation projects and anticipated development, there would be potential for construction of new stormwater drainage facilities or expansion of existing facilities would be needed. The need for new or expanded facilities for Plan projects in combination with other large projects outside the region, such as wastewater projects in adjacent counties or transportation projects that connect with projects to outside areas could result in significant impacts. As such the Plan would result in a cumulatively considerable impact.

Water Supply

The Plan would result in significant impacts related to water supply, as discussed in **Section 3.19.3, Water Supply**. Impacts would be reduced by **Mitigation Measures SMM USS-2** and **PMM USS-1** but impacts would remain significant. The water providers within the SCAG region that serve the population would need to coordinate water supply with nearby jurisdictions. Given the unreliability of water supply in the region, additional population growth would result in a significant impact to water supply that would add

to the impacts of development in surrounding jurisdictions. Water supply projects that serve the SCAG region include infrastructure that extends beyond the boundaries of the SCAG region. For example, the California Aqueduct conveys water from the Sierra Nevada Mountains and the Colorado River Aqueduct conveys water from the Colorado River to Southern California. Increases in population could require or result in the relocation or construction of new or expanded water facilities outside of the region. As such, the Plan would result in a cumulatively considerable impact.

3.21.20 WILDFIRE

The Plan would result in significant wildfire risk impacts. Impacts associated with wildfire hazards related to implementation of the Plan are analyzed in **Section 3.20**. Impacts would be reduced by **Mitigation Measures SMM WF-1** through **SMM WF-2** and **PMM WF-1** but impacts would remain significant. Wildfire impacts may be related to impairing an emergency response or evacuation plan, exposing occupants to wildfire risks and pollutant concentrations from wildfire, and exposing people or structures to post-fire slope instability. Wildfires pose a significant public health risk due to their air quality impacts. Furthermore, as wildfire-prone areas tend to have fewer vehicular access points than flat, urbanized areas, these roads could face gridlock in the event of a sudden emergency evacuation. Such circumstances could expose vehicle occupants to active flames and potential death. Development of transportation or housing projects in wildfire-prone areas would cause an increase in population exposed to wildfire risk and exacerbate exposure of those populations to pollutant concentrations from wildfires, particularly populations living downwind of the fire. Plan projects, in combination with other projects outside the region, specifically, potential development projects in wildfire areas, could result in additional impacts. Therefore, the project would result in a cumulative considerable impact.

3.21.21 SOURCES

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4.0 ALTERNATIVES

The California Environmental Quality Act (CEQA) requires an Environmental Impact Report (EIR) to describe a range of reasonable alternatives to the project or to the location of the project that could feasibly avoid or substantially lessen significant environmental impacts while attaining most of the project objectives.[1] This chapter sets forth potential alternatives to the Plan and provides a combination of quantitative and qualitative analysis of each alternative and a comparison of each alternative to the Plan. Plan alternatives are evaluated as to how well they achieve the goals, policies, and objectives, the extent of their environmental impacts compared to the Plan, and whether or not they reduce or eliminate significant impacts caused by the Plan.

4.1 RATIONAL FOR ALTERNATIVES SELECTION

Key provisions of the *State CEQA Guidelines* pertaining to the alternatives analysis are summarized below.[2]

- The discussion of alternatives shall focus on alternatives to the project, including alternative locations that are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly.

- The EIR shall include a brief discussion of the rationale for selecting alternatives to be discussed and should identify any alternatives that were considered but were rejected as infeasible during the scoping process and briefly explain the reason underlying the lead agency's decision. Among others, the following factors may be used to eliminate alternatives from detailed consideration in an EIR: (1) failure to meet most of the basic project objectives; (2) infeasibility, or (3) inability to avoid significant environmental impacts.

- The No Project Alternative shall be evaluated along with its impacts. The No Project Alternative analysis shall discuss the existing conditions at the time the notice of preparation is published, as well as what would reasonably be expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services. When the project involves an update to an existing land use or regulatory plan, the "no project" alternative will be a continuation of the existing plan, policy or operation into the future.

1 *CEQA Guidelines* § 15126.6. 2005

2 *CEQA Guidelines* § 15126.6, 2005

The projected impacts of the plan are compared to the impacts from the continuation of the existing plan.

- The range of alternatives required in an EIR is governed by a "rule of reason." Therefore, the EIR must evaluate only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the proposed project.

- An EIR need not consider an alternative whose effects cannot be reasonably ascertained and whose implementation is remote and speculative.

- The evaluation of alternatives should include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. A matrix displaying the major characteristics and significant environmental effects of each alternative may be used to summarize the comparison. If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the proposed project.

The range of feasible alternatives is selected and discussed in a manner intended to foster meaningful public participation and informed decision making. Among the factors that may be taken into account when addressing the feasibility of alternatives (as described in *State CEQA Guidelines* Section 15126.6(f)(1)) are environmental impacts, site suitability, economic viability, availability of infrastructure, general plan consistency, regulatory limitations, jurisdictional boundaries, and whether the proponent could reasonably acquire, control, or otherwise have access to the alternative site.

An EIR must briefly describe the rationale for selection and rejection of alternatives. The lead agency may make an initial determination as to which alternatives are feasible, and, therefore, merit in-depth consideration.[3] Alternatives may be eliminated from detailed consideration in the EIR if they fail to meet project objectives, are infeasible, or do not avoid any significant environmental effects.[4]

Project Objectives

Pursuant to Section 15126.6(a) of the *State CEQA Guidelines*, the PEIR must consider "alternatives … which would feasibly attain most of the basic objectives of the project but would avoid or substantially

3 CEQA Guidelines §15126.6(f)(3).

4 CEQA Guidelines §15126.6(c).

lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives." SCAG has established ten goals and seven guiding principles to serve as project objectives:

Connect SoCal Goals:

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

Connect SoCal Guiding Principles:

1. Base transportation investments on adopted regional performance indicators and MAP-21/FAST Act regional targets
2. Place high priority for transportation funding in the region on projects and programs that improve mobility, accessibility, reliability and safety, and that preserve the existing transportation system
3. Assure that land use and growth strategies recognize local input, promote sustainable transportation options, and support equitable and adaptable communities

4. Encourage RTP/SCS investments and strategies that collectively result in reduced non-recurrent congestion and demand for single occupancy vehicle use, by leveraging new transportation technologies and expanding travel choices

5. Encourage transportation investments that will result in improved air quality and public health, and reduced greenhouse gas emissions

6. Monitor progress on all aspects of the Plan, including the timely implementation of projects, programs and strategies

7. Regionally, transportation investments should reflect best-known science regarding climate change vulnerability, in order to design for long term resilience.

Limits of SCAG Authority

While SCAG is required to prepare an SCS as part of the RTP, SCAG lacks the legal authority to require the decision makers of cities and counties to adopt or amend their respective land use policies, such as general plan and zoning code amendments that would implement the land use patterns included in the SCS component of the Plan. Furthermore, SCAG lacks the legal authority to implement land use designations in the SCS component of the Plan or the alternatives. While this PEIR analyses one land use scenario for the proposed Plan and other scenarios in the alternatives analyses below, there are nearly an infinite variety of specific land use scenarios at the local level that could achieve Plan objectives to a similar extent. Pursuant to CEQA, the range of alternatives considered in this PEIR illustrates the different environmental consequences of potential distinct regional-level alternatives to the Plan.

SCAG also does not have any ability or authority to control population and employment levels in the region. The accuracy of growth projections at the regional scale, over both the short and long term, are inherently estimates that are subject to a wide variety of factors outside of the control of SCAG or any of its member counties and cities. Accordingly, all alternatives assume the same forecasted regional growth in population and employment. Estimating the environmental consequences of regional growth within the SCAG region is also subject to a wide variety of uncertainties that are outside of the control of SCAG, and for many topical areas are outside the control of SCAG's member counties and cities.

4.2 ALTERNATIVES TO THE PROPOSED PROJECT

SCAG developed three alternatives for analysis in the PEIR. Each alternative consists of a transportation network element and a land use pattern element and is aligned in part with the scenarios for developing

the Plan (See **Chapter 2.0, Project Description** for further details). The following alternatives are evaluated:

1. No Project Alternative

2. Existing Plans-Local Input Alternative

3. Intensified Land Use Alternative

SCAG did not identify additional alternatives that were rejected. As such, three alternatives were identified for comparative analysis: The No Project Alternative and two other potentially feasible RTP/SCS alternatives, one that increases greenfield development (Existing Plans-Local Input Alternative) and one that places additional emphasis on infill development and transit (Intensified Land Use Alternative).

The No Project alternative, required to be analyzed under CEQA, assumes the projected land use pattern and planned transportation improvements would be consistent with those set forth in the 2016 RTP/SCS and that investments would cease beyond what is currently programmed. The two other alternatives allow for analysis variation in projected land use pattern and planned transportation improvements that could realistically be expected to occur over the Plan horizon. The alternatives reflect different growth patterns and different investment decisions for the transportation system. All three alternatives assume the same regional employment, population, and housing growth projections and roughly the same overall transportation budget. Land use and transportation assumptions vary in the following ways:

Land Use Variables:

- The amount of compact or infill development, which is measured in terms of housing product mix (the mix of high- and low-density housing units) and amount of development occurring in existing developed versus undeveloped areas. Compact development has been shown to be more effectively served by transit, to support potentially higher rates of walking and biking, and to generate less vehicle travel.

- The amount of development in high-quality transit areas, where residents are more likely to use available transit.

- The amount of mixed-use development, which supports shorter vehicle trips and higher rates of non-motorized travel.

Transportation Variables:

- The location, intensity, and type of transit service, based on the extent of transit-supportive land uses in corridors. Higher density, mixed-use corridors provide greater opportunities for higher capacity transit, such as light rail.

- The level of investment in transportation systems management (TSM) strategies, including technology and travel demand management (TDM) programs that allow for greater optimization of existing transportation infrastructure. More compact and mixed-use development patterns can allow some shifts in investment priorities away from road extensions and expansions to improving the function of existing roads for multi-modal travel.

- System pricing strategies, such as cordon pricing as a tool for managing congestion.

Generally, the alternatives represent a progression of land use and transportation investments, such that Existing-Plans Alternative includes the most dispersed land use and fewest transportation investments and Intensified Land Use Alternative represents the most compact land use pattern but maintains the same transportation investments as the Plan. Connect SoCal falls in between the two alternatives. As stated above, all alternatives analyzed accommodate the same amount of regional growth: 3,167,500 new people, 1,391,700 new jobs, and 1,426,700 new housing units.

A more detailed description of each of these alternatives is provided below, followed by a comparative analysis of how well the alternative would achieve the project objectives and the relative level of environmental impact associated with each alternative as compared to implementation of Connect SoCal. For each resource area evaluated in this PEIR the text summarizes whether the impacts of the alternative would generally result in greater or lesser impacts than those Connect SoCal**. Table 4.0-1, Comparison of Connect SoCal and Alternatives,** provides an "at a glance" comparison of the three alternatives and Connect SoCal.

Table 4.0-1
Comparison of Connect SoCal and Alternatives

Elements	Proposed Project: Connect SoCal	Alternative 1: No Project Alternative	Alternative 2: Existing Plans- Local Input Alternative	Alternative 3: Intensified Land Use Alternative
Greenfield Land Consumption	41,546 acres	64,608 acres	54,679 acres	32,247 acres
Natural Land	21,561,361 acres	21,559,568 acres	21,553,029 acres	21,563,157 acres
Agricultural Land (total)	892,477 acres	887,706 acres	882,069 acres	890,603 acres
Total Area Converted from Agriculture to Urban from the existing	6,732 acres	10,101 acres	14,861 acres	8,563 acres
Agriculture Production Value	$3,561,365,881	$3,543,507,241	$3,522,366,445	$3,556,648,245
Acres of Habitat Improved from the existing (Threatened and Endangered Species)	311 acres	29 acres	481 acres	126 acres
Acres of Habitat Improved from the existing (Species Vulnerable to Climate Change – Except Birds)	354 acres	44 acres	735 acres	220 acres
Acres of Habitat Improved from the existing (Species Vulnerable to Climate Change - Birds)	1,525 acres	1,265 acres	3,125 acres	1,216 acres
Acres of Habitat Degraded from the existing (Threatened and Endangered Species)	7,899 acres	8,365 acres	12,274 acres	7,115 acres
Acres of Habitat Degraded from the existing (Species Vulnerable to Climate Change – Except Birds)	9,621 acres	10,456 acres	14,967 acres	8,728 acres
Acres of Habitat Degraded from the existing (Species Vulnerable to Climate Change - Birds)	12,778 acres	15,231 acres	19,862 acres	11,666 acres
High Species Movement Potential	22,210,114 acres	22,211,576 acres	22,191,944 acres	22,211,104 acres
Total Carbon Stock	73,707,960 metric tons	73,726,660 metric tons	73,571,245 metric tons	73,809,796 metric tons

Elements	Proposed Project: Connect SoCal	Alternative 1: No Project Alternative	Alternative 2: Existing Plans- Local Input Alternative	Alternative 3: Intensified Land Use Alternative
Total non-Transportation GHG Emissions (MMT), annual	34.2 MMT	35.0 MMT	34.7 MMT	34.2 MMT
Housing Mix	42% Multifamily 8% Townhome 23% Single Family small lot 27% Single Family large lot	37% Multifamily 7% Townhome 27% Single Family small lot 29% Single Family large lot	40% Multifamily 7% Townhome 25% Single Family small lot 28% Single Family large lot	44% Multifamily 8% Townhome 22% Single Family small lot 26% Single Family large lot
Development Location (Growth Priority Areas)	60% Homes 73% Jobs	58% Homes 70% Jobs	57% Homes 70% Jobs	60% Homes 73% Jobs
Land Pattern Focus (New Housing)	21% Urban (infill) 63% Compact (walkable) 16% Standard (suburban)	9% Urban (infill) 18% Compact (walkable) 73% Standard (suburban)	4% Urban (infill) 69% Compact (walkable) 27% Standard (suburban)	16% Urban (infill) 57% Compact (walkable) 27% Standard (suburban)
Land Pattern Focus (New Jobs)	23% Urban (infill) 62% Compact (walkable) 15% Standard (suburban)	8% Urban (infill) 9% Compact (walkable) 84% Standard (suburban)	4% Urban (infill) 61% Compact (walkable) 36% Standard (suburban)	20% Urban (infill) 52% Compact (walkable) 27% Standard (suburban)
Cumulative Residential and Commercial Building Energy Consumed and Energy Costs	15,464 trillion Btu $670 billion	15,670 trillion Btu $678 billion	15,592 trillion Btu $675 billion	15,381 trillion Btu $666 billion
Cumulative Residential and Commercial Building Water Use and Water Costs	84,676,019 acre-feet $116 billion	85,689,515 acre-feet $117 billion	85,215,252 acre-feet $116 billion	85,038,413 acre-feet $116 billion
Per Household Total Cost (driving + utilities)	$13,225	$13,758	$13,523	$13,172
Infrastructure Capital	$25.9 billion	$28.6 billion	$27.5 billion	$26 billion
Operations and Maintenance	$10.1 billion	$ 11.3 billion	$ 10.6 billion	$ 10.0 billion
Highway Network	80,170 lane mile	74,862 lane mile	80,170 lane mile	80,170 lane mile
Transit Network (route mile)	14,906	14,485	14,824	14,906
Transit Boarding (daily)	5.1 million	3.1 million	4.7 million	5.1 million
Vehicle Miles Traveled (VMT)[1]	517,631,374 (total) 22.89 (VMT per capita)	538,091,045 (total) 23.80 (VMT per capita)	529,269,153 (total) 23.41 (VMT per capita)	516,259,271 (total) 22.83 (VMT per capita)
Vehicle Hours Traveled (VHT)[1]	14,130,874	15,424,699	14,539,787	14,074,675

Elements	Proposed Project: Connect SoCal	Alternative 1: No Project Alternative	Alternative 2: Existing Plans- Local Input Alternative	Alternative 3: Intensified Land Use Alternative
Vehicle Hours Delay[1]	2,668,229 (total) 0.12 (Delay per capita)	3,470,645 (total) 0.15 (Delay per capita)	2,823,797 (total) 0.12 (Delay per capita)	2,619,980 (total) 0.12 (Delay per capita)

Note:
1 This includes light and medium-duty vehicles, and heavy-duty trucks.
Source:
SCAG Modeling and SPM data, 2019.

A summary comparison of major impact categories of the Plan and alternatives is included in **Table 4.0-2, Comparison of Alternatives to Connect SoCal.**

Table 4.0-2
Comparison of Alternatives to Connect SoCal

Environmental Issue	Connect SoCal Impact	Alternative 1 – No Project	Alternative 2 – Existing Plans - Local Input	Alternative 3- Intensified Land Use
Aesthetics				
Scenic Vistas	Significant	Less (significant)	Greater (significant)	Greater (significant)
Scenic Resources	Significant	Less (significant)	Greater (significant)	Greater (significant)
Visual Character	Significant	Greater (significant)	Greater (significant)	Less (significant)
Light and Glare	Significant	Greater (significant)	Greater (Significant)	Less (significant)
Agricultural Resources				
Convert Prime Farmland	Significant	Greater (significant)	Greater (significant)	Greater (significant)
Conflict with Williamson Act	Significant	Greater (significant)	Greater (significant)	Greater (significant)
Conflict with forest land zoning	Significant	Less (Less than significant)	Similar (Significant	Similar (Significant)
Loss of forest land	Significant	Less (less than significant)	Similar (Significant)	Similar (Significant)
Other changes that result in loss of farmland or forest land	Significant	Greater (significant)	Greater(significant)	Similar (significant)
Air Quality				
Conflict with Air Quality Plans	Less than significant	Similar (less than significant)	Similar (less than significant)	Less (Less than significant)
Violate an air quality standard	Significant	Similar (significant)	Greater (significant)	Similar (significant)
Cumulatively considerable net increase in criteria pollutants	Significant	Greater (significant)	Greater (significant)	Less (significant)
Expose sensitive receptors	Significant	Similar (significant)	Similar (significant)	Similar (significant)

Environmental Issue	Connect SoCal Impact	Alternative 1 – No Project	Alternative 2 – Existing Plans - Local Input	Alternative 3- Intensified Land Use
Odor	Less than significant	Greater (less than significant)	Similar (less than significant)	Similar (less than significant)
Biological Resources				
Sensitive Species	Significant	Greater (significant)	Greater (significant)	Less (significant)
Riparian Habitat	Significant	Greater (significant)	Greater (significant)	Less (significant)
Wetlands	Significant	Greater (significant)	Greater (significant)	Less (significant)
Migratory Fish/Birds	Significant	Greater (significant)	Greater (significant)	Less (significant)
Tree Preservation	Significant	Greater (significant)	Greater (significant)	Less (significant)
Local Plans/HCPs	Significant	Greater (significant)	Greater (significant)	Less (significant)
Cultural Resources				
Historical Resources	Significant	Greater (significant)	Greater (significant)	Greater (significant)
Archeological Resources	Significant	Greater (significant)	Greater (significant)	Less (significant)
Disturb Human Remains	Significant	Similar (significant)	Greater (significant)	Less(significant)
Energy				
Wasteful and inefficient use of energy	Less than significant	Greater (less than significant)	Greater (less than significant)	Less (less than significant)
Conflict with or obstruct renewable energy plans	Less than significant	Similar (less than significant)	Similar (less than significant)	Less (less than significant)
Geology and Soils				
Fault rupture, ground shaking, ground failure/ liquefaction, landslides	Less than Significant	Similar (less than significant)	Similar (less than significant)	Similar (less than significant)
Soil Erosion	Significant	Greater (significant)	Greater (significant)	Less (significant)
Unstable Soil	Less than Significant	Similar (less than significant)	Similar (less than significant)	Similar (less than significant)
Expansive Soil	Less than Significant	Similar (less than significant)	Similar (less than significant)	Similar (less than significant)
Septic Systems	Less than Significant	Similar (less than significant)	Similar (less than significant)	Similar (less than significant)
Paleontological Resources	Significant	Greater (significant)	Greater (significant)	Less (significant)
Greenhouse Gas Emissions				
Generate greenhouse gas emission	Significant	Greater (significant)	Greater (significant)	Less (significant)
Conflict with Plans	Significant	Greater (significant)	Greater (significant)	Similar (significant)
Hazards and Hazardous Materials				
Routine Transport	Significant	Similar (significant)	Similar (significant)	Similar (significant)
Upset conditions	Significant	Similar (significant)	Similar (significant)	Similar (significant)
Emissions within 0.25 mile of school	Significant	Similar (significant)	Similar (significant)	Similar (significant)
Hazardous materials site	Significant	Similar (significant)	Similar (significant)	Similar (significant)
Airport hazards	Significant	Similar (significant)	Similar (significant)	Similar (significant)
Emergency response plan	Significant	Greater (significant)	Greater (significant)	Less (significant)
Hydrology and Water Quality				
Violate water quality standard	Significant	Greater (significant)	Greater (significant)	Less (significant)

Environmental Issue	Connect SoCal Impact	Alternative 1 – No Project	Alternative 2 – Existing Plans - Local Input	Alternative 3- Intensified Land Use
Decrease groundwater	Significant	Greater (significant)	Greater (significant)	Less (significant)
Erosion or siltation	Significant	Greater (significant)	Greater (significant)	Less (significant)
Flooding	Significant	Greater (significant)	Greater (significant)	Less (significant)
Stormwater runoff	Significant	Greater (significant)	Greater (significant)	Less (significant)
Flood, seiche, tsunami	Significant	Greater (significant)	Greater (significant)	Less (significant)
Conflict with water quality control plan	Significant	Similar (significant)	Similar (significant)	Similar (significant)
Land Use				
Physically divide a community	Significant	Less (significant)	Similar (significant)	Similar (significant)
Conflict with land use plans	Significant	Less (significant)	Similar (significant)	Greater (significant)
Mineral Resources				
Loss in availability of mineral resources	Significant	Less (significant)	Greater (significant)	Less (significant)
Loss of locally important mineral resources	Significant	Less (significant)	Greater (significant)	Less (significant)
Noise				
Temporary or permanent increase in noise levels in excess of established standards	Significant	Similar (significant)	Similar (significant)	Less (significant)
Groundborne vibration or noise	Significant	Similar (significant)	Similar (significant)	Similar (significant)
Airport noise	Significant	Similar (significant)	Similar (significant)	Similar (significant)
Population and Housing				
Induce unplanned population growth	Significant	Similar (significant)	Similar (significant)	Similar (significant)
Displace people or housing	Significant	Similar (significant)	Similar (significant)	Similar (significant)
Public Services				
Fire	Significant	Greater (significant)	Greater (significant)	Less (significant)
Police	Significant	Greater (significant)	Greater (significant)	Less (significant)
Schools	Significant	Similar (significant)	Similar (significant)	Less (significant)
Library	Significant	Similar (significant)	Similar (significant)	Less (significant)
Recreation				
Increase park use	Significant	Less (significant)	Less (significant)	Greater (significant)
Construction of new parks	Significant	Similar (significant)	Similar (significant)	Greater (significant)
Transportation and Traffic				
Conflict with program, plan, ordinance or policy addressing circulation system	Less than significant	Similar (less than significant)	Similar (less than significant)	Similar (less than significant)
Conflict with *CEQA Guidelines* 15064.3(b)	Significant	Greater (significant)	Greater (significant)	Less (significant)
Increase hazards	Less than significant	Greater (less than significant)	Greater (less than significant)	Greater (less than significant)

Environmental Issue	Connect SoCal Impact	Alternative 1 – No Project	Alternative 2 – Existing Plans - Local Input	Alternative 3- Intensified Land Use
Inadequate emergency access	Significant	Greater (significant)	Greater (significant)	Less (significant)
Tribal Cultural Resources				
Adverse change in a TCR	Significant	Greater (significant)	Greater (significant)	Less (significant)
Utilities – Solid Waste				
Generate excess solid waste or conflict with statutes	Significant	Greater (significant)	Similar (significant)	Similar (significant)
Utilities – Wastewater				
New or expanded wastewater treatment	Significant	Greater (significant)	Greater (significant)	Less (significant)
Exceed capacity	Significant	Greater (significant)	Greater (significant)	Greater (significant)
Utilities – Water Supply				
New or expanded water facilities	Significant	Greater (significant)	Greater(significant)	Less (significant)
Sufficient water supply	Significant	Greater (significant)	Greater (significant)	Less (significant)
Wildfire				
Impair adopted response plan	Significant	Greater (significant)	Greater (significant)	Less (significant)
Slope, prevailing winds may exacerbate wildfire risk	Significant	Greater (significant)	Greater (significant)	Less (significant)
Installation or maintenance of infrastructure that may exacerbate fire risk	Significant	Greater (significant)	Greater (significant)	Less (significant)

Source: Impact Sciences 2019

Alternative 1: No Project Alternative

The No Project Alternative is required by Section 15126.6I(2) of the *CEQA Guidelines* and assumes that the Plan would not be implemented. The No Project Alternative allows decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project. The No Project Alternative evaluates "what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services" (*CEQA Guidelines* Section 15126.6€(2)). The No Project Alternative is aligned with the Trend/Baseline Scenario[5] and includes transportation projects that are in place at the time of

5 Connect SoCal – Sustainable Communities Strategy Technical Report.

preparation of the Connect SoCal Plan and that are included in the first two years of the previously conforming transportation plan and/or federal transportation improvement program (FTIP). "Exempt projects" include safety projects and certain mass transit projects, transportation control measures ("TCMs") that are approved by the State Implementation Plan, and project phases that were authorized by the FHWA/FTA prior to expiration of SCAG's conformity finding for the adopted 2016 RTP/SCS. These exempt projects would also be included in the No Project Alternative since they could move forward in the absence of an adopted Connect SoCal Plan.[6]

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

Alternative 2: Existing Plan–s - Local Input Alternative

The Existing Plans - Local Input Alternative is aligned with the Existing Plans – Local Input Scenario in the Plan.[7] This alternative incorporates local general plans and land use information to reflect the Plan's population, household and employment growth estimates in the region. The Plan's transportation and land use strategies are not included in this alternative. The transportation network analyzed under this alternative are the transportation projects planned by each County Transportation Commission (CTC) in the region. In general, this alternative represents a more dispersed land use pattern as compared to Connect SoCal.

Alternative 3: Intensified Land Use Alternative

This Intensified Land Use Alternative is based off the Plan's transportation network and strategies. This alternative analyzes more aggressive densities and land use patterns than included in the Accelerated Tomorrow Scenario.[8] The land use pattern builds on the land use strategies as described in the Connect SoCal Plan and beyond. Specifically, it increases densities and intensifies land use patterns of the Plan, especially around HQTAs in an effort to maximize transit opportunities. The growth pattern associated with this alternative optimizes urban areas and suburban town centers, transit-oriented developments (TODs), HQTAs, livable corridors, and neighborhood mobility areas. It also includes a greater

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6 Federal Highway Administration. *Transportation Conformity: A Basic Guide for State and Local Officials (Revised 2010), FHWA-HEP-11-001*. Available at: http://www.fhwa.dot.gov/environment/air_quality/conformity/guide/guide10.cfm

7 Connect SoCal – Sustainable Communities Strategy Technical Report.

8 Connect SoCal – Sustainable Communities Strategy Technical Report.

progressive job-housing distribution optimized for TODs and infill in HQTAs. It includes the same transportation investments as the Plan. This alternative considers the basis of the Plan with enhancements to accelerate the SB 375 GHG emissions reduction trend into 2045 and beyond, and includes related improvements for air quality, livability, public health, active transportation opportunities, and affordability.

4.3 COMPARATIVE ANALYSIS OF IMPACTS

Consistent with the requirements of Section 15126.6(d) of the *State CEQA Guidelines*, this section of the analysis provides information for the alternatives, including the No Project Alternative, to allow meaningful evaluation, analysis, and comparison with the Project, inclusive of direct, indirect, and cumulative impacts (**Table 4.0-2, Comparison of Alternatives to Connect SoCal).** The evaluation demonstrates if the alternative can avoid or reduce the significant and unavoidable effects of the Project.

Alternative 1: No Project Alternative

Aesthetics

Impacts to scenic vistas from transportation projects in the No Project would be less than Connect SoCal because the No Project Alternative would result in fewer transportation projects overall and therefore fewer opportunities to obstruct a scenic vista. Impacts from the land use pattern could be greater than Connect SoCal as the overall land use pattern would be more dispersed resulting in more opportunities to obstruct a scenic vista, however, projects would also generally be of a lower scale than with Connect SoCal. However, with fewer projects, impacts would likely be less than the Plan but still significant.

The No Project Alternative would also result in fewer opportunities to create visually contrasting elements due to the reduced number of transportation and land use projects as well as the lower scale of projects overall. The No Project Alternative would not include any transportation projects that could affect any State Scenic Highways or vista points. However, views of green space from these areas could be impacted by land use development. Impacts would still be significant but less than the Plan.

Connect SoCal includes strategies to focus growth in HQTAs, which would help reduce the consumption and disturbance of natural lands and reduce resultant impacts on aesthetics and views. Under the No Project Alternative, these land use patterns may not occur and therefore greater areas of greenfield would be impacted resulting in greater impacts to visual character (although individual jurisdictions may still seek to reduce the urban footprint through their general plans). The No Project Alternative's impacts would result in the consumption of more greenfield land (91 square miles, as opposed to 51 square miles under the Plan) potentially resulting in loss of scenic resources and changes in visual character. Impacts

to visual character in urbanized areas would be similar to Connect SoCal because existing zoning and other regulations governing visual quality are mandatory and would be equally enforced under this alternative. Regarding light and glare, the greater amount of land consumed under this alternative, could introduce more lighting into undeveloped areas resulting in potential impacts greater than the Plan.

Agriculture and Forestry Resources

Conversion of agricultural land (including Prime Farmland, Unique Farmland, and Farmland of Statewide Importance), forest land, timberland, and timberland zoned Timberland Production to non-agricultural, non-forest, or non-timber uses under this alternative would be greater than under Connect SoCal because the projected land use pattern of the No Project Alternative would be less compact and would convert 3,369 more acres of agricultural land to urban use. However, the planned transportation improvements of this alternative would include 5,308 fewer lane miles of new or expanded roadway and highways relative to Connect SoCal. The additional land disturbance associated with the less compact land use pattern would occur in areas with agricultural land.

Because the No Project Alternative would not include projects with the potential to impact forest lands, impacts under this alternative would be reduced compared to the Plan. Impacts related to forest land under the No Project would be less than significant.

The potential for conflicts with zoning, land use designations, Williamson Act contracts, and/or other applicable regulations that protect agricultural and forestry resources and timberlands would also be greater because additional agricultural lands would be converted to non agricultural uses. Similarly, the potential for other changes that could result in the conversion of agricultural land to developed land uses would be greater due to increases in urbanization in rural areas under this alternative as compared to Connect SoCal.

Air Quality

Under the No Project Alternative, no new transportation investments would be made, beyond those that are currently programmed. As a result, fewer transportation projects would be built than under the Plan resulting in less construction emissions compared to the Plan. However, construction emissions in the region as a whole would still exceed the significance thresholds established in the *CEQA Guidelines* (these thresholds were developed for use in analyzing individual development projects) and applied by the local air districts (SCAQMD, VCAPCD, MDAQMD, and AVPCD). Similar to the Plan, the cumulative construction emissions in the region would result in a significant impact, which would be short-term for each individual project but overall the region would experience on-going air quality impacts.

Projected long-term emissions are cumulatively significant if they are not consistent with the local air quality management plans and state implementation plans. Unlike the Plan, the No Project Alternative may not conform to the local air quality management plans. The No Project Alternative is anticipated to have higher levels of VMT than the Plan (**Table 4.0-3, Plan Compared to Alternative 1: Summary of Maximum Exposed Individuals Residential 30-Year Exposure Cancer Risk)** resulting in a higher level of particulate matter and ozone precursors, pollutants for which the area is designated as non-attainment. As a result, the No Project Alternative could have a significant cumulative impact.

With respect to cancer risk and impact to public health, the No Project Alternative would result in more emissions as compared to the Plan due to the increase in VMT (**Table 4.0-3**). Due to differences in VMT (light and medium duty vehicles and heavy-duty truck traffic) in some cases, for some segments the No Project Alternative would have slightly less risk than under the Plan. As for the Plan, future emissions would be substantially less than existing conditions.

Table 4.0-3
Plan Compared to No Project Alternative: Summary of Maximum Exposed Individuals Residential 30-Year Exposure Cancer Risk

Segment No.	Transportation Segment	County/Region	No Project Alternative (risk in a million)	Connect SoCal Plan (risk in a million)
1	IMP I-8	Imperial/El Centro	14.2	14.5
2	IMP SR-78	Imperial/Westmoreland	37.1	18.9
3	LA I-110	Los Angeles/Carson	24.8	23.5
4	LA I-710	Los Angeles/Compton	29.9	30.9
5	LA SR-60 DB	Los Angeles/Diamond Bar	31.1	29.7
6	LA SR-60 SEM	Los Angeles/ South El Monte	18.4	16.3
7	ORA I-5	Orange/ Orange	5.36	5.49
8	ORA I-405	Orange/ Seal Beach	12.2	11.8
9	RIV I-10	Riverside/ Banning	4.97	4.83
10	RIV SR-15	Riverside/ Temecula	9.65	9.52
11	RIV SR-91	Riverside/ Corona	8.4	8.41
12	SB I-15 ONT	San Bernardino/Ontario	10.4	10.5
13	SB I-15 VIC	San Bernardino/ Victorville	40.6	41.3
14	SB SR-60	San Bernardino/ Ontario	19.1	18.8
15	VEN US-101 SB	Ventura/ San Buenaventura	4.93	4.85
16	VEN US-101 TO	Ventura/ Thousand Oaks	19.6	21.9

Source: Impact Sciences, 2019.
Note: Segments 7, 11, 12. 13, and 16 under No Project Alternative will have a higher health risk than under the Plan.

Health risk associated with construction activities would be similar to the Plan and potentially significant adjacent to extended intense construction activities.

Objectionable odors are expected to be similar to the Plan, there would be fewer construction projects causing these odors but also higher VMT, causing more diesel emission odors.

Overall impacts to air quality would be greater when compared to Connect SoCal due to the more dispersed growth pattern and greater VMT.

Biological Resources

The No Project Alternative would result in greater impacts to biological resources when compared with the implementation of the Plan. Under this alternative there would be 57 percent more standard (single family) suburban residential development and an additional 1,793 acres of natural lands developed. As such, more sensitive biological resources would be expected to be affected under the No Project Alternative. The No Project Alternative would not include transportation and land use strategies that focus growth along existing corridors and in urbanized areas, nor would it encourage additional greenways. As a result, development would be more scattered through the region when compared to the Plan, and native habitat conversion and fragmentation would increase.

The Plan includes transportation and land use strategies that focus growth along existing corridors and in urbanized areas, rather than allowing development of vacant, open space/recreation, and agricultural lands. This compact development pattern would focus population in urban areas. Without the Plan land use strategies, impacts to biological resources would be more widespread throughout the region. Additionally, habitat degradation would be higher under the No Project Alternative (8,365 acres) than under the Plan (7,899 acres). Impacts to biological resources are directly linked to the amount of native habitat conversion in non-urban areas. As such, impacts would be greater under the No Project Alternative.

Cultural Resources

Impacts to cultural resources (historic built environments, archeological, and human remains, and important examples of major periods of California history or prehistory) under this alterative would be greater than under Connect SoCal because this alternative's projected land use pattern would be less compact and include an additional 23,062 of greenfield development. The additional land disturbance, such as grading and excavation, resulting from the projected land use pattern of this alternative would result in greater likelihood of encountering unknown surface or subsurface archaeological resources, or human remains; it would also result in greater impacts to the character of settings that contribute to the

significance of historic built environments. However, this alternative would result in fewer lane miles constructed which would reduce transportation related impacts compared to Connect SoCal (as discussed below). Overall, impacts to cultural resources would be greater when compared to Connect SoCal.

Energy

The No Project Alternative would likely result in increased use of energy because the No Project Alternative assumes more large lot development, resulting in a larger share of individual detached structures. These individual structures require more energy for materials, more materials overall, and more fuel to build (e.g., additional equipment and vehicle use for site development, grading, and excavation) than would be needed for attached structures.

Per-capita energy consumption under this alternative would be greater than under Connect SoCal due to the less compact land use pattern. The No Project Alternative also includes a housing mix with a greater proportion of large-lot single-family homes (73 percent standard suburban) as compared to the Plan (16 percent standard suburban). Because the No Project Alternative would include more large-lot single-family homes, which require more energy use per capita as compared to attached and multi-family homes, this alternative would result in more energy use per capita as compared to the Plan. The less compact land use pattern also leads to higher VMT, and more inefficient consumption of transportation energy than under the Plan. While it would be likely that, compared to baseline conditions (2019), per capita energy consumption would go down under this alternative (as the trajectory of per capita energy is on a downward trend overall), per capita energy consumption would be higher than under the Plan. Therefore, although impacts would be less than significant, the No Project Alternative would result in greater impacts related to the wasteful, inefficient, or unnecessary consumption of energy during construction activities and long-term operations.

This alternative is likely to have similar impacts on state and local plans for renewable energy or energy efficiency as compared to the Plan. Use of some renewable energy sources could be facilitated, while the use of other renewable energy sources could be hindered by this alternative. Implementation of the California Energy Code and State goals for increasing the percentage of electricity from renewable and zero-carbon sources under this alternative would be the same as under the Plan.

Geology and Soils

While implementation of the Connect SoCal Plan would result in a greater number of transportation projects than the No Project Alternative, the No Project Alternative would result in similar impacts associated with risk as a result of surface fault rupture, ground-shaking liquefaction, landslides, and

other risks associated with seismic events. The anticipated population growth would remain constant over all alternatives and the Project, and the entire region is subject to the same seismic risk. Existing state and local building code requirements addressing substantial adverse effects due to earthquakes and seismic activity would apply to the projected land use pattern and planned transportation improvements of the Plan.

Impacts related to soil erosion would be significant and would be greater under this alternative as there would be an increase in land consumed which could result in more soils exposed. Impacts related to unstable soil, expansive soil, and septic systems would also be less than significant and similar to the Plan as projects would continue to comply with existing regulations.

Impacts to unique geologic features would be greater under this alternative than under the Plan because the projected land use pattern of this alternative is less compact. The additional land disturbance resulting from the projected land use pattern under this alternative would result in greater impacts to unique geologic features.

Greenhouse Gas Emissions

The greenhouse gas (GHG) emissions for building energy would be higher under the No Project Alternative (32.4 MMTCO_2e/year) than under the Plan (31.3 MMTCO_2e/year), a difference of 3 percent (**Table 3.8-9, Greenhouse Gas Emissions for the SCAG Region from Three Primary Sources [CO2e]**). The water-energy GHG emissions under the No Project Alternative (2.6 MMTCO2e/year) would be higher than under the Plan (2.5 MMT CO_2e/year) (see **Table 3.8-9**). For transportation, the GHG emissions with the No Project Alternative (74.6 MMT CO_2e/year) would also be greater compared to the Plan (64 MMT CO_2e/year) (see **Table 3.8-9**). The more disbursed development pattern of the No Project Alternative would result in increased building energy use (as multi-family buildings are more efficient than single-family homes) and more VMT. The Plan would improve regional GHG emissions compared to the No Project Alternative.

Senate Bill (SB) 375 requires CARB to develop regional CO_2 emission reduction targets, compared to 2005 emissions, for cars and light trucks only for 2020 and 2035 for each of the state's MPOs. Unlike the Plan, the No Project Alternative would not achieve SB 375 targets due to the inability to complete the transportation investments and increase density of development in HQTAs that are required to achieve the GHG emission reductions made possible by the Plan. Since the GHG emissions from transportation sources would be higher with the No Project Alternative than under the Plan, this alternative would not meet the regional GHG reduction targets for cars and light-duty trucks, would not be sufficient to meet

the state's overall GHG reduction goals, and would conflict with AB 32 and SB 32 even more than the Plan. As such, the No Project Alternative would have a greater impact on GHG emissions than the Plan.

Hazards and Hazardous Materials

Hazardous materials impacts to the public or the environment associated with construction activities and operation under this alternative would be the same as the impacts under the Plan. This is because of the numerous federal, state, and local requirements and regulations that minimize the creation of significant hazards to the public or the environment through the routine transport, use, or disposal of hazardous materials; through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment and through handling of hazardous materials, substances, and waste within 0.25 mile of an existing or proposed school. These existing requirements and regulations would apply equally to the different projected land use patterns and planned transportation network improvements of this alternative and the proposed Plan, so impacts would be the same. The same is true for existing requirements and regulations addressing potential safety hazards and excessive noise within an airport land use plan or within two miles of a public or public use airport, so airport-related safety and noise impacts to people residing or working in the plan area would be the same under this alternative.

The more dispersed land use pattern under this alternative would be more automobile-oriented than the Plan and could complicate emergency evacuation plans that rely in part on public transit. Therefore, the less compact land use pattern of this alternative would result in greater impacts associated with impairing the implementation of adopted emergency response and emergency evacuation plans.

Hydrology and Water Quality

Under the No Project Alternative, fewer areas would be impacted by excavation and construction activities related to transportation projects as compared to the Plan. While the No Project Alternative would reduce the number of transportation projects built in the SCAG region, it would result in greater vacant land consumption that would, in turn, increase impervious surface. The additional land area permanently converted to impervious surfaces would increase the potential volume and decrease the water quality of stormwater flows. Additional impervious surface also would interfere with groundwater recharge and alter drainage patterns in a manner that would increase the potential for substantial erosion, siltation, and flooding relative to the Plan. This alternative would require greater storm drainage system capacity than the Plan because of its conversion of additional land area to impervious surface area. In addition, the housing mix of this alternative would include a larger share of large-lot single-family homes, which would result in more managed landscaping areas and associated pollutants such as

nutrients, herbicides, and irrigated runoff, which in turn could adversely affect surface and groundwater quality.

With fewer transportation projects than the Plan, impacts of the No Project Alternative would be reduced when compared with the Plan. As the currently planned projects included in the No Project alternative are built, the impacts resulting from increased roadway runoff and drainage patterns would remain significant. Likewise, the impacts to groundwater infiltration caused by the increased impervious surfaces of roadway projects, and to increased flooding hazards, would remain significant.

Similar to the Plan, this alternative could conflict with or obstruct the implementation of a water quality control plan or sustainable groundwater management plan, impacts would be similar to the Plan.

Land Use Planning

Under the No Project Alternative, no new transportation investments would be made, beyond those that are currently programmed. As a result, fewer transportation projects would be built than under the Plan and new growth would occur consistent with local general plans, although it would be more dispersed than contemplated under the Plan. The less compact land use pattern of this alternative provides less connectivity within existing communities because of its more dispersed allocation of future growth, but it would not physically divide any existing communities. This impact would be the same as under the Plan. The transportation projects in this alternative would add 5,308 fewer lane miles compared to the Plan. With fewer lane miles, the planned transportation improvements of this alternative would result in less impact from physically dividing existing communities. Impacts would be less than the Plan, however would remain significant.

The No Project Alternative would result in fewer impacts with regard to conflicts with any applicable land use plan, policy, or regulation for the purpose of avoiding or mitigating an environmental effect due to there being fewer transportation projects. The Plan's land use strategies would be implemented to the extent they have already been built into existing local jurisdiction's plans and therefore there would be less opportunity for land use policy conflicts as compared to the Plan.

Mineral Resources

The No Project Alternative would result in fewer lane miles compared to the Plan which would require less aggregate. Further, the No Project Alternative could result in greater loss of availability of known mineral resources that would be of value to the region and the residents of the state, as well as locally important mineral resources, due to the greater amount of land that would be converted to urban land

potentially covering more mineral resource extraction opportunities. However, overall impacts would be less than the Plan but still significant.

Noise

The No Project Alternative would result in reduced impacts from noise when compared with Connect SoCal. Under the No Project Alternative, no new transportation investments would be made, beyond those that are currently programmed; and land use development would be more distributed than under the Plan. Therefore, the No Project Alternative would not include transportation and land use strategies that focus growth along existing corridors and in urbanized areas, would not result in construction or operation of new transportation infrastructure, and would not develop new HQTAs. As a result, fewer transportation projects would be built than under the Plan, however a greater area would be affected by construction noise associated with land use development.

Construction noise in urban areas is generally expected and considered less than significant. Construction noise on individual sites could still exceed significance thresholds in some jurisdictions. Construction-related noise impacts would be similar, although possibly fewer sensitive receptors would be impacted under this alternative due less urban locations that would be subject to disturbance during construction activities. This would increase the number of separate construction sites, which would increase overall noise levels associated with construction activities. However, impacts overall would be similar as the Plan and still significant.

The projected land use pattern of this alternative, while less compact than the Plan, would not result in land use types that would result in meaningfully different levels of vibration or groundborne noise. The planned transportation improvements of this alternative would include limited roadway and highway improvements which also would not result in meaningfully different levels of vibration or groundborne noise relative to the planned transportation improvements identified in the Plan. This impact is the same under this alternative.

Regarding aviation noise, the No Project Alternative would result in similar impacts to the Plan, as there would be no change in air traffic patterns or airport operations under this alternative.

Population and Housing

Impacts related to population and housing should be similar under all alternatives, because the same number of people, housing units and jobs are assumed. The less compact land use pattern of this alternative could still result in displacement of substantial numbers of people or existing housing that

necessitates the construction of replacement housing elsewhere. This impact is the same as the Plan and would remain significant.

Public Services

This alternative is anticipated to result in public service impacts similar to those that would be generated under the Plan, because the same total population, housing, and employment are assumed, and public service impacts are generally population driven. However, this alternative could worsen the ability to achieve local levels of service due to a more dispersed land use pattern that makes it more difficult to efficiently serve the population. This impact is greater than the Plan. The planned transportation improvements of this alternative would have the same public services impacts as the Plan, although congestion (VHD) would increase compared to the Plan which could affect police and fire services in some areas.

Regarding schools and libraries, the population would be the same under each of the alternatives. While there could be less demand in urban areas (due to the more dispersed land use pattern) there could be greater impacts in less developed areas. Given the increased growth in suburban areas, this alternative could contribute to substantial adverse physical impacts associated with the construction and subsequent operation of new or physically altered school and library facilities in order to maintain acceptable service ratios. Impacts would be significant and similar to the Plan.

Parks and Recreation

This alternative could worsen the ability to achieve local levels of service due to a more dispersed land use pattern that makes it more difficult to efficiently serve the population. This impact is greater than the Plan. Although there would be less demand on urban parks (which are often overburdened) there could be more demand on large regional parks due to a more dispersed land use pattern and the need to travel to parks. As the regional is well-served with regional parks, this impact would be less than the Plan but still significant.

Transportation, Traffic, and Safety

The No Project Alternative would result in greater VMT per capita (23.80 VMT/per capita) than under the Plan (22.89 VMT/per capita), in part because of the less compact land use pattern. This alternative would also locate fewer homes and jobs near HQTAs. According to CARB much greater VMT reductions (beyond those achieved by the Plan) will be required to meet the state's long-term climate goals. Therefore, the VMT impact of this alternative is greater than under the Plan. For the reasons provided above, this alternative would also result in lower levels of transit ridership (by two million boardings) as

well as walking, and biking for commute trips and all trips and it would be less complementary to existing and planned bicycle and pedestrian facilities.

The No Project Alternative would also result in higher VHD by 802,416 (total). The compact development pattern included in the Plan would concentrate population in urban areas and encourage alternative modes of travel other than automobiles. Without the Plan development patterns, vehicle miles traveled, vehicle hours of delay, worker commute trips, and accident rates would be higher than under the Plan resulting in greater impacts.

Under the No Project Alternative, impacts related to design hazards would also be greater (although still less than significant) as fewer transportation improvements would be constructed and the Plan's focus on safety would not be implemented. Emergency access would be greater because the land use pattern of large lot homes would be less efficient and there would be fewer transportation improvements constructed.

Tribal Cultural Resources

The No Project Alternative would result in greater impacts to tribal cultural resources when compared with the Plan. Under the No Project Alternative, there would be an additional 23,062 acres of greenfield land consumed, which would have the potential to impact previously undiscovered tribal cultural resources, such as archaeological resources, sacred sites, or human remains. However, the transportation network in this alternative would include fewer lane miles and could reduce the potential to impact previously undiscovered tribal cultural resources as compared to the Plan. Due to the less compact land use pattern and the increase in greenfield consumed, impacts would be greater under the No Project Alternative and would be significant.

Utilities and Service Systems

This alternative is anticipated to result in impacts to utilities and service systems similar to those that would be generated under the proposed Plan and would be significant because the same total population, housing, and employment numbers are assumed, and utilities impacts are generally population driven. The larger share of single-family homes under this alternative would likely increase the demand for surface and groundwater supplies because such housing units have higher demand for water, for example through increased irrigation demand for landscaping areas and additional appliances and fixtures that use potable water (e.g., sinks, toilets, showers). As a result, this alternative could exceed the capacity of existing water storage, conveyance, distribution, and treatment facilities to a greater degree than the Plan and result in construction of new, expanded, or relocated facilities. These impacts of this alternative are greater than under the Plan and would be significant.

In addition, this alternative could adversely affect the capacity of the necessary utility conveyance and distribution systems (e.g. wastewater, storm drain,) due to a more dispersed land use pattern that makes it more difficult to efficiently serve the population. All of the alternatives would be required to follow the same federal, state, and local statutes and regulations related to solid waste. This alternative would have the same impact related to solid waste generation and conflicts with solid waste management and reduction statutes and regulations.

Wildfire

Under the No Project Alternative, impacts would increase with regards to increased development along the wildland interface that may exacerbate fire risks. The No Project Alternative would result in an additional 43,692 housing units at risk for wildfire as compared to the Plan, resulting in greater potential wildfire risk. Areas with dry vegetation have the potential to exacerbate wildfire risk due to future development activities that could generate flammable debris piles. This is particularly true in the currently rural and underdeveloped parts of the SCAG region. Future roadway and development construction in such areas has the potential to result in significant impacts as a result of construction equipment generating sparks or oil spill and other combustible materials leading to the start and spread of wildfires. This impact would be greater under the No Project Alternative and would be significant.

Alternative 2: Existing Plans - Local Input Alternative

Aesthetics

Impacts to scenic vistas from the land use pattern under this alternative would be less than the Plan, because this alternative assumes lower density development. Structures are likely to be shorter and more dispersed, with less likelihood of blocking or impeding scenic vistas. However, with more development in non-urbanized areas, there could be greater potential for conflicts with scenic vistas which would be a greater impact than the Plan. The transportation network would result in the same number of lane miles as the Plan and therefore potential transportation related impacts would be similar. With a land use pattern that is more dispersed - combined with the same number of capacity-enhancing planned transportation improvements as the Plan, this alternative would have greater impacts to scenic resources along official or eligible state scenic highways.

Conversion of greenfield to development would be more dispersed, as the Existing Plans-Local Input Alternative would consume 54,679 acres compared to the Plan's consumption of 41,546 acres. Because population growth would be less concentrated in existing open areas than the Plan, there would be greater overall impacts to visual character and quality. In urban areas, with regard to conflicts with applicable zoning or regulations regarding scenic quality, there would be similar effects under this

alternative as the Plan since there would be a similar number or transportation projects. The potential for substantial degradation of visual character or quality of public views of sites and their surroundings in non-urbanized areas would be greater under this alternative as compared to the Plan because this alternative would locate more housing within non-urbanized areas. With a more dispersed land use pattern combined with capacity-enhancing planned transportation improvements in non-urbanized areas, this alternative would result in greater impacts to visual quality compared to the Plan and impacts would be significant.

Agriculture and Forestry Resources

Conversion of agricultural land (including Prime Farmland, Unique Farmland, and Farmland of Statewide Importance), forest land, timberland, and timberland zoned Timberland Production to non-agricultural, non-forest, or non-timber uses under this alternative would be greater than under the Plan because the projected land use pattern of the Existing Plans-Local Input Alternative would be less compact and would result in the direct loss of an additional 8,129 acres of agricultural land converted to urban use compared to the Plan. The potential for conflicts with zoning, land use designations, Williamson Act contracts, and/or other applicable regulations that protect agricultural resources would also be greater for the same reasons and because the same projects are included in the transportation network that have the potential to conflict with or convert forest lands. Similarly, the potential for other changes that could result in the conversion of agricultural land to developed land uses would be greater due to the overall increase in greenfield consumption under this alternative as compared to the Plan.

Air Quality

The Existing Plans-Local Input Alternative would have the same population, housing, and employment as the Plan, but would result in an incrementally less dense land use pattern. Similar to the No Project Alternative, construction emissions would still likely exceed the significance thresholds established in the *CEQA Guideline*s and result in a significant short-term impact. However, in the long term, the Existing Plans-Local Input Alternative would likely have a similar less than significant impact to the AQMPs since development under this alternative would focus the majority of new housing on compact (walkable) locations (although less than under the Plan) and result in a lower VMT than under No Project Alternative. However, the Existing Plan-Local Input Alternative would not implement the same land use strategies as Connect SoCal, therefore the alternative would have higher VMT than the Plan. Thus, while this alternative would reduce particulate matter and ozone precursor emissions compared to the No Project Alternative, emissions would not be reduced to the same level as under the Plan.

As with the Plan, under the Existing Plans-Local Input Alternative, reductions in cancer risk levels associated with diesel particulate matter occur as a result of on-going emission controls. The cancer risk and impact to public health for this alternative would be similar compared to the Plan since the transportation network is the same as the Plan (**Table 4.0-4 Connect SoCal Compared to Alternative Existing Plans-Local Input Alternative: Summary of Maximum Exposed Individuals Residential 30-Year Exposure Cancer Risk**). There are incremental differences in risk among segments due to differing traffic volumes, however, as for the Plan risk would be reduced substantially as compared to existing conditions.

Table 4.0-4
Connect SoCal Compared to Existing Plans-Local Input Alternative: Summary of Maximum Exposed Individuals Residential 30-Year Exposure Cancer Risk

Segment No.	Transportation Segment	County/Region	Existing Plans-Local Input Alternative (risk in a million)	Connect SoCal (risk in a million)
1	IMP I-8	Imperial/El Centro	14.6	14.5
2	IMP SR-78	Imperial/Westmoreland	20.8	18.9
3	LA I-110	Los Angeles/Carson	24	23.7
4	LA I-710	Los Angeles/Compton	31.1	30.9
5	LA SR-60 DB	Los Angeles/Diamond Bar	29.1	29.7
6	LA SR-60 SEM	Los Angeles/ South El Monte	16.4	16.3
7	ORA I-5	Orange/ Orange	5.51	5.49
8	ORA I-405	Orange/ Seal Beach	11.9	11.8
9	RIV I-10	Riverside/ Banning	4.99	4.83
10	RIV SR-15	Riverside/ Temecula	9.57	9.52
11	RIV SR-91	Riverside/ Corona	8.49	8.41
12	SB I-15 ONT	San Bernardino/Ontario	11.1	10.5
13	SB I-15 VIC	San Bernardino/ Victorville	40.7	41.3
14	SB SR-60	San Bernardino/ Ontario	18.5	18.8
15	VEN US-101 SB	Ventura/ San Buenaventura	4.82	4.85
16	VEN US-101 TO	Ventura/ Thousand Oaks	22	21.9

Source: Impact Sciences, 2019.
Note: Segments 5, 12, 12. 14, and 15 under Existing Plans-Local Input Alternative will have a higher health risk than under the Plan.

Health risk associated with construction activities would be similar to the Plan and potentially significant adjacent to extended intense construction activities.

Objectionable odors are expected to be similar, although more dispersed since the same amount of construction will occur but over a more distributed area. Overall impacts to air quality could be incrementally greater when compared to Connect SoCal due to the greater VMT.

Biological Resources

Impacts to candidate, sensitive, or special status species (including plants, wildlife, and fish) under this alterative would be greater than under the Plan, because this alternative's projected land use pattern would be less compact and would result in 12,274 acres of habitat degraded compared to 7,899 acres of habitat degraded under the Plan. While this alternative includes the same total population as the Plan and captures HQTA strategies, this alternative has a slightly less compact housing mix (57 percent homes and 70 percent jobs in growth priority areas) than the Plan (60 percent homes and 73 jobs percent, respectively) and includes a land use pattern that includes 4 percent of new housing in urban infill areas and 27 percent of new housing in standard suburban housing (compared to 21 percent urban infill and 16 percent standard suburban with the Plan). Further this alternative would have lower high species movement potential by 18,170 acres compared to the Plan.

Impacts to biological resources are directly linked to the amount of land disturbance and habitat conversion in non-urban areas. The land use pattern of this alternative would therefore result in additional conversion in natural habitats and greater impacts to biological resources. Without a more compact land use development pattern as included in the Plan, impacts to biological resources would be more widespread throughout the region and would be greater than the Plan.

Cultural Resources

Impacts to cultural resources (historic built environments, archeological and human remains, and important examples of major periods of California history or prehistory) under this alterative would be greater than under the Plan because this alternative's projected land use pattern would be less compact and include nearly 13,133 additional acres of development (greenfield). The additional land disturbance, such as grading and excavation, resulting from the projected land use pattern and planned transportation improvements of this alternative would result in greater likelihood of encountering unknown surface or subsurface archaeological or human remains; it would also result in greater impacts to the character of settings that contribute to the significance of historic built environments. Construction activities under this alternative would also have greater impacts to historic built environments, archaeological, human remains, and important examples of major periods of California history or prehistory for the reasons provided above.

Energy

The Existing Plans-Local Input Alternative would have greater impacts on the residential energy consumption than the Plan because of the less compact growth pattern (multi-family development is more energy and water efficient than single-family development). Total residential and commercial energy consumption under This alternative would result in an additional 28 trillion Btu, compared to the Plan. Residential and commercial building water use would be 539,233-acre feet higher than the Plan. VMT for this alternative would also increase by more than 11 million VMT. Overall, per-capita energy consumption under this alternative would be greater than under the Plan because this alternative would result in less compact development. Because this alternative includes more single-family homes, which require more energy per capita as compared to attached and multi-family homes, it would likely result in more energy use per capita as compared to the Plan. While compared to existing conditions, per capita energy consumption would go down under this alternative, however 2045 per capita energy consumption would be higher than under the Plan. Therefore, this alternative would result in greater impacts related to the wasteful, inefficient, or unnecessary consumption of energy during construction activities and long-term operations.

This alternative is likely to have a similar impact on state and local plans for renewable energy or energy efficiency as compared to the Plan. Use of some renewable energy sources could be facilitated, while the use of other renewable energy sources could be hindered by this alternative. Implementation of the California Energy Code and State goals for increasing the percentage of electricity from renewable and zero-carbon sources under this alternative would be the same as under the Plan.

Geology and Soils

Under this alternative, the following impacts associated with earthquakes and seismic activity would be the same as the Plan: rupture of a known earthquake fault; strong seismic ground shaking; seismic-related ground failure, including liquefaction; and landslides. Existing state and local building code requirements addressing substantial adverse effects due to earthquakes and seismic activity would apply to the projected land use pattern and planned transportation improvements of the Plan. The following operational and construction impacts of this alternative would be greater than the Plan because this alternative includes a less compact land use pattern that would develop nearly 13,133 additional acres: soil erosion and loss of topsoil; on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse; development on expansive soil; and inadequate soils for alternative wastewater systems. The more compact land use pattern of the Plan would be expected to result in less land development within areas subject to adverse impacts from the geologic and soils conditions.

Impacts to unique geologic features and paleontological features would be greater under this alternative than under the Plan because the projected land use pattern of this alternative is less compact and would develop nearly 13,133 additional acres. The additional land disturbance resulting from the projected land use pattern combined with planned transportation improvements under this alternative would result in greater impacts to unique geologic features.

Greenhouse Gas Emissions

The GHG emissions for building energy and water-related energy are expected to be slightly greater under the Existing Plans-Local Input Alternative when compared to the Plan as it would develop less infill land use projects which tend to be more efficient than standard development. For transportation, the GHG emissions are projected to be greater under this alternative when compared to the Plan because of increased VMT. The Existing Plans-Local Input alternative would result in greater GHG emissions when compared to the Plan.

Per capita emissions would decrease under this alternative due to the land use strategies being implemented from the 2016 RTP/SCS . However, unlike the Plan, this alternative would not achieve SB 375 targets for 2035 as it would only achieve a 17 percent reduction and would not meet the 19 percent reduction target. The transportation network and land use pattern under this alternative would not achieve the same GHG emissions reductions as the Plan because the Plan includes more integrated transportation and land use strategies. SCAG has no control over many future emissions factors (e.g., energy and water demand), SCAG made extremely conservative assumptions regarding these factors.

Since meeting the regional reduction goals from cars and light-duty trucks would not be sufficient to meet the state's overall GHG reduction goals and the Existing Plans-Local Input Alternative would not meet the SB 375 targets, this alternative would conflict even more with AB 32 and SB 32. As such, this alternative would have a greater impact on GHG emissions than the Plan.

Hazards and Hazardous Materials

Hazardous materials impacts to the public or the environment associated with construction activities and operations under this alternative would be the same as the impacts under the Plan. This is because of the numerous federal, state, and local requirements and regulations that minimize the creation of significant hazards to the public or the environment through the routine transport, use, or disposal of hazardous materials; through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment and through handling of hazardous materials, substances, and waste within 0.25 mile of an existing or proposed school. These existing requirements and regulations would apply equally to the different projected land use patterns and planned transportation network

improvements of this alternative and the Plan, so impacts would be the same. The same is true for existing requirements and regulations addressing potential safety hazards and excessive noise within an airport land use plan or within two miles of a public or public use airport, so airport-related safety and noise impacts to people residing or working in the plan area would be the same under this alternative.

The more dispersed land use pattern would be more automobile-oriented than the Plan and could complicate emergency evacuation plans that rely in part on public transit. Therefore, the less compact land use pattern of this alternative would result in greater impacts associated with impairing the implementation of adopted emergency response and emergency evacuation plans.

Hydrology and Water Quality

Impacts associated with hydrology and water quality under this alternative would be greater than under the Plan because its significantly less compact land use pattern would result in disturbance to a larger land area during construction activities and would permanently convert a greater amount of land to impervious surfaces, such as parking lots, buildings, roadways, highways, and other paved areas, as compared to the Plan. The additional land area subject to construction disturbance would increase potential for short-term discharge of pollutants from construction sites into surface or groundwater. Construction impacts to hydrology and water quality would be greater under this alternative.

The Existing Plans – Local Input Alternative encourages a housing mix that is slightly less compact (40 percent multifamily and 28 percent single family large lot) than the Plan (42 percent and 27 percent, respectively). This alternative also includes 27 percent of new development as standard suburban compared to 16 percent standard suburban under the Plan. Additional impervious surfaces would interfere with groundwater recharge and alter drainage patterns in a manner that would increase the potential for substantial erosion, siltation, and flooding relative to the Plan. This alternative would require greater storm drainage system capacity than the Plan because of its conversion of additional land area to impervious surface area. In addition, the housing mix of this alternative would include a larger number of large-lot single-family homes which would result in more managed landscaping areas and associated pollutants such as nutrients, herbicides, and irrigated runoff, which in turn could adversely affect surface and groundwater quality, resulting in greater impacts than the Plan.

The projected land use pattern and planned transportation improvements of this alternative would have the same potential as the Plan to conflict with or obstruct the implementation of a water quality control plan or sustainable groundwater management plan due to the same total, anticipated population growth.

Land Use and Planning

The Existing Plans–Local Input Alternative has a similar transportation network as the Plan. New growth would occur consistent with local general plans as a result of the local input process and would overall be more dispersed compared to the Plan. The less compact land use pattern of this alternative provides less connectivity within existing communities because of its more dispersed allocation of future growth, but it would not physically divide any existing communities. This impact is the same as under the Plan. New roadway or highway improvements can physically divide existing communities by providing physical barriers where none previously existing. Expansion of existing roadways and highways also can physically divide existing communities to the extent that wider facilities with additional lanes represent greater physical barriers than narrower facilities. The planned transportation improvements of this alternative would be generally the same as the Plan and would result in similar land use impacts.

Because this alternative is largely based on local plan, conflict with plans could be reduced compared to the Plan. However, most general plans are not updated to reflect the year 2045, as such there is the potential for conflict with Plans that have not been updated to the Plan's horizon. This impact would therefore be similar and would be significant.

Mineral Resources

The Existing Plans-Local Input Alternative could result in greater loss of availability of known mineral resources that would be of value to the region and the residents of the state, as well as locally important mineral resources, due to the greater amount of land that would be converted to urban land potentially covering more mineral resource extraction opportunities. Transportation network improvements would occur similar to the Plan, requiring a comparable amount of aggregate resources to be used for the construction of the transportation network improvements. However, overall impacts related to aggregate would be greater than the Plan.

Noise

The Existing Plans-Local Input Alternative would generate noise levels generally similar to those that would be generated under the Plan because the same total population, housing, and employment are assumed. However, the less compact land use pattern of this alternative would direct more housing to non-urbanized areas, increasing localized operational noise levels in these areas that tend to have lower existing noise levels than more developed communities. Noise thresholds could be exceeded in these communities. The roadway and highway improvements under this alternative would be similar to the Plan and therefore impacts would be similar.

There would similar, but potentially greater construction-related noise impacts under this alternative due to the nearly 13,133 acres of additional land area (greenfield) that would be subject to disturbance during construction activities associated with the less compact land use pattern. This would increase the number of separate construction sites, which would exacerbate overall noise levels associated with construction activities. However, fewer sensitive receptors may be impacted due to construction occurring in less urban locations.

The projected land use pattern of this alternative, while less compact than the Plan, would not result in land use types that would result in different levels of vibration or groundborne noise. The planned transportation improvements would be the same as the Plan, this would also not result in significantly different levels of vibration or groundborne noise. This impact is the same under this alternative and would be significant.

Regarding aviation noise, this alternative would have similar impacts as the Plan. Neither the Plan, nor the alternatives affect airport operations or capacity. While different land use patterns could result in more or less housing in flight paths as compared to the Plan, there are a nearly infinite number of variables that could occur (flight path, housing location, zone changes, etc.). Overall, it is expected aviation noise impacts under this alternative would be largely similar to the Plan.

Population and Housing

Impacts related to population and housing should be similar under all alternatives, because the same number of people and dwelling units are assumed. The less compact land use pattern of this alternative have the potential to result in displacement of substantial numbers of people or existing housing that necessitates the construction of replacement housing elsewhere. Under this alternative, the same number of transportation investments would be made to the transportation network as in the Plan. As a result, impacts related to population growth, population displacement, and the need to construct replacement housing would be similar to the Plan and would be significant.

Public Services

This alternative is anticipated to result in public service impacts similar to those that would be generated under the Plan, because the same total population, housing, and employment are assumed and public service impacts are generally population driven. However, this alternative could worsen the ability to achieve local levels of service due to the more dispersed land use pattern that makes it more difficult to efficiently serve the population. This impact is greater than the Plan. The planned transportation improvements of this alternative would have the same public services impacts as the Plan.

Similarly, with regard to the need for additional schools and libraries, impacts would be similar to the Plan. This is because each alternative would result in the same population totals. While it is possible there could be less demand in urban areas and more demand in suburban areas, overall impacts would be similar to the Plan. Given the increased growth in suburban areas, this alternative could contribute to substantial adverse physical impacts associated with the construction and subsequent operation of new or physically altered school and library facilities in order to maintain acceptable service ratios. Impacts would be significant and similar to the Plan.

Recreation

This alternative is anticipated to result in recreation impacts less than those that would be generated under the Plan. Although the same total population, housing and employment are assumed, with no concentration of growth, the park usage would be more dispersed in urban and suburban areas leading to a reduced need for expansion or construction of recreation facilities, and place additional demand on larger regional parks; however as the region is well-served with regional parks, impacts would be reduced compared to the Plan. Impacts related to the construction of new parks would be similar to the Plan as the types of park construction impacts that would occur would be the same.

Transportation, Traffic, and Safety

The Existing Plans-Local Input Alternative would result in more miles traveled, more vehicle hours traveled, and more delay than the Plan. In 2045, this alternative would result in 23.41 VMT per capita and 14,539,787 VHT. Implementation of the Plan would reduce vehicle miles traveled by approximately 2 percent to 22.89 VMT per capita, reduce VHT by 3 percent to 14,130,874 VHT. VHD per capita would remain the same at 0.12; however total VHT would be reduced by 155,568.

The effects of growth and other external factors are included in the Regional Travel Demand Model that produces the results reported above. Because these external factors are modeled, the cumulative effects of regional growth are captured in the VMT, VHT, and VHD data under this alternative.

This compact development pattern included in the Plan would concentrate population in urban areas and encourage alternative modes of travel other than automobiles. While this alternative captures the HQTAs-focus based on local plans, it encourages a land use pattern and housing mix that is slightly less urban, less compact, and more suburban compared to the Plan. Also, this Alternative has slightly less compact land use and transit coordination in HQTAs (46% homes and 55% jobs) than that for the Plan (48% homes and 59% jobs). Vehicle miles traveled, vehicle hours of delay, worker commute trips, and accident rates would be higher than under the Plan resulting in a less efficient transportation system

overall. Further, this alternative would not achieve VMT reductions necessary to meet the state's climate goals.

Tribal Cultural Resources

This alternative would result in greater impacts to tribal cultural resources when compared with the Plan. Under this alternative, there would be an additional 13,133 acres of greenfield land consumed, which would have the potential to impact previously undiscovered tribal cultural resources, such as archaeological resources, sacred sites, or human remains. Due to the less compact land use pattern and the increase in greenfield consumed, impacts would be greater under this alternative and would be significant.

Utilities and Service Systems

This alternative is anticipated to result in similar impacts to utilities and service systems to those that would be generated under the Plan because the same total population, housing, and employment are assumed, and these areas are generally population driven. The larger share of single-family homes under this alternative would likely increase the demand for surface and groundwater supplies because such housing units have higher demand for water, for example due to increased irrigation demand for landscaping areas and additional appliances and fixtures that use potable water (e.g., sinks, toilets, showers). As a result, this alternative could exceed the capacity of existing water storage, conveyance, distribution, and treatment facilities to a greater degree than the Plan and result in construction of new, expanded, or relocated facilities.

The population assumed in alternative is the same as under the Plan, thereby resulting in similar need for solid waste disposal and transfer facilities to accommodate the population.

In addition, this alternative could adversely affect the capacity of the necessary utility conveyance and distribution systems (e.g. wastewater and storm drain) due to a more dispersed projected land use pattern that makes it more difficult to efficiently serve the population. All of the alternatives would be required to follow the same federal, state, and local statutes and regulations related to solid waste. This alternative would have the same impact related to solid waste generation and conflicts with solid waste management and reduction statutes and regulations.

Wildfire

The Existing Plans-Local Input Alternative would result in greater wildfire threat than the Plan. This alternative consumes 13,133 more greenfield acres than the Plan and would result in an additional 43,692

housing units in wildfire risk areas compared to the Plan. Additionally, it includes the same transportation investments as the Plan. However, the more dispersed pattern of development would result in a greater wildfire risk than the Plan. Impacts would be significant.

Alternative 3: Intensified Land Use Alternative

Aesthetics

The Intensified Land Use Alternative has the highest percentage of new housing as urban infill (16 percent) and the smallest development footprint among the alternatives and the Plan. Impacts to scenic resources from the land use pattern under this alternative in urban areas would be greater than under the Plan because this alternative assumes higher density and intensity of development; however, the impact would be less in suburban and rural areas as less development would occur in these locations. New structures would be taller and more concentrated, with greater likelihood of blocking or impeding scenic vistas. Impacts from transportation projects to scenic vistas would be the same as the Plan since the transportation network would be the same as the Plan.

The potential for substantial degradation of visual character or quality of public views of sites and their surroundings in non-urbanized areas would be less under this alternative as compared to the Plan because under this alternative a smaller share of the projected land use pattern would be located within existing non-urbanized areas. Impacts to visual quality in urbanized areas would similar to the Plan because existing zoning and other regulations typically address visual quality and would be equally enforced under this alternative. With development focused in urban areas there would be less potential for light and glare impacts as light and glare is already occurring in urban areas, and impacts would be less than the Plan, but would remain significant.

Agriculture and Forestry Resources

Conversion of agricultural land (including Prime Farmland, Unique Farmland, and Farmland of Statewide Importance), forest land, timberland, and timberland zoned Timberland Production to non-agricultural, non-forest, or non-timber uses under this alternative would be greater than under Plan because the projected land use pattern under the Intensified Land Use Alternative convert 1,831more acres of agricultural land to urban use, although the transportation network would be generally the same. The more compact land use pattern would reduce the amount of land disturbance overall (less greenfield developed). Under this alternative, there would be 9,299 fewer greenfield acres converted to other uses compared to the Plan. The improved land use and transit coordination would require less acreage to accommodate future growth and a higher concentration of development in urban areas will reduce the

conversion of agricultural uses. However, the loss of agricultural land would still be significant and would be greater than with the Plan.

The potential for conflicts with zoning, land use designations, Williamson Act contracts, and/or other applicable regulations that protect agricultural would also be greater for the same reasons. However, the potential for conflicts with agricultural lands would still be significant. Regarding forest land, impacts would be similar to the Plan due to the similar transportation networks and would remain significant.

Air Quality

The Intensified Land Use Alternative would have the same population, housing, and employment as the Plan, but would result in a denser land use pattern. Similar to the Plan, construction emissions would likely exceed the significance thresholds established in the *CEQA Guidelines* and result in a significant short-term impact especially considering multiple projects occurring in a condensed area. In the long term, Alternative 3 would have a similar impact to the local AQMPs and a reduced cumulative impact since development projects would be more efficient than the Plan, resulting in fewer emissions.

As with the Plan, under this alternative results in substantial reductions in cancer risk levels associated with diesel particulate matter would occur as compared to existing conditions. The cancer risk and impact to public health for this alternative would be similar compared to the Plan since the transportation network is the same as the Plan with minor adjustments for land use and transit coordination strategies (**Table 4.0-5, Connect SoCal Compared to Intensified Land Use Alternative: Summary of Maximum Exposed Individuals Residential 30-Year Exposure Cancer Risk**).

Table 4.0-5
Connect SoCal Compared to Intensified Land Use Alternative: Summary of Maximum Exposed Individuals Residential 30-Year Exposure Cancer Risk

Segment No.	Transportation Segment	County/Region	Intensified Land Use Alternative (risk in a million)	Connect SoCal Plan (risk in a million)
1	IMP I-8	Imperial/El Centro	14.2	14.5
2	IMP SR-78	Imperial/Westmoreland	19.6	18.9
3	LA I-110	Los Angeles/Carson	23.7	23.5
4	LA I-710	Los Angeles/Compton	31.3	30.9
5	LA SR-60 DB	Los Angeles/Diamond Bar	29.2	29.7
6	LA SR-60 SEM	Los Angeles/ South El Monte	16.9	16.3
7	ORA I-5	Orange/ Orange	5.59	5.49
8	ORA I-405	Orange/ Seal Beach	11.9	11.8
9	RIV I-10	Riverside/ Banning	4.83	4.83
10	RIV SR-15	Riverside/ Temecula	9.54	9.52
11	RIV SR-91	Riverside/ Corona	8.38	8.41
12	SB I-15 ONT	San Bernardino/Ontario	10.9	10.5
13	SB I-15 VIC	San Bernardino/ Victorville	41	41.3
14	SB SR-60	San Bernardino/ Ontario	18.5	18.8
15	VEN US-101 SB	Ventura/ San Buenaventura	4.84	4.85
16	VEN US-101 TO	Ventura/ Thousand Oaks	22	21.9

Source: Impact Sciences, 2019.
Note: Segments 2-4, 6-8, 10, 12, and 16 under Alternative 3 would have higher health risks than the Plan.

Health risk associated with construction activities would be similar to the Plan and potentially significant adjacent to extended intense construction activities.

Objectionable odors are expected to be similar as well since construction impacts will be similar to the Plan.

Overall impacts to air quality could be incrementally less when compared to Connect SoCal due to the more compact growth pattern and reduced VMT.

Biological Resources

Impacts on candidate, sensitive, or special status species (including plants, wildlife, and fish) under the Intensified Land Use Alternative would be less than under the Plan because this alternative's projected land use pattern would be more compact and include approximately 9,299 fewer acres of greenfield development, this alternative would result in incrementally less impact related to biological resources

when compared with the implementation of the Plan. Impacts to biological resources are directly linked to the amount of native habitat conversion in non-urban areas a potential project proposes. Under this alternative, there would be an additional 990 acres of high species movement potential maintained compared to the Plan. While this alternative would affect fewer acres of natural lands, impacts to biological resources in and near the urban areas would remain significant because impacts to sensitive species could still occur.

Cultural Resources

Impacts to cultural resources (historic built environments, archeological, and human remains, and important examples of major periods of California history or prehistory) under this alterative would be less than under the Plan because this alternative's projected land use pattern would be more compact and include approximately 9,299 fewer acres of greenfield development in the same transportation network. The reduced land disturbance, such as grading and excavation, resulting from the projected land use pattern of this alternative would result in lower likelihood of encountering unknown surface or subsurface archaeological, or human remains. However, increased development in urban areas, where historic buildings tend to be located could result in greater impacts to the character of settings that contribute to the significance of historic built environments, as pressure to redevelop historic buildings increases. Construction activities under this alternative would also have less impacts to historic built environments, archaeological, human remains, and important examples of major periods of California history or prehistory for the reasons provided above.

Energy

The Intensified Land Use Alternative contains more infill development to accommodate a higher proportion of growth in more energy-efficient housing types like townhomes, apartments, and smaller single-family homes, as well as more compact commercial building types. As a result, residential energy consumption, building energy consumption, and water consumption would incrementally decrease compared to the Plan because there would be a higher percentage of multi-family units and higher density in the land use. Individual detached structures require more energy for materials, more materials overall, and more fuels to build than would be needed for attached structures. This alternative also includes a housing mix with fewer single-family homes (48 percent) and more townhome or multifamily homes (8 and 44 percent) as compared to the proposed Plan (48 percent single family and 8 and 42 percent multi-family, respectively). As a result, this alternative would likely result in lower energy use per capita because attached homes require less energy per capita as compared to large-lot single-family homes. At 335 trillion Btu, this alternative's residential energy would result in similar but somewhat lower consumptive energy use than the Plan (338 trillion Btu). Per-capita energy consumption under this

alternative would be lower than under the Plan because this alternative would result in a more compact land use pattern. This alternative would result in less impacts related to the wasteful, inefficient, or unnecessary consumption of energy during construction activities and long-term operations. Impacts would continue to be less than significant.

This alternative is likely to have less impact on state and local plans for renewable energy or energy efficiency as compared to the Plan as it would be overall more energy efficient. Implementation of the California Energy Code and State goals for increasing the percentage of electricity from renewable and zero-carbon sources under this alternative would be the same as under the Plan.

Geology and Soils

The following impacts associated with earthquakes and seismic activity under this alternative would be the same as the Plan: rupture of a known earthquake fault; strong seismic ground shaking; seismic-related ground failure, including liquefaction; and landslides. Existing state and local building code requirements addressing substantial adverse effects due to earthquakes and seismic activity would apply to the land use pattern and planned transportation improvements of the Plan. The following operational and construction impacts of this alternative would be less than the Plan because this alternative includes a more compact land use pattern that would develop approximately 9,299 fewer acres: soil erosion and loss of topsoil; on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse; development on expansive soil; and inadequate soils for alternative wastewater systems.

Impacts to unique geologic features would be less under this alternative than under the Plan because the land use pattern of this alternative is more compact and would develop fewer acres in the same transportation network. The decreased land disturbance resulting from the projected land use pattern and planned transportation improvements under this alternative would result in less impacts to unique geologic features.

Greenhouse Gas Emissions and Climate Change

The GHG emissions for building energy and water-related energy are expected to be less with the Intensified Land Use Alternative compared to the Plan as this alternative would develop a more intense land use pattern with increased infill and compact development which tends to be more efficient than large lot development. For transportation, the GHG emissions are projected to be less under this alternative compared to the Plan because of decreased VMT. This alternative would improve regional GHG emissions compared to the Plan.

As with the Plan, this alternative would reduce per capita GHG emissions from cars and light-duty trucks compared to the 2005 baseline so it would achieve both the 8 percent target set for 2020 and exceed the 19 percent set for 2035, set pursuant to SB 375.

Since meeting the regional reduction goals from cars and light-duty trucks would not be sufficient to meet the state's overall GHG reduction goals this alternative would conflict with AB 32 and SB 32. The Plan would have the same impact as this alternative.

Hazards and Hazardous Materials

Hazardous materials impacts to the public or the environment associated with construction activities and operation under this alternative would be the same as the impacts under the Plan. This is because of the numerous federal, state, and local requirements and regulations that minimize the creation of significant hazards to the public or the environment through the routine transport, use, or disposal of hazardous materials; through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment and through handling of hazardous materials, substances, and waste within 0.25 mile of an existing or proposed school. These existing requirements and regulations would apply equally to the different projected land use patterns and planned transportation network improvements of this alternative and Plan, so impacts would be the same. The same is true for existing requirements and regulations addressing potential safety hazards and excessive noise within an airport land use plan or within two miles of a public or public use airport, so airport-related safety and noise impacts to people residing or working in the plan area would be the same under this alternative.

The more compact land use pattern under this alternative would be more transit-oriented than the Plan and could complement emergency evacuation plans that rely in part on public transit to a greater degree. Therefore, this alternative would result in less impacts associated with impairing the implementation of adopted emergency response and emergency evacuation plans.

Hydrology and Water Quality

Impacts associated with hydrology and water quality under this alternative would be less than under the Plan because its more compact land use would result in disturbance to a smaller land area during construction activities and would permanently convert a smaller amount of land to impervious surfaces, such as parking lots, buildings, roadways, highways, and other paved areas, as compared to the Plan. The decreased land area subject to construction disturbance would decrease potential for short-term discharge of pollutants from construction sites into surface or groundwater.

The decreased land area permanently converted to impervious surfaces would decrease the potential volume and increase the water quality of stormwater flows relative to the Plan. Less impervious surface also would reduce interference with groundwater recharge and result in less alteration of drainage patterns in a manner that would increase the potential for substantial erosion, siltation, and flooding. This alternative would require less storm drainage system capacity than the Plan because of its conversion of reduced land area to impervious surface area. In addition, the housing mix of this alternative would include a smaller share of single-family homes, which would result in less managed landscaping areas and associated pollutants such as nutrients, herbicides, and irrigated runoff, which in turn could adversely affect surface and groundwater quality. Impacts to groundwater recharge, erosion, siltation and flooding would be less than the Plan but would remain significant.

Land Use and Planning

The more compact land use pattern of this alternative provides more connectivity within existing communities, so it would not physically divide any existing communities. This impact is the same as under the Plan. New roadway or highway improvements can physically divide existing communities by providing physical barriers where none previously existing. Expansion of existing roadways and highways also can physically divide existing communities to the extent that wider facilities with additional lanes represent greater physical barriers than narrower facilities. The planned transportation improvements of this alternative would be generally the same as the Plan network, which means it would result in similar impacts from physically dividing existing communities.

Because this alternative would include a more compact land use that would result in decreased land disturbance relative to the Plan, it would have less impacts to resources within the region including agriculture, biological resources, and recreational land. Alternative 3 would result in similar impacts with regard to physically dividing an established community due to the similar scale and number of transportation projects being constructed. This alternative would have greater potential to conflict with local land use plans as the greater amount of infill projected may be beyond what is currently considered in some local land use plans. This impact would be greater than the Plan and would be significant.

Mineral Resources

Alternative 3 could result in less loss of availability of known mineral resources that would be of value to the region and the residents of the state, as well as locally important mineral resources, due to the reduction in land that would be converted to urban land potentially covering more mineral resource extraction opportunities. Transportation network improvements would occur similar to the Plan, requiring a comparable amount of aggregate resources to be used for the construction of the

transportation network improvements. Although transportation network impacts would be similar under this alternative, overall impacts would be less than the Plan and would remain significant.

Noise

This alternative would generate noise levels generally similar to those that would be generated under the Plan because the same total population, housing, and employment are assumed. However, the more compact land use pattern of this alternative would direct less housing growth to in non-urbanized areas, decreasing construction and operational noise levels relative the Plan in areas that tend to have lower existing noise levels than more developed communities. Noise thresholds would be less likely to be exceeded.

The projected land use pattern of this alternative, while more compact than the Plan, would not result in land use types that would result in different levels of vibration or groundborne noise. There would potentially be less construction-related noise impacts under this alternative due to the approximately 9,299 fewer acres of land area that would be subject to disturbance during construction activities associated with the less compact land use pattern. This would decrease the number of separate construction sites, which would decrease overall noise levels associated with construction activities relative to the Plan.

The planned transportation improvements of this alternative would include the same lane miles of roadway and highway improvements, and this would also not result in significantly different levels of vibration or groundborne noise relative to the planned transportation improvements identified in the proposed Plan. This impact is the same under this alternative and would remain significant. With regard to aviation noise, impacts would be similar to the Plan as this alternative would not affect airport capacity.

Population and Housing

Impacts related to population and housing would be similar under all alternatives, because the same number of people and dwelling units are assumed. The more compact land use pattern of this alternative combined with the same lane miles of roadway and highway improvements would not result in displacement of substantial numbers of people or existing housing that necessitates the construction of replacement housing elsewhere. This impact is the same as the Plan and would remain significant.

Public Services

This alternative is anticipated to result in public service impacts similar to those that would be generated under the Plan, because the same total population, housing, and employment are assumed. However, this alternative could result in less demand on the ability to achieve local levels of service due to the more compact land use pattern that makes it more efficient to serve the population. This impact is less than the Plan. The planned transportation improvements of this alternative would have the same public services impacts as the Plan. It is possible that denser development in urban areas, although more efficient from a service perspective, could result in the need for more police and fire services from a demand perspective resulting in a need for new facilities to maintain service ratios. Nonetheless, due to the more efficient land use pattern, this impact would be less than the Plan. Similarly, the more compact land use pattern would more efficiently serve the population for schools and libraries. However, there still could be need for new facilities resulting in physical impacts. As such this impact would be significant, but less than the Plan.

Recreation

With the same population growth across all alternatives impacts would be expected to be similar. However, with more compact development, there could be increased pressure on urban parks which are currently overburdened. With higher population density, there would more use of the same parks, leading to greater deterioration of existing recreational facilities in urban areas. As such, impacts could be greater than the Plan.

Transportation, Traffic, and Safety

The Intensified Land Use Alternative would result in greater transportation impacts than the Plan. Alternative 3 would result in slightly lower VMT (total and per capita), less VHD and less VHT. In 2045 Alternative 3 would result in 22.83 VMT per capita, 14,074,675 VHT and 2,619,980 VHD. Comparing these number to the Plan (22.89 VMT per capita, 14,130,874 VHT and 2,668,229 VHD. Despite the overall reduction in VMT and VHD as compared to the Plan, this alternative does not maximize mobility and accessibility for all people and goods in the region to the extent of the Plan because it results in more severe localized traffic congestion conditions with adverse mobility and reliability consequences for goods and people (increased vehicle and truck delay). The effects of growth and other external factors are included in the Regional Travel Demand Model that produces the results reported above. Because these external factors are modeled, the cumulative effects of regional growth are captured in the VMT, VHT and VHD data for this alternative. This alternative could increase localized congestion and compromise accessibility to destinations which would result in more adverse effects related to safety considerations for pedestrians, cyclists, and motorists. Hence, this Alternative could have somewhat more adverse

impacts than the Plan related to design hazards. Regarding emergency access, the more dense land use patterns of this alternative could result in more efficient emergency access. Impacts would be less than the Plan.

Tribal Cultural Resources

This alternative would result in less impacts to tribal cultural resources when compared with the Plan. Under this alternative, there would be 9,299 fewer acres of greenfield land consumed, which would reduce the potential to impact previously undiscovered tribal cultural resources, such as archaeological resources, sacred sites, or human remains. Due to the more compact land use pattern and the reduction in greenfield consumed, impacts would be less under this alternative.

Utilities and Service Systems

This alternative is anticipated to result in impacts to utilities and service systems similar to those that would be generated under the Plan because the same total population, housing, and employment are assumed. With less single-family homes, this alternative could decrease demand for surface and groundwater supplies because such housing units have higher demand for water. Single family homes typically required additional water due to increased irrigation demand for landscaping areas and additional appliances and fixtures that use potable water (e.g., sinks, toilets, showers). As a result, this alternative could exceed the capacity of existing water storage, conveyance, distribution, and treatment facilities to a lesser degree than the Plan. These impacts of this alternative are less than under the Plan but would remain significant.

This alternative could result in greater impacts related to adversely affecting the capacity of the necessary utility conveyance and distribution systems (e.g. wastewater, storm drain,) due to the more compact land use pattern that, although more efficient, in many urban areas is aging and may not be capable of supporting increased loads. Overall the alternative would demand less water and energy during construction compared to the Plan. All alternatives would be required to follow the same federal, state, and local statutes and regulations related to solid waste. This alternative would have the same impact related to solid waste generation and conflicts with solid waste management and reduction statutes and regulations

Wildfire

The Intensified Land Use Alternative would result in fewer impacts related to wildfires than the Plan. This alternative would result in fewer housing units in wildfire zones compared to the Plan. Therefore,

fewer people and structures would be placed within proximity to wildfire-prone areas at urban-wildland interfaces. Impacts would be less than the Plan.

4.4 ABILITY OF ALTERNATIVES TO MEET THE PROJECT OBJECTIVES

The effectiveness of each of the alternatives to achieve the basic objectives of the Plan has been evaluated in relation to the statement of goals and guiding principles described above. Although the No Project Alternative is not capable of meeting most of the goals of the Project, it has been analyzed, as required by CEQA.

The Existing Plans – Local Input Alternative, meets some but not all the project goals. Specifically, it is less effective than the Plan in meeting Plan goals:

1. Encourage regional economic prosperity and global competitiveness. The Existing Plans – Local Input Alternative would not include the strategies in the Plan (for example, strategies related to job centers and goods movement) that will enhance regional prosperity.

2. Improve mobility, accessibility, reliability, and travel safety for people and goods. As demonstrated above, the Existing Plans – Local Input Alternative would not reduce VMT to the same extent as the Plan and would not achieve the GHG reduction goals set by CARB.

3. Enhance the preservation, security, and resilience of the regional transportation system. The Existing Plans – Local Input Alternative does not include the Plan's safety and resilience strategies and therefore would not achieve this goal.

4. Increase person and goods movement and travel choices within the transportation system. The Existing Plans – Local Input Alternative does not include the goods movement strategies aimed at increasing person and freight mobility, including critical access projects.

5. Reduce greenhouse gas emissions and improve air quality. The Existing Plans – Local Input Alternative would not reduce greenhouse gas emissions or improve air quality to the same extent as the Plan.

6. Support healthy and equitable communities. The Existing Plans – Local Input Alternative would not include the regional strategies for complete streets and jobs/housing balance and planning for trips that reduce dependence on solo car trips.

7. Adapt to a changing climate and support an integrated regional development pattern and transportation network. The Existing Plans – Local Input Alternative would not include the "green

region" strategies such as supporting climate action plans, renewable energy production, and integrated food production.

8. Leverage new transportation technologies and data-driven solutions that result in more efficient travel. The Existing Plans – Local Input Alternative would not include strategies such as promoting low emissions technologies, shared rides, car and bike sharing and scooters, as well as improving access to services through technology.

9. Encourage development of diverse housing types in areas that are supported by multiple transportation options. The Existing Plans – Local Input Alternative would not include the Plan's strategies to focus growth near destinations and mobility options.

10. Promote conservation of natural and agricultural lands and restoration of critical habitats. The Existing Plans – Local Input Alternative would result in the consumption of more natural lands and habitat lands as compared to the Plan.

The Intensified Land Use Alternative is capable of meeting most of the goals of the Plan. However, because it would place a large portion of growth in existing communities it may conflict with local plans or place a burden on some community facilities such as parks and other services to a greater extent than the Plan. Therefore, it is less effective in meeting the following goal:

6. Support healthy and equitable communities. The Intensified Land Use Alternative would not achieve this goal to the same extent as the Plan due to its focus on compact development beyond what is currently contemplated under the Plan. The emphasis on development in urban communities may result in overuse of parks and other services (police, fire, schools, library) which has the potential to result in quality of life impacts in urban areas.

As further described below, consideration of alternatives requires careful examination of the multiple facets of each alternative. For example, while urban development may preserve farmland or other natural resources, it could place a burden on urban parks, schools, police and fire services, and aging infrastructure.

4.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Section 15126.6 of the *State CEQA Guidelines* requires that an "environmentally superior" alternative be selected among the alternatives that are evaluated in the EIR. In general, the environmentally superior alternative is the alternative that would be expected to generate the fewest adverse impacts. If the No

Project alternative is identified as environmentally superior, then another environmentally superior alternative shall be identified among the other alternatives.

For purposes of this PEIR, the impacts associated with reducing global GHG emissions and regional air pollutants must be examined alongside the other adverse impacts that are caused by increasing the density and intensity of the region's development patterns and, for example, bringing people closer to sources of air pollutants such as transit corridors and freeways (even though these sources would have fewer emissions in the future, despite increasing traffic, due to emission controls). The tension between CEQA's mandate to reduce all types of impacts to the maximum extent feasible, and the statutory mandates of reducing GHG emissions under AB 32, SB 32 and SB 375, is a well-recognized CEQA compliance challenge.[9] CEQA does not provide any legal mechanism for "weighting" environmental impacts, and scoring some categories of impacts as "more important" and others as "less important." Instead, CEQA is structured to require the disclosure of all impacts for each alternative and the Plan, to foster informed decision making and to disclose the inherent trade-offs between different types and magnitudes of impacts associated with different alternatives.

As indicated by the comparative analysis, the Plan and each Alternative result in many impacts that are "significant and unavoidable" under CEQA. Alternative 3, the Intensified Land Use Alternative, would result in somewhat less adverse impacts for nine of the 20 environmental issues that were analyzed. The anticipated increases in the density and intensity of development within the region's established communities under Alternative 3 would result in more localized impacts that are greater than the Plan in four areas (land use; noise; public services and recreation). This alternative would also consume more agricultural land.

Of the three alternatives, the Intensified Land Use Alternative would be considered the environmentally superior alternative due to fewer impacts to reduced VMT and GHG emissions, and because it would substantially restrict the use of land for single-family development, in a manner that differs from the adopted general plans of the six counties and 191 member cities in the SCAG region. This alternative concentrates development in existing urban centers. and near transit stations and activity centers. As such, the Intensified Land Use has less impact on rural and undeveloped areas, specifically greenfields. However, the Intensified Land Use Alternative would have more severe impacts on the built environment (i.e., seven CEQA impact categories: land use; noise and vibration, public services, traffic delay, and overtaxed recreation facilities in the vicinity of HQTAs).

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9 Adams, Tom (California League of Conservation Voters), and Amanda Eaken and Anne Nothoff (Natural Resources Defense Council). 2010. Tackling California's Global Warming Challenge: A Guide to SB 375, by Tom Adams (California League of Conservation Voters), p. 24.

While the Intensified Land Use Alternative would be considered the environmentally superior alternative because of the more compact land use patterns fewer emissions and reduced VMT, this alternative requires implementation of the same mitigation measures required for the Connect SoCal Plan and would not resolve any of the significant and unavoidable impacts of the Plan. However, the more intensified and compact land use development pattern would result in somewhat less adverse impacts to energy, land, and water resources due to the denser pattern of development. The Intensified Land Use Alternative would also achieve greater overall reductions in criteria air pollutants and greenhouse gas emissions, as a result of the more compact pattern of land use development. The level of impact for the Existing Plan – Local Input Alternative and the Intensified Land Use Alternative varies in relation to the land use development pattern, but neither is capable of avoiding any of the significant and unavoidable impacts of the Plan, because those impacts are primarily associated with net increase in population anticipated for the SCAG region. Therefore, the comparative impacts between the alternatives and the Plan are primarily related to the level of severity of the impacts.

Similarly, the No Project Alternative does not avoid the significant and unavoidable impacts of the Plan, and in several instances the impacts would be more adverse due to the failure to achieve reductions in the consumptive use of land, energy, and water resources achieved through the policies and program embedded in the Plan that facilitate a more efficient use of these resources.

As discussed throughout this PEIR, SCAG has no land use authority; rather it sets regional land use policy. SB 375 addresses the land use component (in the context of transportation planning) of statewide efforts to achieve AB 32 GHG reduction goals that include all sectors of the economy. In order to meet the SB 375 targets for statewide GHG reductions, CARB identified that SCAG must plan to reduce GHG emissions by 19 percent by 2035. SCAG has developed the SCS (the regional land use policy component of Connect SoCal) which sets forth land use strategies to meet these GHG emissions reduction targets. Actual implementation of the SCS will be undertaken by local jurisdictions through general plans and specific plans and through actions on individual projects.

While the Intensified Land Use is one potential generalized land use scenario that results in achieving CARB GHG targets (as well as reducing impacts on open space and agricultural lands), the Intensified Land Use Alternative would have other impacts. For example, the Intensified Land Use Alternative would result in more development in urban areas potentially overloading infrastructure in some areas. The jurisdiction that is anticipated to receive most of the infill development under this alternative is the City of Los Angeles. It is possible, that the zoning in the City of Los Angeles would be sufficiently flexible to accommodate the additional units by 2045, but it is not certain that it would. This scenario assumes that very little development would be approved outside urban areas, which could require zoning

changes or land use interventions beyond those currently in place. In addition, as urban areas become denser (more units per acre), urban infrastructure is used more:

- Water and sewer lines are required to carry more, greater than the current capacity, which could result in the need to construct additional capacity in the older infill areas at significant cost.
- Demand for police and fire services increases requiring expansion of existing stations and service personnel (although significant environmental impacts are not anticipated from such construction).
- Parks are used more, resulting in potential crowding and/or over use, with facilities becoming worn and substandard (grass becomes over used and dies, equipment breaks, etc.) and/or the need to construct more parks and recreational facilities.

Passenger vehicle transportation infrastructure cannot accommodate peak period volumes creating increased congestion, noise and air emission impacts. Increasing population in the infill core areas could also reduce mobility for goods movement which cannot use alternative modes during peak periods, resulting in more trucks in stop and go traffic, impacting air quality, and noise. While development outside urban areas would likely require the construction of new infrastructure, it would occur in less populated areas and would expose fewer people to construction impacts. Also, in general infrastructure in less urban areas has greater available capacity since infrastructure is generally sized for capacities that can accommodate substantially more than the current densities (parks, police stations, water lines, etc. have minimum sizes that can generally accommodate more than rural level density). New development on the periphery is often closer to higher capacity sewer trunk lines, treatment plants and water wells, lowering infrastructure costs compared to retrofitting older existing urban areas.

Furthermore, as more people are located in the same area, urban impacts increase. Congestion increases, noise and air emissions in proximity to sensitive receptors (residences, schools, hospitals, etc.) also increase.

Each community must determine what level of population it can support – balancing infrastructure capacity and population density. In developing the Plan, SCAG has satisfied its obligation under SB 375 to identify a policy and growth pattern that meets desired GHG reduction goals.

The Plan provides general guidance on location of development. The Plan does not impose specific land use controls. This EIR evaluates a number of potential scenarios. It will be up to each jurisdiction to interpret the Connect SoCal land use strategies and through ongoing monitoring of key performance measures (in cooperation with SCAG), monitor GHG reductions. Through ongoing monitoring SCAG

will adjust regional policy as needed (in the next RTP/SCS or in interim amendments if needed) to ensure that the region complies with applicable State law including AB 32 and SB 375.

SCAG is not rejecting the Intensified Land Use Alternative or any alternative with increased density and/or greater percentage of high-density housing that might fall between the Intensified Land Use Alternative and the Plan as a possible land use scenario for 2045. Rather, SCAG is rejecting the inclusion of policies in the Plan that would impose extensive land use intervention (to mandate specific land use densities and/or specific locations) with local jurisdictions because SCAG has no land use authority and no mechanism exists to impose detailed land use changes.

5.0 OTHER CEQA CONSIDERATIONS

Section 15126 of the *California Environmental Quality Act (CEQA) Guidelines* states that an Environmental Impact Report (EIR) must include a discussion of the following topics:

- growth-inducing effects of the proposed project
- significant environmental effects which cannot be avoided if the proposed project is implemented
- significant irreversible environmental changes which would be involved in the proposed project should it be implemented; and

In addition, Section 15128 of the *State CEQA Guidelines* requires a brief statement of the reasons that various possible effects of a project have been determined not to be significant and, therefore, are not discussed in detail in the EIR. This PEIR analyzed all potential effects of the project as described in Appendix G of the *State CEQA Guidelines*, therefore, there is no listing of effects determined not to be significant.

5.1 SIGNIFICANT ENVIRONMENTAL EFFECTS OF THE PROJECT THAT CANNOT BE AVOIDED IF THE PROPOSED PROJECT IS IMPLEMENTED

An EIR must identify significant impacts associated with a proposed agency action that could not be mitigated to a less than significant level. Many of the impacts that are determined to be significant and unavoidable could be mitigated to less than significant at the project level. However, this PEIR evaluates impacts at a programmatic level, and detailed site plans and project descriptions are not available. Therefore, without the ability to evaluate each project that could occur as a result of the Plan, these impacts were determined to be significant and unavoidable.

Table ES-5, Summary of Project Impacts, Mitigation Measures, and Residual Impacts, which is contained in the **Executive Summary** of this PEIR, and **Sections 3.1** through **3.21** of this PEIR provide a comprehensive identification of the environmental effects of the SCAG's proposed Connect SoCal Plan, including the level of significance both before and after mitigation.

Section 15126.2(c) of the *CEQA Guidelines* requires that an EIR (including a PEIR) describe any significant impacts that cannot be avoided, even with the implementation of feasible mitigation measures. Implementation of the Plan would result in significant and unavoidable project-related and/or cumulative impacts in the following areas:

- **Aesthetics:** Implementation of transportation projects contained in the Plan and development projects anticipated to occur under the Plan may result in the conversion of open space or vacant lands to new uses. Areas potentially affected include designated open space visible from USFS, Caltrans, county, and city designated scenic vistas. The Plan would also have the potential to impact rock outcroppings or other scenic elements such as historic resources within eligible state scenic highways. Many of the transportation projects and the HQTAs are in areas with designated scenic resources including historic buildings and scenic rock outcroppings. Therefore, there is potential for the Plan to affect these resources. Implementation of transportation projects contained in the Plan and development anticipated to occur under the Plan has the potential to degrade the visual character of project sites, constituting a significant impact. Implementation of transportation projects contained in the Plan and development anticipated to occur under the Plan has the potential to create new substantial sources of light or glare, constituting a significant impact.

- **Agriculture and Forestry Resources:** Implementation of transportation projects as well as growth anticipated under the Plan would have the potential to convert the following to non-agricultural use: Prime Farmland, Farmland of Statewide Importance, Unique Farmland and Farmland of Local Importance. Implementation of the transportation projects and growth anticipated under the Plan would have the potential to conflict with land managed pursuant to Williamson Act contracts constituting a significant impact. Implementation of the transportation projects and anticipated growth under the Plan has the potential to conflict with existing zoning for forest land, timberland, or timberland zoned Timberland Production. Implementation of transportation projects and anticipated growth under the Plan would result in significant impacts with regards to the loss of forest land or conversion of forest land to non-forest use. Implementation of transportation projects and anticipated growth under the Plan would result in significant impacts with regards to the conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use.

- **Air Quality:** At the regional level, criteria pollutant emissions would be mostly reduced compared to existing conditions and the region would meet air quality standards. In 2045, when compared to existing conditions, on-road mobile-source PM2.5 would increase in Imperial, Riverside, and San Bernardino Counties and mobile-source PM10 would increase in Imperial, Orange, Riverside, and San Bernardino Counties due to increasing traffic. On-road mobile-source particulate matter emissions would remain the same or decrease from existing conditions in the other counties. Within the SCAB (which is likely indicative of the region as a whole), SCAQMD indicates that total pollutant emissions are being reduced through at least 2031, except for small increases in SOx and PM2.5. Individual project emissions may result in significant construction and/or operational emissions as compared to thresholds of significance identified by each air district which would result in a

cumulative impact. Over the lifetime of the Plan numerous transportation projects and land use development projects would be implemented. The construction of these projects could expose sensitive receptors to substantial pollutant concentrations.

- **Biological Resources:** Implementation of transportation projects identified in the Plan and development projects anticipated to occur under the Plan would affect biological resources. Direct impacts that could occur during construction of some projects include direct loss of sensitive plant and/or wildlife species resulting from injury, death, or disturbance of these species. Direct impacts may also occur through direct habitat loss and fragmentation during construction, displacement of sensitive species due to construction noise or during operation, accidental introduction of non-native plants by construction equipment or during maintenance and general operation, introduction of new lighting sources, and dust and noise during construction and operation. Implementation of transportation projects identified in the Plan and development projects anticipated to occur under the Plan would have a substantial adverse effect on riparian habitats and other sensitive natural communities. Implementation of transportation projects identified in the Plan and development projects anticipated to occur under the Plan would have a substantial adverse effect on wetlands. Implementation of transportation projects identified in the Plan and development projects anticipated to occur under the Plan would interfere substantially with the movement of native resident or migratory fish, or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites directly, as a result of habitat conversion to accommodate transportation projects and growth under the Plan, or indirectly through interruption of movement or migratory corridors caused by construction and operation of infrastructure for transportation projects and adjacent projects that may result from improved transportation access. Implementation of transportation projects as well as land use and transportation strategies identified in the Plan have the potential to conflict with local policies and ordinances related to biological resources. Implementation of transportation projects identified in the Plan and development projects anticipated to occur under the Plan would have a potential to result in conflicts with the provisions of applicable adopted HCPs and NCCPs because some planned major transportation projects and development projects may occur in or adjacent to lands protected under these plans, constituting a significant impact.

- **Cultural Resources:** The Plan has the potential to effect historical resources in the SCAG region, including sites listed in the NRHP. Transportation projects and anticipated growth under the Plan have the potential to cause a substantial adverse change in the significance of archaeological resources in the SCAG Region, pursuant to *CEQA Guidelines* Section 15064.5, constituting a significant impact. The Plan includes transportation projects that have the potential to disturb human remains

interred outside of formal cemeteries or those interred in Native American sacred sites, constituting a significant impact.

- **Geology and Soils:** Implementation of transportation projects included in the Plan as well as growth under the Plan, particularly projects involving large-scale ground disturbance during construction such as grade separation projects, mixed flow lane projects, and rail projects may result in significant impacts from soil erosion or the loss of topsoil. The potential direct impacts on paleontological resources related to implementation of transportation projects and development projects anticipated to occur under the Plan, could result in substantial alteration or removal of a significant paleontological resource from construction activities, and is considered significant.

- **Greenhouse Gas Emissions:** Implementation of the Plan could conflict with CARB's 2017 Scoping Plan or any applicable plan, policy or regulation adopted for the purpose of reducing emissions of GHGs. Furthermore, while GHG emissions are anticipated to decrease compared to existing conditions, they are not anticipated to be reduced sufficiently to meet the targets established for California.

- **Hazards and Hazardous Materials:** Implementation of the Plan would increase the risk of significant hazards to the public or the environment through the routine transport, use, or disposal of hazardous materials as well as through reasonably foreseeable upset conditions. Transportation projects and land use strategies included in the Plan may increase the risk of emitting hazardous materials within one-quarter mile of a school. Furthermore, the Plan may cause transportation projects and development to be located on sites included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. The Plan would not in itself result in a safety hazard; however, increased population growth that would occur by 2045 would result in increased air traffic in major commercial airports in Southern California which could result in significant safety impacts. The Plan would result in significant impacts in regards to impairing implementation of or physically interfering with an adopted emergency response plan or emergency evacuation plan.

- **Hydrology and Water Quality:** Grading, excavation, and other construction activities associated with implementation of transportation projects and development projects anticipated to occur under the Plan, could impact water quality due to erosion resulting from exposed soils that may be transported in stormwater runoff. Given that most of the groundwater basins in the Plan area are already in a state of overdraft, future development may result in a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of preexisting nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted). Implementation of transportation projects as well as anticipated development under the

Plan would occur within watersheds that have impaired water bodies. Many of the impaired water bodies are located near a freeway, transit, or rail projects included in the Plan. Several projects may impact water bodies by placing fill material within a stream channel. The Plan has the potential to change existing drainage patterns. Transportation projects such as lane widening projects, new highways, as well as bridges/tunnels, and transportation facilities projects that could cross existing creeks, water crossings, rivers or be expanded into wetland areas may impact water bodies by placing fill material within a stream channel. the Plan has the potential to alter existing drainage patterns. Implementation of the Plan's transportation projects as well as land use strategies may increase impervious surfaces, which in turn could increase urban runoff if not regulated, resulting in the transport of greater volumes of polluted water into storm drain systems. With regard to flooding, implementation of transportation projects and development projects anticipated to occur under the Plan built in low-lying areas or in proximity to waterways and/or dam inundation zones may be subject to flood hazards. An increase in impervious surfaces would increase water runoff and potentially affect groundwater recharge rates and water quality in the basins. Therefore, the Plan may conflict with or obstruct the implementation of a water quality control plan or sustainable groundwater management plan and mitigation measures are required.

- **Land Use:** Physical division of an established community could occur as a result of real or perceived barriers to pedestrians, bicyclists, and motorists. Short-term construction related impacts could result from disturbances due to construction equipment; these impacts are discussed under other impact categories (e.g., Noise, Aesthetics, and Air Quality). Long-term impacts could result from the completion of new or expanded roadways or transit facilities in existing communities. , since the Plan's planning horizon year is beyond the timeline of many of the most recent general plans, implementation of the Plan's transportation projects and land use strategies could potentially result in changes in the land use patterns in the region that may facilitate land use changes in some areas. Therefore, there is potential for inconsistencies with general plans as well as regional conservation plans.

- **Mineral Resources:** Transportation projects contained in the Plan and development projects anticipated to occur under the Plan would require substantial amounts of aggregate resources for construction purposes, constituting a significant impact. Transportation projects contained in the Plan and development projects anticipated to occur under the Plan have the potential to impact availability of mineral resources if they are constructed in mineral resource zones.

- **Noise:** Implementation of transportation projects and development projects anticipated to occur under the Plan would likely result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other

agencies, constituting a significant impact. Implementation of the transportation projects and the construction of land use development projects anticipated to occur under the Plan would generate varying levels of vibration and groundborne noise. Implementation of transportation projects and development anticipated to occur under the Plan may result in exposure of persons to or generation of significant noise levels from aircrafts and other airport activity (including ground transportation) constituting a significant impact.

- **Population and Housing:** Due to the Plan's land use strategies that focus on compact development, there is potential to induce growth in some areas of the region although overall the Plan accommodates anticipated growth rather than inducing growth**.** The construction of transportation projects that require expansion of existing or designation of new ROWs have the potential to result in the displacement of existing people and housing, necessitating the construction of replacement housing, thereby constituting a potentially significant impact.

- **Public Services:** Implementation of Connect SoCal could affect the need for construction of new or physically altered fire protection and emergency response facilities in order to maintain acceptable service ratios. Although the location and size of such facilities is not yet known, impacts could occur, requiring the consideration of mitigation measures. The Plan could contribute to the need for construction of new or physically altered police facilities in order to maintain acceptable service ratios. The Plan could contribute to substantial adverse physical impacts associated with the construction and subsequent operation of new or physically altered school facilities in order to maintain acceptable service ratios. The Plan could contribute to substantial adverse physical impacts associated with the construction of library facilities in order to maintain acceptable service ratios.

- **Parks and Recreation:** Transportation projects and growth under the Plan would have the potential to increase use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration would occur, constituting a potentially significant impact.. Implementation of the Plan would result in additional linear recreation facilities, including a regional greenway network, a regional bikeway network, and local bikeway networks, the construction of which might have an adverse physical effect on the environment.

- **Transportation and Traffic:** The Plan could conflict with or be inconsistent with *CEQA Guidelines* section 15064.3(b). The Plan also has the potential to result in inadequate emergency access, or to substantially impair an adopted emergency response plan.

- **Tribal Cultural Resources:** Transportation projects and anticipated growth under the Plan have the potential to cause a substantial adverse change in the significance of tribal cultural resources in the

SCAG region, defined in Public Resources Code section 21074, as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe.

- **Utilities and Service Systems:** Many of the transportation projects within the Plan have the potential to generate a substantial amount of solid waste during construction through grading and excavation activities, as well as debris resulting from removal of structures, due to the volume of solid waste debris expected to be generated with implementation of the Plan and lack of identified landfill capacity, impacts would be significant. Implementation of some transportation projects and anticipated growth under the Plan would involve construction of new storm water drainage facilities and may require construction of new or expanded wastewater treatment facilities. Implementation of the Plan could result in a determination by one or more of the wastewater treatment providers in the region that there is inadequate capacity to serve the future population demand in addition to the provider's existing commitments, resulting in a significant impact. Implementation of the Plan, could require or result in the relocation or construction of new or expanded water facilities, the construction or relocation of which could cause significant environmental effects. The Plan could result in insufficient water supplies from existing entitlements and resources resulting in significant impacts.

- **Wildfire:** Transportation projects and anticipated development projects may be located in wildfire-prone areas which could potentially exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from wildfires or the uncontrolled spread of wildfires, particularly those populations living down wind of the fire. Development may continue to occur in urban/wildlands interface areas which would necessitate infrastructure such as power poles that could result in wildfire risk. Due to the anticipated increased consumption of greenfields under the Plan, development may continue to occur in urban/wildlands interface areas which would result in significant risks for people and structures

All other environmental impacts (project-specific and cumulative) are either less than significant or can be mitigated to a less than significant level.

5.2 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

Section 15126.2(d) of the *State CEQA Guidelines* states that an EIR must include a discussion of any significant irreversible environmental changes that would be caused by a proposed project. Specifically, Section 15126.2(d) states:

> *Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter*

> *unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified*

For purposes of this analysis, the Plan would result in significant irreversible environmental changes if it:

- involves a large commitment of nonrenewable resources that would commit future generations;
- results in irreversible damage from environmental accidents; or
- irretrievable commitments of nonrenewable resources to justify current consumption.

5.2.1 Large Commitment of Nonrenewable Resources that would commit future generations

The Plan would result in the irreversible consumption of nonrenewable resources. The irreversible commitment of limited resources is inherent in any development project or, in the case of the Plan, combined transportation and development projects. Resources anticipated to be irreversibly committed over the timespan of the construction activities related to the Plan include, but are not limited to, lumber and other related forest products; sand, gravel, and concrete; petrochemicals; construction materials; steel, copper, lead, and other metals; and water.

Growth and land use changes that would result from implementation of the Plan would likely commit future generations to those uses. Once established, land use patterns can be difficult to change and/or significantly influence without considerable political, social, and economic cost. The development pattern reflected in the Plan represents a commitment of these areas to those uses for the foreseeable future. The Plan emphasizes a compact land use pattern, the result is more efficient use of urban land as well as land at the urban edges or in undeveloped areas of the region. As a secondary result, per capita use of many nonrenewable resources decreases under this Plan. These include: lower per capita use of energy and fuels; less conversion of agricultural, open space, and habitat lands; lower per-capita emissions of air pollutants, including GHGs; resulting in slower climate change effects over time.

However, construction activities related to the proposed project would nevertheless result in the irretrievable commitment of nonrenewable energy resources, primarily in the form of fossil fuels (including fuel oil), natural gas, and gasoline for automobile and construction equipment and aggregate supply used in construction.

With respect to operation activities, compliance with all applicable building codes, as well as project mitigation measures or project requirements, would help ensure that natural resources are conserved or recycled as feasible. It is also possible that new technologies or systems will emerge, or will become more cost-effective or user-friendly, that will further reduce the region's reliance upon nonrenewable natural resources; however, even with implementation of conservation measures consumption of natural resources would generally increase with implementation of the Plan.

Furthermore, growth generally results in long-term increase in the demand for electricity and natural gas supplies and distribution. However, the Plan and other federal and state energy efficiency standards will result in lower per-capita demand by encouraging development in urban areas; encouraging energy conservation in new construction and existing buildings; and reducing the infrastructure energy demands by encouraging alternative transportation such as bicycling, walking, and public transit. Furthermore, the Plan will result in lower per-capita VMT through the horizon year.

The region also has multiple nonrenewable resources including agricultural lands, open space, habitat areas, and mineral resources areas that contain aggregate, oil, and natural gas. Increased levels of development outside of already developed areas could result in permanent loss or other adverse impacts to these resource areas.

The Plan would result in the conversion of 41,546 acres of greenfield to urbanized uses, however, this area of potential impact is much smaller that would otherwise occur without regional efforts to encourage more compact growth. By increasing density in urban areas and decreasing the footprint of growth, pressures to convert agricultural and natural lands outside areas planned for growth are decreased.

5.2.2 Irreversible Damage from Environmental Accidents

Any growth in the region includes the potential for irreversible damage from environmental accidents. For example, greater densities expose more people in the same area to unexpected environmental events such as fire, flood, and/or earthquake which could lead to irreversible damage. In addition, irreversible changes to the physical environment could occur from the accidental release of hazardous materials associated with transport on roadways as more hazardous materials are transported through the region and more people are located in closer proximity to hazardous materials threats.

However, this exposure would exist under any growth scenario. Federal and state regulations require the Plan to accommodate expected growth in the region based on market-based forecasts. The SCS minimizes the footprint of that growth. Implementation of the Plan does not, in and of itself, result in greater potential of irreversible damage from an environmental accident.

5.2.3 Irretrievable Commitments of Nonrenewable Resources to Justify Current Consumption

The region has multiple nonrenewable resources including agricultural lands, open space, habitat areas, and mineral resources areas that contain aggregates and natural gas. Increased levels of development outside of already developed areas could result in permanent loss or other adverse impacts to these resource areas. In addition, increased levels of development throughout the region could result in greater use of nonrenewable resources during construction, including nonrenewable aggregates, or increased use of glass, plastic, and other petroleum products.

While approximately 41,546 acres of undeveloped land would be converted to urban land uses as a result of implementation of the Plan, this area of potential impact is much smaller than would otherwise occur without regional efforts to encourage more compact growth following "smart growth" principles and to direct as much growth as possible to existing developed areas. By increasing the density of development, and decreasing the footprint of growth, pressures to convert agricultural and open space lands outside areas planned for growth are decreased.

New growth generally results in additional demand for electricity, natural gas, and propane supplies and distribution. However, the Plan, and other federal and state efforts, will result in lower per-capita demand by encouraging compact development; encouraging energy conservation in new construction and existing buildings; and reducing the infrastructure energy demands by encouraging alternative transportation such as bicycling, walking, and public transit. Furthermore, the Plan will result in lower per-capita VMT through the horizon year (2045). **Section 3.8, Greenhouse Gas Emissions,** of the PEIR further addresses VMT.

Any growth in the region will result in significant irreversible resource commitments. In evaluating the significance of a project's irreversible resource commitments, CEQA requires a lead agency to consider whether such commitments are "justified" (*CEQA Guidelines* Section 15126.2(c)). As discussed above, and consistent with the project objectives for the Plan (See **Chapter 2.0, Project Description**), the Plan is designed to minimize irreversible resource commitments, thus maximizing opportunities for future generations. While the Plan will result in irreversible resource commitments, by encouraging higher density, less-consumptive development, as compared to the environmental baseline and forecasted conditions, the commitments are justified and beneficial. Therefore, these commitments are considered less than significant.

5.3 GROWTH-INDUCING IMPACTS

Section 15126.2(e) of the *State CEQA Guidelines* requires that growth inducing impacts of a proposed project be considered. Growth inducing impacts are characteristics of a project that could directly or indirectly create economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Growth can be induced in a number of ways, including the elimination of obstacles to growth, or by encouraging and/or facilitating other activities that could induce growth. Examples of projects likely to have growth inducing impacts include extensions or expansions of infrastructure systems beyond what is needed to serve project-specific demand, and development of new residential subdivisions or office complexes in areas that are currently only sparsely developed or are undeveloped. In addition, as set forth in the *CEQA Guidelines*, increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. The *CEQA Guidelines* also state that it must not be assumed that growth in an area is necessarily beneficial, detrimental or of little significance to the environment. Induced growth is considered a significant impact only if it directly or indirectly affects the ability of agencies to provide needed public services or if it can be demonstrated that the potential growth significantly affects the environment, that is, that it would result in construction that would adversely affect the environment.

As discussed in **Section 3.14, Population and Housing**, the Plan includes transportation and land use strategies that guide new population growth within existing urbanized areas, HQTAs, underutilized urban areas, and existing suburban town centers. The Plan would strategically target growth near jobs and transit .However, the improved accessibility from the Plan's transportation projects and strategies could also facilitate population and economic growth in areas of the region that are currently not developed, despite policies designed to limit such development. It should be noted that the Plan would result in an overall increase in total VMT which would be expected due to the large increase in regional population, but the more efficient land use patterns and strategies included in the Plan would result in a decrease in per capita VMT compared to the No Project.

Because several variables influence growth, it is difficult to determine how the Plan alone would affect growth. As described in Chapter 3.0, the Plan would affect each environmental issue area directly through transportation projects and strategies and indirectly through land use and strategies that would create a more compact development pattern than if no Plan were in place. Factors that would potentially induce population growth include roads, highways, freeways, rail, and other transportation improvements that provide access to previously undeveloped areas. HOV projects would not be expected to induce growth as they are adding to an existing freeway instead of creating a new freeway. The availability of adequate water supplies, the availability of sewage treatment facilities, the availability of

developable land, the types and availability of employment opportunities, housing supply and costs, commuting distances, cultural and recreational amenities, climate, and local government growth policies contained in general plans and zoning ordinances would also induce population growth. These are contributing factors to consider when evaluating whether the Plan would, in and of itself, induce population growth, but are not necessarily an indication that the Plan is growth inducing.

As discussed above, total population is expected to remain the same with or without the Plan. Generally, the Plan accommodates growth in a manner substantially consistent with local general plans, regional values and visions, and state and federal laws. The Plan would provide greater access to more of the region than the No Project Alternative due to transportation projects and strategies; however, targeting growth in the HQTAs would limit the geographic spread of growth.. Therefore, in general, the Plan could influence and possibly induce growth into specific parts of the region (including areas that are partially urbanized already) by providing new or expanded access. Overall, the Plan would accommodate and facilitate growth in the region.

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7.0 GLOSSARY

AB	Assembly Bill
ACE	After the Common Era
ACEP	Agricultural Conservation Easement Program
ACGIH	American Conference of Governmental Industrial Hygienists
ACHP	Advisory Council on Historic Preservation
ACM	Asbestos-Containing Materials
ACWA	Association of California Water Agencies
af	Acre-Feet
AFV	Alternative Fuel Vehicle
afy	Acre-Feet per Year
AHPA	Archeological and Historic Preservation Act
AHSC	Affordable Housing & Sustainable Communities
AIRFA	American Indian Religious Freedom Act
AMR	Annual Monitoring Report
APG	Adaptation Planning Guide
AQMP	Air Quality Management Plan
APS	Alternative Planning Strategy
ATMP	Airborne Toxic Control Measures
ARFVTP	Alternative and Renewable Fuel and Vehicle Technology Program
ARPA	Archaeological Resources Protection Act
ARRA	American Recovery and Reinvestment Act of 2009
ASBS	Areas of Special Biological Significance
ATP	California Active Transportation Program
ATSA	Aviation and Transportation Security Act
AVEK	Antelope Valley East Kern Water Agency
BCE	Before the Common Era
BGEPA	Bald and Golden Eagle Protection Act
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
BMP	Best Management Practices
BNSF	Burlington Northern/Santa Fe Railway

BP	Before Present
BRT	Bus Rapid Transit
BSER	Best System Of Emission Reduction
BTSP	Bicycle Transportation Strategic Plan
Btu	British Thermal Units
BUR	Bob Hope Airport
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CAAQS	California Ambient Air Quality Standards
CAFÉ	Corporate Average Fuel Economy
CAL FIRE	California Department of Forestry and Fire Protection
Cal/EPA	California Environmental Protection Agency
CalARP	California Accidental Release Prevention
CalEMA	California Emergency Management Agency
CALGreen	Code California Green Building Standards Code Regulations
CalOES	Governor's Office of Emergency Services
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CAT	Climate Action Team
CBSC	California Building Standards Code
CBSP	Commuter Bikeways Strategic Plan
CCA	California Coastal Act
CCAR	California Climate Action Registry
CCC	California Coastal Commission
CCR	California Code of Regulations
CDC	California Department of Conservation
CDE	California Department of Education
CDFW	California Department of Fish and Wildlife
CDP	Coastal Development Permit
CE	Common Era
CEC	California Energy Commission
CELCP	Coastal and Estuarine Land Conservation Program

CEP	Community Engagement Panel
CEQA	California Environmental Quality Act
CERC	Clean Energy Research Center
CERCLA	Comprehensive Response, Compensation, and Liability Act
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CFCP	California Farmland Conservancy Program
CFCs	Chlorofluorocarbons
CFS	Commodity Flow Survey
CGS	California Geological Survey
CH_4	Methane
CHP	California Highway Patrol
CIP	Capital Improvement Program
CMA	Congestion Management Agency
CMP	Congestion Management Plan
CNDDB	California Natural Diversity Database
CNEL	Community noise equivalent level
CNG	Compressed Natural Gas
CNPS	California Native Plant Society
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CO_{2e}	Carbon Dioxide-Equivalent
COG	Council of Governments
CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources
CSE	Countywide Siting Element
CSI	California Solar Initiative
CSI	Container Security Initiative
CTIP	Cargo Theft Interdiction Program
CTP	California Transportation Plan
C-TPAT	Customs-Trade Partnership Against Terrorism
CUP	Conditional Use Permit
CVAG	Coachella Valley Association of Governments

CWA	Clean Water Act
CZMA	Coastal Zone Management Act
dB	Decibel
dba	A-Weighted Decibel
DBPs	Disinfection Byproducts
DDW	Division of Drinking Water
DFO	Disaster Field Office
DHS	United States Department of Homeland Security
DHS	Department of Homeland Security
DMA	Disaster Mitigation Act
DNL	Day-Night Average
DOD	United States Department of Defense
DOE	Department of Energy
DRECP	Desert Renewable Energy Conservation Plan
DSCA	Defense Support to Civilian Authorities
DTSC	Department of Toxic Substances Control
DWR	California Department of Water Resources
DWR	Department of Water Resources
EGU	Electric Generating Unit
EIA	U.S. Energy Information Administration
EIR	Environmental Impact Report
EISA	Energy Independence and Security Act
EMA	California Emergency Management Agency
EMMA	Emergency Managers Mutual Aid
EPAct	Energy Policy Act
EPCA	Energy Policy and Conservation Act
EO	Executive Order
EOC	Emergency Operations Center
EPA	U.S. Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
EQIP	Environmental Quality Incentives Program
ESA	Endangered Species Acts
ESEA	Elementary and Secondary Education Act

EU-ETS	European Union Emission Trading Scheme
FAA	Federal Aviation Administration
FDA	Food and Drug Administration
FEMA	Federal Emergency Management Agency
FFV	Flexible Fuel Vehicle
FHWA	Federal Highway Administration
FIR	Fiscal Impact Report
FLIGHT	Facility Level Information on Greenhouse gases Tool
FLPMA	Federal Land Policy and Management Act
FMMP	Farmland Mapping and Monitoring Program
FPPA	Farmland Protection Policy Act of 1981
FRPP	Farm and Ranch Lands Protection Program
FTA	Federal Transit Administration
FTIP	Federal Transportation Improvement Program
FUA	Fuel Use Act
FWCA	Fish and Wildlife Coordination Act
FY	Fiscal Year
GGRF	Greenhouse Gas Reduction Fund
GHG	Greenhouse gases
GHGRP	Greenhouse Gas Reporting Program
GIS	Geographic Information System
GRP	Gross Regional Product
GSA	General Services Agency
GVWR	Gross Vehicle Weight Rating
GWh	Gigawatt-Hour
GWP	Global Warming Potential
H2SO4	Sulfuric Acid
HAPs	Hazardous Air Pollutants
HARP	Hot Spots Analysis and Reporting Program
HCD	Department of Housing and Community Development
HCFCs	Hydrochlorofluorocarbons
HCP	Habitat Conservation Plans
HFCs	Hydrofluorocarbons

HMTA	Hazardous Materials Transportation Act
HOT	High Occupancy Toll
HOV	High Occupancy Vehicle
HPD	California Division of Housing Policy Development
HQTA	High Quality Transit Areas
HRA	Health Risk Assessment
HSA	Historic Sites Act
HSL	High Speed Rail
HUC	Hydrologic Unit Code
HUD	Housing and Urban Development
Hz	Hertz
I-5	Interstate 5
IARC	International Agency for Research on Cancer
ICS	Incident Command System
ICTC	Imperial County Transportation Commission
In/sec	Inches per Second
IOUs	Investor-Owned Utilities
IPA	Imperial County Airport
IRWMP	Integrated Regional Water Management Plan
ISO	Independent System Operator
ISPS	International Ship and Port Facility Security Code
ISTEA	Intermodal Surface Transportation Efficiency Act of 1991
ITS	Intelligent Transportation System
IWM	Integrated Water Management
kW	Kilowatts
kWh	Kilowatt-Hour
LACFD	Los Angeles County Fire Department
LADWP	Los Angeles Department of Water and Power
LAMP	Local Agency Management Program
LAX	Los Angeles International Airport
LCP	Local Coastal Programs
Ldn	Day-Night Equivalent Level
LED	Light Emitting Diode

Leq	Equivalent sound level
LEV	Low Emission Vehicle
LGB	Long Beach Airport
Lmax	Maximum Sound Levels
Lmin	Minimum Sound Level
LN	Noise Level
LOS	Level of Service
LOSSAN	Los Angeles–San Diego–San Luis Obispo
LRID	Little Rock Irrigation District
LRT	Light Rail Transit
LTRR	Long-Term Regional Recovery
LUST	Leaking Underground Storage Tank
MAA	Mutual Aid Agreements
MACT	Maximum Achievable Control Technology
MAP	Million Annual Passengers
MAP-21	Moving Ahead for Progress in the 21st Century
MBTA	Migratory Bird Treaty Act of 1918
MCL	Maximum Contaminant Level
MDAB	Mojave Desert Air Basin
Metro	Los Angeles County Metropolitan Transportation Authority
µg/m3	Micrograms per Cubic Meter
MM	Mitigation Measure
MMPA	Marine Mammal Protection Act
MMRT	Million Metric Revenue Tons
MMTCO2e	Million Metric Tons of CO2e
MOUs	Memoranda of Understanding
mpg	Miles per Gallon
MPOs	Metropolitan Planning Organizations
MPRSA	Marine Protection, Research, and Sanctuaries Act of 1972
MRZs	Mineral Resource Zones
MSAT	Mobile Source Air Toxics
MSDS	Material Safety Data Sheets
MTBE	Methyl Tertiary Butyl Ether and Tertiary Butanol

MTCO2e	Metric Ton of CO2e
MWA	Mojave Water Agency
MWD	Metropolitan Water District
N_2O	Nitrous Oxide
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NAHC	Native American Heritage Commission
NATA	National Air Toxics Assessment
NCCP	Natural Community Conservation Plan
NCLB	No Child Left Behind
NEA	National Energy Act of 1978
NEPA	National Environmental Policy Act
NESHAPs	National Emission Standards for Hazardous Air Pollutants
NFPA	National Fire Protection Association
NGOs	Nongovernmental Organizations
NHL	National Historic Landmarks
NHPA	National Historic Preservation Act
NHTSA	National Highway Traffic Safety Administration
NIMS	National Incident Management System
NO_2	Nitrogen Dioxide
NOAA	National Oceanic and Atmospheric Administration
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
NPDWR	National Primary Drinking Water Regulations
NPL	National Priorities List
NPS	National Preparedness System
NRCS	Natural Resources Conservation Service
NRF	National Response Framework
NRHP	National Register of Historic Places
NRPA	National Recreation and Parks Association
NSPS	New Source Performance Standards
NSR	New Source Review
O_3	Ozone

OBD	Onboard Diagnostic System
OCTA	Orange County Transportation Authority
OEHHA	Office of Environmental Health Hazard Assessment
OES	Office of Emergency Services
OES	County Offices of Emergency Services
OHP	Office of Historic Preservation
ONT	Ontario International Airport
OPR	Office of Planning and Research
OSHA	Occupational Safety and Health Administration
OSPR	Office of Oil Spill Prevention and Response
OWTS	Onsite Wastewater Treatment Systems
Pb	Lead
PCBs	Polychlorinated Biphenyls
PCH	Pacific Coast Highway
PEIR	Program Environmental Impact Report
PEV	Plug-In Electric Vehicle
PFC	Perfluorocarbon
PGF	Planning Growth Forecast
PHEV	Plug in Electric Hybrids
PLACE	Policies for Livable, Active Communities and Environments
PM	Particulate Matter
PM10	Particulate Matter 10 Microns or Less in Diameter
PM2.5	Particulate Matter 2.5 Microns or Less in Diameter
PMD	Palmdale Regional Airport
POEs	Ports of Entry
POTWs	Publicly Owned Treatment Works
POUs	Publicly Owned Utilities
ppd	Pounds per Day
PPD-8	Presidential Policy Directive 8: National Preparedness
ppm	Parts per Million
PPV	Peak Particle Velocity
PRC	Public Resource Code
PRPs	Potentially Responsible Parties

PSD	Prevention of Significant Deterioration
psi	Pounds per Square Inch
PSP	Palm Springs International Airport
PURPA	Public Utility Regulatory Policies Act
PVC	Polymer Polyvinyl Chloride
PWD	Palmdale Water District
Qfs	Qualifying Facilities
RCIP	Riverside County Integrated Project
RCRA	Resource Conservation and Recovery Act
RCTC	Riverside County Transportation Commission
REOC	Regional Emergency Operations Center
RFC	Reference Concentration
RFS	Renewable Fuel Standard
RGGI	Regional Greenhouse Gas Initiative
RHNA	Regional Housing Needs Assessment
RNG	Renewable Natural Gas
ROGs	Reactive Organic Gases
ROW	Right-of-Way
RPS	Renewable Portfolio Standard
RRCC	Regional Response Coordination Center
RTDM	Regional Travel Demand Model
RTP	Regional Transportation Plan
RTR	Risk and Technology Review
RUWMP	Regional Urban Water Management Plan
RWQCB	Regional Water Quality Control Board
SAFETEA-LU	Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users
SANBAG	San Bernardino Associated Governments
SARA	Superfund Amendment and Reauthorization Act
SB	Senate Bill
SBE	State Board of Education
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District

SCCAB	South Central Coast Air Basin
SCE	Southern California Edison
SCPPA	Southern California Public Power Authority
SCS	Sustainable Communities Strategy
SDC	Seismic Design Criteria
SDG&E	San Diego Gas & Electric Company
SDWA	Safe Drinking Water Act
SEAs	Significant Ecological Areas
SEATAC	Significant Ecological Areas Technical Advisory Committee
SEMS	Standard Emergency Management System
SF6	Sulfur Hexafluoride
SGC	Strategic Growth Council
SHMP	State Hazard Mitigation Plan
SHPO	State Historic Preservation Officer
SHRC	State Historical Resources Commission
SIO	Scenic Integrity Objective
SIPs	State Implementation Plans
SMARA	Surface Mining and Reclamation Act
SNA	John Wayne Airport
SO_2	Sulfur Dioxide
SoCalGas	Southern California Gas Company
SONGS	San Onofre Nuclear Generating Station
SOx	Sulfates
SPCC	Spill Prevention Control and Countermeasure
SPM	Scenario Planning Model
SR-14	State Route 14
SSAB	Salton Sea Air Basin
SSC	Species of Special Concern
SSEMS	Statewide Standardized Emergency Management System
SSPP	System Safety Program Plan
SUSMP	Standard Urban Stormwater Management Plan
SWMP	Storm Water Management Plan
SWP	State Water Project

SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TACs	Toxic Air Contaminants
TAP	Transit Access Pass
TBACT	Toxics Best Available Control Technology
TCMs	Transportation Control Measures
TDM	Transportation Demand Management
TEA-21	Transportation Equity Act for the 21st Century
TEUs	Twenty-Foot Equivalent Units
TMCs	Transportation Management Centers
TMDL	Total Maximum Daily Loads
TOC	Total Organic Carbon
TPAs	Transit Priority Areas
tpd	Tons per Day
TSA	Transportation Security Administration
TSM	Transportation System Management
U.S. DOT	U.S. Department of Transportation
UBC	Uniform Building Code
UCG	Unified Coordination Group
UNFCCC	United Nations Framework Convention on Climate Change
UP	Union Pacific Railroad
URA	Federal Uniform Act
USACOE	U.S. Army Corps of Engineers
USC	U.S. Code
USDA	United States Department of Agriculture
USFS	U.S. Forest Service
USFWS	United States Fish and Wildlife Services
USGS	U.S. Geological Survey
USTs	Underground Storage Tanks
UWMPA	Urban Water Management Planning Act
UWMPs	Urban Water Management Plans
VCP	Voluntary Cleanup Program
VCTC	Ventura County Transportation Commission

VCV	Southern California Logistics Airport
VHD	Vehicle Hours of Delay
VHT	Vehicle Hours of Travel
VMT	Vehicle Miles Traveled
VOCs	Volatile Organic Compounds
WDRs	Waste Discharge Requirements
WRCOG	Western Riverside Council of Governments
WRE	Wetlands Reserve Easement
WSRA	Wild and Scenic Rivers Act of 1968
ZEV	Zero-Emission Vehicle

APPENDIX 1.0

Notice of Preparation and Comments on Notice of Preparation

SOUTHERN CALIFORNIA
ASSOCIATION OF GOVERNMENTS
900 Wilshire Blvd., Ste. 1700
Los Angeles, CA 90017
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NOTICE OF PREPARATION

TO: **Interested Agencies, Organizations and Individuals**

SUBJECT: **Notice of Preparation of a Program Environmental Impact Report for Connect SoCal (2020-2045 Regional Transportation Plan/Sustainable Communities Strategy)**

DATE: **January 23, 2019**

LEAD AGENCY: **Southern California Association of Governments**
900 Wilshire Blvd, Suite 1700
Los Angeles, California 90017

The Southern California Association of Governments (SCAG), as Lead Agency, is publishing this Notice of Preparation (NOP) to prepare a Program Environmental Impact Report (PEIR) in accordance with the California Environmental Quality Act (CEQA) for Connect SoCal (also referred to herein as "2020 Regional Transportation Plan and Sustainable Communities Strategy" or "2020 RTP/SCS" or "Plan"). SCAG is preparing Connect SoCal pursuant to federal and state metropolitan planning and air quality requirements including the federal surface transportation reauthorization, Fixing America's Surface Transportation (FAST) Act, the Transportation Conformity in the Air Quality Attainment Plan per 40 CFR Part 51 and 40 CFR Part 93, and Section 65080 et seq., of Chapter 2.5 of the California Government Code, The Global Warming Solutions Act of 2006 (Senate Bill 32), The Sustainable Communities and Climate Protection Act of 2008 (Senate Bill 375), California Global Warming Solutions Act of 2006 (Assembly Bill 32),and corresponding regulations.

Two (2) Scoping meetings for the Plan, each providing the same information, will be held at SCAG's Main office – Room Policy Committee A (see address above) on **Wednesday, February 13, 2019 from 3:00 PM to 5:00 PM and 6:30 PM to 8:30 PM**. Webcasting and videoconferencing will be available from SCAG's regional offices (see last page for addresses).

To ensure full consideration of environmental issues with potential significant impacts in the Draft PEIR, **all comments must be received within thirty (30) days of the start of the 30-day public comment period, which begins January 23, 2019 and ends February 22, 2019**. If you wish to be placed on the mailing list to receive notices regarding the PEIR for the Plan, or have any questions or need additional information, please contact the person identified below.

Please send your response to Roland Ok, Senior Regional Planner, either electronically to: 2020PEIR@scag.ca.gov, via the web at: https://connectsocal.org; or at the mailing address shown above. Please include a return address and the name of a contact person in your agency/organization.

Introduction

CEQA and its implementing regulations (*State CEQA Guidelines*) require SCAG as the Lead Agency to prepare an EIR for any discretionary government action, including programs and plans that may cause significant environmental effects. Connect SoCal is a regional planning document updated every four years (see further discussion below) and will update the 2016 RTP/SCS. Given the regional level of analysis provided in a RTP/SCS, a Program EIR (PEIR) is the appropriate CEQA document. A PEIR is a "first-tier" CEQA document designed to consider "broad policy alternatives and program wide mitigation measures" (*State CEQA Guidelines* Sec. 15168). The programmatic environmental analysis for the Connect SoCal PEIR will evaluate potential environmental effects consisting of direct and indirect effects, growth-inducing impacts, and cumulative impacts resulting from the Plan, and will include mitigation measures to offset any identified potentially significant adverse environmental effects. As a first-tier document, the PEIR may serve as a foundation for subsequent, site-specific environmental review documents (including Addendums, Supplemental EIRs, Subsequent EIRs) for individual transportation and development projects in the region (*State CEQA Guidelines* Sec. 15385).

This NOP is intended to alert responsible agencies, interested agencies, organizations, and individuals of the preparation of the PEIR. Comments regarding the scope of the PEIR received during the 30-day NOP review period will be used to refine the scope and content of the PEIR, as appropriate.

PROJECT LOCATION AND BACKGROUND

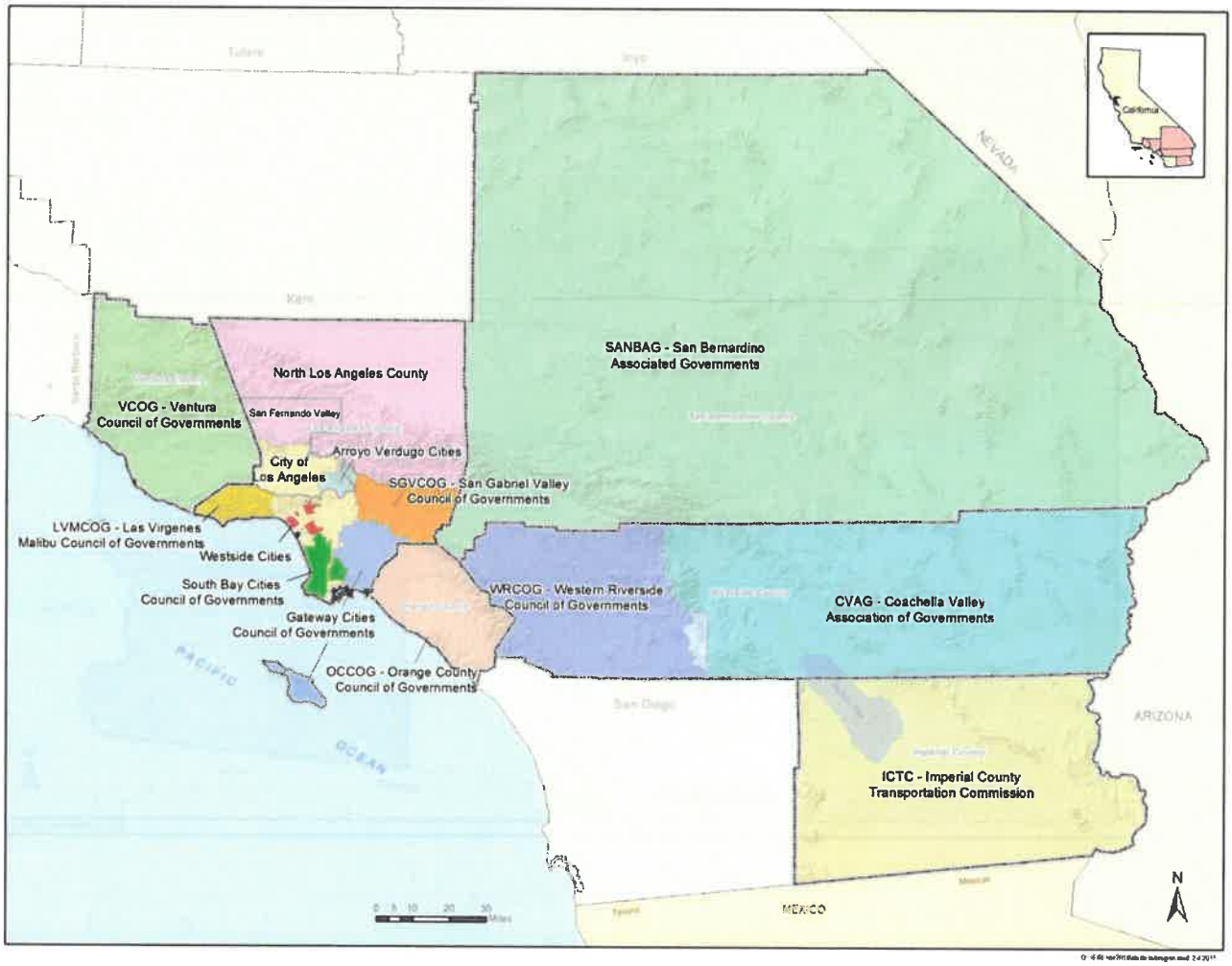
Project Location

SCAG is the federally designated Metropolitan Planning Organization ("MPO") under Title 23, United States Code (U.S.C.) 134(d)(1). The SCAG region consists of six counties (Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura), and 191 cities (Figure 1, *SCAG Region*). To the north of the SCAG region are the counties of Kern and Inyo; to the east is State of Nevada and State of Arizona; to the south is the county of San Diego; and to the northwest is the Pacific Ocean. The SCAG region also consists of 15 subregional entities that serve as partners in the regional planning process. (Figure 2, *SCAG Subregions*).

SCAG is one of 18 MPOs in the State of California. The total area of the SCAG region is approximately 38,000 square miles. The region includes the county with the largest land area in the nation, San Bernardino County, as well as the county with the highest population in the nation, Los Angeles County. The SCAG region is home to approximately 20 million people, or 49 percent of California's population, representing the largest and most diverse region in the country.

Figure 1: SCAG Region

Figure 2: SCAG Subregions



SCAG Roles and Responsibilities

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

SCAG serves as the regional forum for cooperative decision making by local government elected officials and its primary responsibilities in fulfillment of federal and state requirements include the development of the Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS); the Federal Transportation Improvement Program (FTIP); the annual Overall Work Program; and transportation-related portions of local air quality management plans. SCAG's other major functions include determining the regional transportation plans and programs are in conformity with state air quality plans; preparation of a Regional Housing Needs Assessment (RHNA); and intergovernmental review of regionally significant projects.

PROJECT DESCRIPTION

2020 Regional Transportation Plan/Sustainable Communities Strategy

Pursuant to federal and state planning requirements, SCAG updates and adopts a long-range regional transportation plan every four years. SCAG's last Plan was adopted in 2016 and an updated Plan is required to be adopted by April 2020.

Connect SoCal will outline the region's goals and policies for meeting current and future mobility needs, provide a foundation for transportation decisions by local, regional and state officials that are ultimately aimed at achieving a coordinated and balanced transportation system. Connect SoCal will also identify the region's transportation needs and issues, recommended actions, programs, and a list of projects to address the needs consistent with adopted regional policies and goals, and documents the financial resources needed to implement Connect SoCal. It is important to note that SCAG does not implement individual projects in the RTP, as they will be implemented by local and state jurisdictions, and other agencies. SCAG has already initiated the development of Connect SoCal and is working closely with County Transportation Commissions (CTCs) to compile a regional project list that will build upon the list identified in the 2016 RTP.

In accordance with the Sustainable Communities and Climate Protection Act of 2008, or Senate Bill (SB) 375 (Steinberg) and codified in California Government Code §65080(b)(2)(B), the Plan will include a SCS which details land use, housing and transportation strategies to reduce greenhouse gas (GHG) emissions from passenger vehicles (automobiles and light-duty trucks).

Pursuant to SB 375, SCAG's SCS is required to meet reduction targets for greenhouse gas (GHG) emissions of 8 percent per capita by 2020 and 19 percent per capita by 2035 compared to 2005 emission levels, as set by the California Air Resources Board (ARB). According to Section 65080(b)(2)(B) of the California Government Code, the SCS must:

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

Additionally, if the combination of measures in the SCS would not meet the regional targets, the MPO must prepare a separate "Alternative Planning Strategy" (APS) to meet the targets.

Scenario Planning Process

As part of the planning process, SCAG is developing several transportation and land use scenarios for public consideration. These scenarios focus on transportation and land use related inputs that are modified to vary across the scenarios. These scenarios will provide the analytical technique for policy choices to be considered as the Plan is being developed, while the Plan goals, guiding policies and performance measures will underpin scenario designs.

SCAG will use scenario planning tools to illustrate the impact of distinctive policy and investment choices that will then be compared to business as usual scenario (No Project) in order for the Regional Council and Policy Committees to evaluate the merits of regional decisions for the Plan.

SCAG will seek input for scenario development through stakeholder outreach. These scenarios would then be presented to the general public in late Spring/summer of 2019 in a series of public workshops.

Bottom-up Local Growth and Land Use Input Process

A critical component to developing a successful Plan is the participation and cooperation of SCAG's local government partners and stakeholders within the SCAG region. To this end, SCAG uses a bottom-up local input process by which all local governments are informed of the planning process for Connect SoCal and have clear and adequate opportunities to provide input. Growth forecasts and land use updates for development of the Plan will be developed through this bottom-up local input process.

SCAG's Public Participation Plan and Process

Another key aspect of Plan development is public participation. To provide early and meaningful public participation in the Plan's development and decision-making processes, SCAG has developed and adopted a Public Participation Plan ("PPP").[1] The adoption of the PPP demonstrates SCAG's commitment in increasing awareness and involvement of interested persons in SCAG's governmental processes and regional transportation and land use planning. SCAG will provide information and timely public notice, ensuring full public access to key decisions, and supporting early and continuing public involvement in the development of the Plan. To this end, SCAG will continue to engage a wide range of stakeholder groups, elected officials, special interest groups, the general public, and other interested parties through a series of workshops and public meetings, as well as SCAG's policy committees, task forces, and subcommittee structure during the development of the Plan and its associated PEIR.

SCOPE OF ENVIRONMENTAL ANALYSIS IN THE PEIR

Environmental Factors Considered

The PEIR is a programmatic document that will analyze potential effects of the Plan on the environment. Although Connect SoCal will include some individual transportation projects, the PEIR does not specifically analyze environmental effects of any individual transportation or development project. Project-level environmental analyses will be prepared by implementing agencies on a project-by-project basis as projects proceed through the design and decision-making process.

The potential scope of environmental effects that warrant analysis in the Connect SoCal PEIR are as follows:

- Aesthetics and Views
- Agriculture and Forestry Resources
- Air Quality
- Biological Resources and Open Space
- Cultural Resources
- Energy
- Hazards and Hazardous Materials
- Hydrology and Water Resources
- Land Use and Planning
- Noise
- Population and Housing
- Recreation

[1] Southern California Association of Governments. Public Participation Plan. Adopted September 6, 2018. http://www.scag.ca.gov/participate/Pages/PublicParticipationPlan.aspx

- Geology, Soils and Mineral Resources
- Greenhouse Gas Emissions and Climate Change
- Tribal Cultural Resources
- Transportation/Traffic
- Public Services and Utilities
- Wildfire

CEQA Streamlining

SB 375 contains CEQA incentives, or streamlining provisions, to encourage coordinated land use and transportation planning. Certain types of development projects (i.e., transit priority projects or residential/mixed use residential projects, as defined by the statute) may qualify for CEQA streamlining as long as the requisite criteria are met. Consistency will be determined by the local jurisdiction that is the lead agency for each project to be streamlined. SCAG's primary role is to include appropriate information in the SCS, such as land use information as required by SB 375 and/or guidance to aid in interpreting land use information that will allow a jurisdiction to make a consistency determination with respect to appropriate streamlining options on a project-by- project basis.

Additionally, the PEIR will support other CEQA streamlining options that do not fall into the categories under SB 375 (i.e., SB 743, SB 226 and the State CEQA Guidelines).

Preliminary 2020 RTP/SCS Alternatives

The development of alternatives in a PEIR is focused on avoiding or reducing potentially significant impacts of the Plan while achieving most of the project objectives. It is anticipated that the PEIR will evaluate at least three potential alternatives to Plan as follows:[2] (1) No Project; (2) 2020 Local Input Alternative; and (3) Intensified Land Use Alternative. Each Alternative, except the No Project Alternative, will vary in terms of policies and projects including, but not limited to, variations in land use development patterns or transportation network.

SCAG has the discretion to select more than one alternative as long as they are within the range of impacts identified.

No Project Alternative

The No Project Alternative is required by Section 15126.6(e)(2) of the CEQA Guidelines and assumes that the Plan would not be implemented. The No Project Alternative will consider continued implementation of the goals and polices of the adopted 2016 RTP/SCS and will be based on 2016 RTP/SCS regional population, housing, and employment. The No Project Alternative includes those transportation projects that are included in the first year of the previously conforming FTIP (i.e., 2018). The growth scenario included in the No Project Alternative, and all alternatives, will include the same regional totals for population, housing and employment.

2020 Local Input Alternative

This Alternative will incorporate jurisdictional general plans and land use information to reflect the most recent growth estimates and land use development patterns in the region. This alternative would include policies and strategies included in the 2016 RTP/SCS to the extent that they have been incorporated into local jurisdictional plans. This alternative does not include additional land use strategies described in the

[2] It is important to note that these are preliminary alternatives and may change during the planning process.

2020 Plan that go beyond current local policy and strategies described in the intensified land use alternative, that help meet additional objectives.

Intensified Land Use Alternative

An Intensified Land Use Alternative would be based on a transportation network for Connect SoCal with aggressive land use development patterns. Land use development patterns in this alternative would build on land use strategies as described in the Plan by maximizing growth around high quality transit areas (HQTAs). Potential growth patterns associated with this alternative would optimize urban areas and suburban town centers, transit oriented development patterns (TODs), livable corridors, and neighborhood mobility areas (NMAs).

SCAG is seeking input on these preliminary alternatives through the scoping process, changes to the alternatives as a result of the scoping process could result in modifications to the number, content and scope of alternatives analyzed in the PEIR. Furthermore, the PEIR will identify alternatives that were initially considered, but rejected for reasons including infeasibility or inability of a particular alternative to meet the project objectives or reduce environmental impacts beyond that of the project.

SCOPING MEETINGS

As mentioned previously, SCAG will host two (2) Scoping meetings for the Plan, each providing the same information, at SCAG's Main office – Policy Committee A Room (see address above) on **February 13, 2019 from 3:00 to 5:00 PM and 6:30 to 8:30 PM.** For each of the two scoping meetings videoconferencing will be available at SCAG's regional offices listed below.[3]

SCAG Imperial County Regional Office
1503 N. Imperial Avenue, Suite 104
Imperial, CA 92243
(760) 353-7800

SCAG Orange County Regional Office
OCTA Building
600 South Main Street, Suite 906
Orange, CA 92868
(714) 542-3687

City of Palmdale (From 3:00 to 5:00 PM Only)
Planning Department
Development Services Conference Room
38250 Sierra Highway
Palmdale, CA 93550
(661)267-5337

SCAG Riverside County Regional Office
3403 10th Street, Suite 805
Riverside, CA 92501
(951) 784-1513

SCAG San Bernardino County Regional Office
1170 West 3rd Street, Suite 140
San Bernardino, CA 92410
(909) 806-3556

Coachella Valley Association of Governments (From 3:00 to 5:00 PM Only)
73-710 Fred Waring Drive
Palm Desert, CA 92260
(760)346-1127

[3] Please note that the Ventura County Regional Office is currently closed. Those from the Ventura County area are encouraged to participate via webcast.

Additionally, webcasting will be provided for those who are unable to attend the scoping meetings hosted at the main offices or teleconference options at the regional offices. Information for the webcast is provided below:

Webcast
https://scag.zoom.us/j/553192165
Dial: 1-669-900-6833
Meeting ID: 553-192-165

Signature: Ping Chang

Ping Chang, Manager of Compliance and Performance Monitoring
Southern California Association of Governments
Telephone: (213) 236-1839
Email: Chang@scag.ca.gov; or 2020PEIR@scag.ca.gov

Date: 1/23/19

STATE OF CALIFORNIA

Governor's Office of Planning and Research

State Clearinghouse and Planning Unit

Gavin Newsom
Governor

Kate Gordon
Director

Notice of Preparation

January 28, 2019

To: Reviewing Agencies

Re: Connect SoCal (2020-2045 Regional Transportation Plan/Sustainable Communities Strategy)
SCH# 2019011061

Attached for your review and comment is the Notice of Preparation (NOP) for the Connect SoCal (2020-2045 Regional Transportation Plan/Sustainable Communities Strategy) draft Environmental Impact Report (EIR).

Responsible agencies must transmit their comments on the scope and content of the NOP, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of the NOP from the Lead Agency. This is a courtesy notice provided by the State Clearinghouse with a reminder for you to comment in a timely manner. We encourage other agencies to also respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

Ping Chang
Southern California Association of Governments
900 Wilshire Blvd, Suite 1700
Los Angeles, CA 90017

with a copy to the State Clearinghouse in the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence concerning this project.

If you have any questions about the environmental document review process, please call the State Clearinghouse at (916) 445-0613.

Sincerely,

Scott Morgan
Director, State Clearinghouse

Attachments
cc: Lead Agency

November 26, 2018

RE: CEQA Principles to Combat Lawsuit Abuses

On behalf of more than 180 business organizations that represent 400,000 employers with over 3.5 million employees in LA County we are commenorating our tenth anniversary with a mission to lift one million people out of poverty in the next decade. One of the many opportunities to lift and prevent poverty are providing solutions that end litigation abuse of the California Environmental Quality Act (CEQA).

These lawsuits drive up the costs of building new housing or transportation infrastructure exacerbating our housing crisis, where the production of new housing in the region has been significantly reduced. Coupling this reduction with the cost of litigation further drives up the cost of housing which prohibits public service and private sector occupations and professionals the ability to afford owning a home, which is essential for building generational wealth, incubating a stronger, vibrant and more resilient economy.

Since 2013, the Los Angeles region accounts for;

- 38% of all CEQA lawsuits statewide.
- 40% of these lawsuits dealt with residential development and transportation infrastructure.
- Over 70% these CEQA lawsuits are targeted at stopping infill, multi-family, transit-oriented housing the very housing needed according to CARB that we need to invest in to support our environmental goals
- Nearly 80% of these lawsuits are targeted in wealthier and healthier parts of the State,

BizFed solutions fall under four themes that create the necessary reforms needed to improve compliance with CEQA and streamline the process;
(1) Prohibit anonymous CEQA lawsuits allowing petitioners to conceal their identities and economic interests;
(2) Prohibit duplicative CEQA lawsuits allowing parties to repeatedly sue over the same plan, or projects implementing a plan, for which CEQA compliance has already been completed;
(3) E**stablish a "mend it, not end it" approach of directing corrections to any defici**ent environmental study rather than vacating project approvals; and
(4) Prohibit CEQA lawsuits against voter-approved infrastructure projects, and against projects receiving voter-approved approved funding (e.g., for homeless housing).

Abuse of CEQA for non-environmental purposes by business competitors, NIMBYs opposed to change, and certain construction trade unions, has been well documented, and includes both threatened and filed CEQA lawsuits. CEQA fundamentally is biased in favor of stopping changes to the status quo. CEQA's status quo preservation bias has a disparate effect on minority communities, as well as younger Californians such as millennials, who are most urgently in need of more housing and transportation, infrastructure.

These CEQA modifications are necessary to comply with law, and to address the housing and poverty crisis, and expedite completion of transportation and other critical infrastructure projects that have already had at least one completed round of CEQA compliance as well as voter and initial agency approvals. No state agency should hide within a silo of vague legalese to promote increased litigation risks and delays and do further harm to hard working minority and millennial families suffering from California's housing, poverty and transportation crises. In contrast, during the last session we witnessed bipartisan support for CEQA exemptions to construct new sports and entertainment facilities which are good projects to stimulating jobs creation by reducing lawsuit abuse, we believe such exemptions for development are consistent with the solutions we have provided in this letter.

Business is what makes our economy work and CEQA guidelines should reward instead of impede that progress to help our economy and our environment thrive. Litigation abuse is one of the unattended consequences that negatively affects our economy because it introduces uncertainty with CEQA instead of compliance.

Sincerely,
Tracy Hernandez, BizFed Los Angeles County, Founding CEO
Hilary Norton, BizFed Chair Fixing Angelenos Stuck in Traffic (FAST)
Lois Henry, Central Valley Business Federation
Associated Builders and Contractors, Central California Chapter
Building Owners and Managers Association
Building Industry Association of Southern California, LA/Ventrua Chapter
California Small Business Alliance
Construction Industry Air Quality Coaltion
Construction Industry Coalition on Water Quality
Foreign Trade Association
Harbor Association of Industry and Commerce
Harbor Trucking Associaiton
Hollywood Chamber of Commerce
NAIOP/Commercial Real Estate Association
National Association of Royalty Owners
Orange County Business Council
Redondo Beach Chamber of Commerce
South Bay Association of Chambers of Commerce
Torrance Area Chamber of Commerce

Los Angeles County Business Federation
Strengthening the Voice of Business Since 2008

February 22, 2019

Roland Ok
Southern California Association of Governments
900 Wilshire Blvd, Suite 1700
Los Angeles, CA 90017

SUBJECT: "Connect SoCal" Scoping Phase Comments

On behalf of BizFed, a grassroots alliance of more than 180 business organizations that represent 400,000 employers with over 3.5 million employees in LA County, we have strong concerns of CARB's statutory over reach by imposing flawed Vehicle Miles Travelled (VMT) reduction targets as a strategy for greenhouse gas (GHG) reduction. This would ignore the local input of many stakeholders in previous Regional Transportation Plan (RTP)/Sustainable Community Strategies (SCS) as we start the EIR for the 2020-2045 RTP/SCS.

CARB has no statutory authority to impose a VMT reduction target in an SCS and doing so violates the SB 375 requirement that an SCS must provide for a robust economy and growing population. In SCAG's two prior RTP/SCS in 2012 and 2016, SCAG met required GHG reduction targets based on local input for land use planning and full respect for voter-approved and funded transportation projects and transportation infrastructure required by longstanding laws requiring efficient transportation and goods movement.

These voter approved transportation projects are usually funded in the form of sales taxes which can be volatile to outside triggers such as an arbitrary GHG reduction target based on VMT reduction assumptions that cannot be delivered in the real world. If these assumptions are to be delivered, we may see a dramatic reduction in goods movement infrastructure critical to the state's economy. BizFed wants to ensure that sales tax revenues remain strong for the successful delivery of these voter supported and approved projects. This nexus is vital to the five of the six counties in the SCAG region who are delivering critical transportation infrastructure projects through sales taxes. Imposing GHG reductions through poor VMT metrics without prioritizing the value of certain trips to our economy could be devastating.

The most aggressive GHG reduction based on VMT reductions in the SCAG region called for a 10% decrease in overall regional VMT, which the region has not met and shows no indication of being able to meet. While we support California's climate leadership, the state emits less than 1% of global GHG. In contrast, California ranks top in the United States for poverty and homelessness – both of which are attributable directly to the housing supply shortage, high housing prices that are nearly three times above the national average and longer commutes where working families are "driving until they qualify" for housing that they can rent or buy.

Given the realities of the current economic conditions, we believe CARB staff's current target of reducing VMT by 19.5% is unattainable. SCAG should not continue to spend taxpayer dollars on infeasible plans, when there has been zero progress made in achieving key reforms that prior SCS plans identified as being necessary to even be able to achieve prior lower GHG reduction targets that the business community has been actively advocated for such as redevelopment funding and CEQA reforms against lawsuit abuses.

We very much respect and appreciate the major efforts of SCAG to assure that SB 375 can be implemented consistent with its statutory protections for a healthy economy and growing population.

We urge SCAG to reject CARB staff's decision to unilaterally reject its own Board vote, and the Legislature's repeated refusal to impose a VMT reduction target as part of its climate or air quality statutes or regulations.

Sincerely,

Steve Bullock
BizFed Chair
Cerrell Associates

David Fleming
BizFed Founding Chair

Tracy Hernandez
BizFed Founding CEO
IMPOWER, Inc.

BizFed Association Members

Action Apartment Association
AIA - Los Angeles
Alhambra Chamber
American Beverage Association
American Hotel & Lodging Association
Antelope Valley Board of Trade
Angeles Emeralds
Apartment Association, California Southern Cities
Apartment Association of Greater Los Angeles
Arcadia Association of Realtors
AREAA North Los Angeles SFV SCV
Asian Business Association
Association of Independent Commercial Producers
Azusa Chamber
Beverly Hills Bar Association
Beverly Hills Chamber
Beverly Hills / Greater LA Association of Realtors
BNI4SUCCESS
Burbank Association of Realtors
Building Industry Association, LA / Ventura Counties
Building Owners & Managers Association, Greater LA
Business & Industry Council for Emergency Planning & Preparedness
CalAsian Chamber
California Apartment Association, Los Angeles
California Asphalt Pavement Association
California Business Roundtable
California Cannabis Industry Association
California Construction Industry and Materials Association
California Contract Cities Association
California Fashion Association
California Gaming Association
California Grocers Association
California Hotel & Lodging Association
California Independent Oil Marketers
California Independent Petroleum Association
California Life Sciences Association
California Metals Coalition
California Restaurant Association
California Small Business Alliance
California Sportfishing League
California Trucking Association
CALInnovates
Carson Chamber of Commerce
Carson Dominguez Employers Alliance
CDC Small Business Finance
Central City Association
Century City Chamber of Commerce
Cerritos Chamber
Citrus Valley Association of Realtors
Commerce Industrial Council/Chamber of Commerce
Construction Industry Air and Water Quality Coalitions
Consumer Healthcare Products Association
Council on Trade and Investment for Filipino Americans
Covina Chamber of Commerce
Culver City Chamber of Commerce
Downey Association of Realtors
Downtown Long Beach Alliance
El Monte/South El Monte Chamber
Employers Group
Engineering Contractor's Association
F.A.S.T.-Fixing Angelenos Stuck in Traffic
FilmLA
Foreign Trade Association
FuturePorts
Gardena Valley Chamber of Commerce
Gateway to LA
Glendale Association of Realtors
Glendale Chamber
Glendora Chamber
Greater Antelope Valley AOR
Greater Lakewood Chamber
Greater Los Angeles African American Chamber
Greater Los Angeles New Car Dealers Association
Harbor Trucking Association
Historic Core Bid
Hollywood Chamber
Hong Kong Trade Development Council
Hospital Association of Southern California
Hotel Association of Los Angeles
Independent Cities Association
Industry Manufacturers Council
International Warehouse Logistics Association
Investing in Place
Irwindale Chamber
Japan Business Association of Southern California
La Canada Flintridge Chamber
LAX Coastal Area Chamber
League of California Cities
Long Beach Area Chamber
Los Angeles Area Chamber
Los Angeles Cleantech Incubator
Los Angeles County Bicycle Coalition
Los Angeles County Medical Association
Los Angeles County Waste Management Association
Los Angeles Gateway Chamber of Commerce
Los Angeles Gay & Lesbian Chamber of Commerce
Los Angeles Latino Chamber
Los Angeles Parking Association
Maple Business Council
Motion Picture Association of America
MoveLA
NAIOP Southern California Chapter
National Association of Royalty Owners
National Association of Tobacco Outlets
National Association of Women Business Owners
National Association of Women Business Owners, LA
National Hispanic Medical Association
National Latina Business Women's Association
Nederlands-America Foundation
Orange County Business Council
Pacific Merchant Shipping Association
Pacific Palisades Chamber
Panorama City Chamber
Paramount Chamber of Commerce
Pasadena Chamber
Pasadena-Foothills Association of Realtors
PhRMA
Planned Parenthood Southern California Affiliates
Pomona Chamber
Rancho Southeast Association of Realtors
Recording Industry Association of America
Regional Black Chamber - San Fernando Valley
Regional San Gabriel Valley Chamber
Rosemead Chamber
San Gabriel Chamber
San Gabriel Valley Civic Alliance
San Gabriel Valley Economic Partnership
Santa Clarita Valley Chamber
Santa Clarita Valley Economic Development Corp.
San Pedro Peninsula Chamber
Santa Monica Chamber
Santa Monica Junior Chamber
Sherman Oaks Chamber of Commerce
South Bay Association of Chambers
South Bay Association of Realtors
Southern California Contractors Association
Southern California Golf Association
Southern California Grantmakers
Southern California Minority Supplier Development Council Inc.
Southern California Water Coalition
Southland Regional Association of Realtors
The Young Professionals at the Petroleum Club
Torrance Area Chamber
Town Hall Los Angeles
Tri-Counties Association of Realtors
United Chambers San Fernando Valley
United States-Mexico Chamber
Unmanned Autonomous Vehicle Systems Association
US Resiliency Council
Valley Economic Alliance
Valley Economic Development Corp.
Valley Industry & Commerce Association
Vernon Chamber
Vietnamese American Chamber
Warner Center Association
West Hollywood Chamber
West Los Angeles Chamber
West San Gabriel Valley Association of Realtors
West Valley/Warner Center Chamber
Western Manufactured Housing Association
Western States Petroleum Association
Westside Council of Chambers
Westwood Village Rotary Club
Wilmington Chamber
World Trade Center
Young Professionals in Energy - LA Chapter

CALIFORNIA COASTAL COMMISSION
South Coast District Office
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Long Beach, CA, 90802
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February 21, 2019

Ping Chang
Southern California Association of Governments
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Los Angeles, CA 90017

RE: Connect SoCal 2020-2045 Regional Transportation Plan/Sustainable Community Strategy Comments on Notice of Preparation of Environmental Impact Report (SCH # 2019011061)

Dear Mr. Chang:

The above referenced Notice of Preparation of an Environmental Impact Report (EIR) for a four year update to the Regional Transportation Plan and Sustainable Communities Strategy (Plan) for the Southern California Association of Governments planning area was received by Coastal Commission staff on via the State Clearinghouse on January 30, 2019. We appreciate the opportunity to comment on the environmental review process for the Regional Plan update. One of the primary tenets of the Coastal Act is to protect and enhance coastal resources and public access to the coast, which requires well-planned residential, commercial, and public infrastructure and an interconnected public transportation system. Several of the policy objective categories of the Plan, including Biological Resources and Open Space Preservation, Hydrology and Water Resources, Recreation, and Population and Housing, create an opportunity to enhance Southern California's transportation system, provide housing and jobs within urban areas well served by the transportation system, and protect coastal resources in a manner that is supportive of the Coastal Act. This update provides an opportunity to enhance those sections of the Plan, considering current infrastructure, planned future infrastructure, and environmental conditions including sea level rise. Given the Coastal Commission's mandate to protect coastal resources through planning and regulation of the use of land and water within the Coastal Zone, staff are providing the following comments and topics that should be analyzed in the EIR.

1) Coastal Transportation Corridor Improvements. Major transportation corridors within the Coastal Zone are Interstate 5 from the southern Orange County line to San Clemente, Pacific Coast Highway (SR 1) from San Clemente to Oxnard, and US 101 through Ventura County. These coastal transportation corridors bisect or are located directly adjacent to sensitive marine resources including coastal lagoon systems, maritime chaparral and coastal sage scrub, and the Pacific Ocean. Impacts to these resources are restricted by Coastal Act policies. Except for specific instances, fill of a wetland or other coastal waters is prohibited (Section 30233), and marine resources (Section 30230), water quality (Section 30231), and environmentally sensitive habitat areas (Section 3024) often associated with the coastal environment are protected. Many of these coastal systems and habitat areas have already significantly deteriorated due to historical transportation infrastructure and residential development. Future transportation improvements in the Coastal Zone (e.g. the regional projects list in the Plan) should seek to upgrade existing infrastructure and reduce impacts to the natural environment. Strategies include development of new highways and bridges with less fill of coastal waters and less coverage of natural habitat than current infrastructure, relocation of highways and other public infrastructure that are threatened by erosion and storm damage, and habitat restoration in areas which have previously been degraded by transportation

infrastructure (e.g. lagoon systems adjacent to Pacific Coast Highway). Please analyze the Plan scenarios for their capacity to avoid adverse impacts to coastal resources and restore and enhance the natural environment.

2) Sea Level Rise. Coastal Act Section 30253 requires that new development minimize risks to life and property from hazards and to assure stability and structural integrity without the use of a shoreline protective device. Thus, understanding the potential impacts of climate change and sea level rise is of critical importance when beginning long-range planning efforts so as to ensure that land use decisions and development projects are not designed in a way that will put investments at risk from coastal hazards. Given the proximity of significant portions of the County's key regional infrastructure to the coast (e.g. highways, airports, power plants), it is imperative that transportation and land use plans carefully anticipate the effects of sea level rise and associated hazards. Ensuring that new coastal infrastructure is designed to adapt to the effects of sea level rise throughout the expected life of the infrastructure is a principal concern of the Coastal Commission. Please review the Commission's Sea Level Rise Policy Guidance (https://www.coastal.ca.gov/climate/slrguidance.html), which was based on two reports – the Ocean Protection Council's April 2017 *Rising Seas in California: An Update of Sea-Level Rise Science* and its 2018 *State Sea-Level Rise Guidance*. The 2016 RTP/SCS references climate change and sea level rise (e.g. the 2012 National Research Council Report, *Sea Level Rise for the Coasts of California, Oregon, and Washington*), but 2016 RTP/SCS does not make clear that sea level rise conditions must be modeled for the entirety of the expected life of new infrastructure projects, which in the case of rail and highway bridges is considered to be 100 years. The updated Plan should include policies requiring regional sea level rise planning and coordination. The Plan should also include regional maps showing various sea level rise scenarios (including a severe scenario) and policies requiring new projects in the Coastal Zone undergo specific sea level rise analysis of tidal and fluvial hydraulics as applied to the local area and in the context of storm surge, wave run-up, erosion, and other variables.

If the Plan references key pieces of existing and planned infrastructure that may be temporarily flooded or perpetually inundated by water in the next 75 to 100 years, then the EIR should analyze potential adaptation measures that minimize adverse impacts to coastal resources and enhance public access to the coast. The EIR should analyze whether existing and planned infrastructure will need to be protected from coastal hazards, such as flooding and erosion. Such protection often includes seawalls and revetments, which adversely affect public access because they block access to the beach, accelerate erosion, and result in the loss of public recreational areas. The Plan should anticipate such impacts and prioritize projects which avoid the impacts (e.g. relocation or elevation of vulnerable segments of highways and rail). Additionally, the EIR should analyze options for relocation of vulnerable infrastructure away from hazardous conditions.

3) Public Access and Recreation. A fundamental pillar of the Coastal Act is the protection and provision of public access to and along the coast. Coastal Act sections 30210 and 30212 require that maximum opportunities for public access and recreation be provided in new development projects, consistent with public safety, private property rights, and natural resource protection. Additionally, Section 30252 dictates that new development should maintain and enhance public access through such actions as facilitating transit service, providing non-automobile options, and providing adequate parking.

Accordingly, the EIR should evaluate the Plan scenarios for consistency with the above-mentioned policies. In particular, there should be an analysis of how the Plan would maximize access to the coast (including beaches, parks, and open spaces), including options for public transit, non-motorized vehicles, and pedestrian routes throughout the region. This analysis should identify options to facilitate access to beaches and coastal areas from the inland portions of the region, as well as options for enhancing connections to public transit, the California Coastal Trail, and other visitor-serving recreational opportunities. Improvements to coastal access routes may be planned as coordinated projects which enhance vehicle flow and safety, increase bicycle capacity, increase pedestrian capacity, and restore the natural environment. One area where such a coordinated approach should be analyzed is along Pacific Coast Highway in Orange County and Los Angeles County – this corridor is already heavily utilized by coastal visitors and portions of the corridor are likely to be part of the California Coastal Trail. Bicycle and pedestrian facilities are particularly lacking along Pacific Coast Highway in Northern Los Angeles County, Malibu, and Southern Ventura County.

Importantly, the EIR should also analyze the potential negative impacts to public access and recreation that could arise from the various transportation and land use scenarios identified in the Plan. Scenarios that would lead to additional traffic along critical coastal highways should be analyzed for their potential impacts to public access and recreation, and potential impacts to the natural environment. A transportation capacity analysis of existing and planned transportation infrastructure should be performed for not only peak commuter periods (e.g. morning rush hour) but for peak recreational periods (e.g. a summer weekend with high demand by beach users). Transportation projects which increase capacity to reach the coast by modes other than private automobiles should be prioritized.

4) Concentration of Development. Coastal Act Section 30250 generally requires that new development within the Coastal Zone be located within, contiguous with, or in close proximity to existing developed areas. Coastal Act Section 30253 requires new development to be sited in a manner that will minimize energy consumption and vehicle miles travelled. In this way, the Coastal Act encourages smart growth patterns that recognize a strong urban-rural boundary to ensure protection of coastal resources. Accordingly, the EIR should analyze the extent to which various Plan scenarios, as well as the broader goals of the Sustainable Communities Strategy, would be consistent with Coastal Act goal to concentrate development and reduce vehicle miles travelled. Based on the summary in the scoping notice, the Intensified Land Use Alternative appears to be consistent with Coastal Act policies, to the extent that it prioritizes development in urban areas and around high quality transit corridors, rather than in rural and exurban areas which tends to adversely impact natural habitat and increase vehicle miles travelled.

Finally, the Plan's greenhouse gas emissions targets must be consistent with the Executive Order B-30-15 goal of reducing California's GHG emissions to 40 percent below 1990 levels by 2030 and the Executive Order S-3-05 goal of reducing California's GHG emissions to 80 percent below 1990 levels by 2050. While the 2016 RTP/SCS prioritized investment in transit and active transportation more than any previous RTP, it does not appear to have reduced vehicle miles traveled consistent with Coastal Act Section 30253. The EIR for the Plan update should include additional analysis of transportation and land use scenarios which are most protective of sensitive coastal and environmental resources while at the same time achieving the Plan objectives of improving the transportation system, increasing housing and allowing people to live closer to where they work and play. While there may be existing constraints that

make the Intensified Land Use scenario difficult to implement today, the RTP/SCS is a long-range planning document and there will likely be changes in policy and funding for transit and housing within its planning horizon – especially if SCAG advocates for such changes. As such, SCAG should place a greater emphasis on the prioritization of public transit and active transportation projects, with increased housing density around such high quality transit areas, and include analysis of such projects in the EIR.

Thank you for the opportunity to comment on the environmental review for the update to the Regional Transportation Plan and Sustainable Communities Strategy. We look forward to future collaboration on improvements to the transportation system and land use synchronization within Southern California, and appreciate the commitment within the current (2016) RTP/SCS to preserve and enhance coastal resources. Coastal Commission staff request notification of any future activity associated with this project or related projects. Please contact me at (562) 590-5071 with any questions.

Sincerely,

Zach Rehm
Senior Transportation Program Analysts

Cc: Tami Grove, Statewide Development and Transportation Program Manager
Steve Hudson, South Central Coast (Ventura County) and South Coast (LA County) District Director
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Making Conservation a California Way of Life.

February 22, 2019

Mr. Rowland Ok
Southern California Association of Governments
900 Wilshire Boulevard Suite 1700
Los Angeles, CA 90017

File: IGR/CEQA
SCH#: N/A
DOC#: 12-MULTIPLE-2019-00099

Dear Mr. Ok,

Thank you for including the California Department of Transportation (Caltrans) in the review of the Regional Transportation Plan (RTP) for the proposed Connect SoCal 2020 Regional Transportation Plan/Sustainable Communities Strategy (SCS) Update. The mission of Caltrans is to provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability.

Connect SoCal is Southern California's Association of Government's (SCAG) 2020 update to their long-range visioning plan. This long-range plan is a collective vision for the region's future needs with input from multiple stakeholders. This plan balances future mobility and housing needs with economic, environmental and equity goals. The long-range plan spans the Southern California region, including Ventura, Los Angeles, Orange, San Bernardino, Riverside, and Imperial Counties. Caltrans is a responsible agency and has the following comments:

Transportation Planning:

1. The RTP/SCS should draw from the California Transportation Plan (CTP) 2040 and be consistent with the goals set in the CTP as it provides safety, economic, accessibility, and environmental objectives for the California Transportation System. The CTP integrates a number of long-range transportation plans including the California Freight Mobility Plan, State Rail Plan, Transit Strategic Plan, etc. The CTP would be an important resource and framework for the RTP/SCS.

2. The criteria for project selection into the RTP/SCS should be consistent for all projects and agencies independent of funding status, in order to address the region's transportation needs and issues.

3. Climate change possesses an immediate concern and threat to the State's transportation network. California Senate Bill 379 requires all cities and counties to include climate adaptation and resiliency strategies to be included into their general plans. Multiple local and regional agencies have adopted Climate Action Plans (CAP) to address SB 379. Caltrans has conducted a Statewide Vulnerability Assessment in order to identify areas and communities of immediate concern. The RTP/SCS should review local and regional

CAPs and the Vulnerability Assessment for Orange County and coordinate with Caltrans to implement improvements against climate change.

4. Caltrans recognizes the drawbacks of an auto-centric transportation system and has pushed to support multimodal transportation. As such, Caltrans has implemented Complete Streets aspects in all appropriate Caltrans projects. Complete Streets incorporate design features that provide safe mobility for all users of the road including: pedestrians, bicyclists, transit users, freight, and motorists. Implementation of Complete Streets throughout the region would improve safety, air quality, and congestion reduction.

5. In commitment to a multimodal transportation system, Caltrans provides support to local agencies in their active transportation program from the early project planning and development phase through construction and maintenance. The RTP/SCS should include policies that coordinate with Caltrans and other partners to foster growth of bicycle networks and improvement of safety of pedestrians and bicyclists, such as Vision Zero.

6. Transportation needs are closely integrated to land use. Caltrans, in coordination with the US Environmental Protection Agency, the Governor's Office of Planning and Research (OPR), and the California Department of Housing and Community Development developed the Smart Mobility Framework in order to bridge transportation and land use. The framework provides guidance on how well plans, programs, and projects meet a definition of "smart mobility". It can be used by both Caltrans and partner agencies to transform transportation decisions.

7. The RTP should prioritize system and service improvements that serve places with good regional accessibility, higher densities of population and jobs, and mixed land uses, or improvements that support evolution of these characteristics. The RTP/SCS should advocate for the creation of secure funding sources for both transit capital improvements and operations in these areas, considering the extremely significant role of transit in the future, to increase the number of High-Quality Transportation Areas. This would coincide with the goals set by SB 743, which focuses on the creation of transit-oriented infill projects.

8. The California Air Resources Board's (ARB) SB 150 Report indicates that the RTP/SCS housing goals, particularly those for low income housing, are not being achieve. Developing and utilizing policies favorable to housing construction and coordination with local land-use authorities would work towards fixing the State's housing needs. The RTP/SCS should focus on a supply of housing and provide economic development in areas that allows people of all incomes and abilities to live within a reasonable distance of jobs, schools, shopping, and other important destinations, in order to reduce vehicle miles traveled (VMT).

9. California Natural Resources Agency recently adopted new CEQA Guidelines, which include SB 743. Caltrans will work with OPR, ARB, regional and local transportation entities and other interested parties to develop and implement the Department's method for implementing SB 743 in CEQA review of projects on the State Highway System. Under the directive of SB 743 Caltrans is moving forward to utilizing VMT as the primary metric to analyze traffic impacts, replacing LOS. The RTP/SCS should provide policies that include VMT reduction strategies. This would aid in meeting many of the State's air quality improvement and GHG reduction goals set by policies such as AB 32.

10. Caltrans District 12 have conducted multiple Managed Lanes studies as an option to mitigate future congestion and satisfy transportation needs. Please review and incorporate the Managed Lanes Feasibility Study and the Managed Lanes Network Study to the RTP/SCS update.

11. The RTP/SCS should also address how the SCAG region works to achieve an inter-regional network for longer-distance travel and freight movement. Connecting towns, cities, and regions to each other, business centers to major intermodal freight transfer points, and commuters to national and international destinations outside of the SCAG region in a sustainable and efficient manner, should be an important objective.

12. The RTP should discuss ease of access and possible improvements to municipal and regional airports as they are an integral part to the transportation network.

Please continue to keep us informed of this project and any future developments that could potentially impact State transportation facilities. If you have any questions or need to contact us, please do not hesitate to contact Scott Shelley at (657) 328-6164 or Scott.Shelley@dot.ca.gov.

Sincerely,

SCOTT SHELLEY
Branch Chief, Regional-IGR-Transit Planning
District 12

February 22, 2019

Sent via email and FedEx

Roland Ok
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Re: Notice of Preparation of a Program Environmental Impact Report for Connect SoCal 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (State Clearing House Number 2019011061)

Dear Mr. Ok:

These comments are submitted on behalf of the Center for Biological Diversity (the "Center") regarding the Notice of Preparation ("NOP") of a Program Environmental Impact Report ("PEIR") for Connect SoCal 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy ("RTP/SCS"). The Center has reviewed the NOP closely and provides these comments for consideration by SCAG as it prepares the PEIR for the RTP/SCS.

As the NOP acknowledges, SCAG covers a large portion of the state and will impact approximately 49 percent of California's population. The RTP/SCS is intended to serve as a foundational document for land use planning across six counties (Imperial, Los Angeles, Orange, San Bernardino and Ventura) and impact approximately 20 million people. Additionally, Southern California is a biodiversity hotspot with many endemic species and unique habitats, and it is home to the most impacted mountain lion populations in California. The health of these populations and ecosystems are intertwined with human well-being. To truly "connect" SoCal and promote "sustainable" communities, land use policy needs to facilitate a more wholistic approach that addresses human transportation and development needs, the needs of wildlife and habitats that are fragmented by transportation infrastructure and development, and how we can make human and natural communities more resilient to climate change. Because of the broad scope and significant, long-range impact of the RTP/SCS, the Center urges SCAG to carefully and thoroughly consider the potential environmental impacts on the community and wildlife, including those raised in these comments, when preparing the PEIR and RTP/SCS.

The Center is a non-profit, public interest environmental organization dedicated to the protection of native species and their habitats through science, policy, and environmental law. The Center has over 1.4 million members and online activists throughout California and the

United States. The Center and its members have worked for many years to protect imperiled plants and wildlife, open space, air and water quality, and overall quality of life for people in Southern California.

I. SCAG Must Adopt an Ambitious, Aggressive RTP/SCS to Meet SB 375 GHG Emission Reduction Mandates and Reverse the Trend of Increasing Vehicle Travel

Over 10 years ago, the California Legislature adopted the Sustainable Communities and Climate Protection Action of 2008, known as SB 375, to integrate transportation, land use and housing decision-making to reduce overall greenhouse gas ("GHG") emissions. The California Air Resources Board (CARB) has repeatedly noted the important role SB 375 GHG emission reduction targets are to the state's overall strategy to meet its climate change targets. (See California Air Resources Board. November 2017. California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target at 101 ["CARB 2017 Scoping Plan"].) While Metropolitan Planning Organizations ("MPO") like SCAG have adopted RTP/SCS in the subsequent decade, it is clear that previous RTP/SCS have not gone far enough to adequately address California's GHG emission reduction targets.

In a November 2018 report, CARB completed an in-depth analysis showing California is not on track to meet the greenhouse gas reductions under SB 375. (CARB, 2018 Progress Report: California's Sustainable Communities and Climate Protection Act [November 2018] ["CARB 2018 Progress Report"].) This is largely because emissions from passenger vehicle travel per capita are *increasing* under the state's regional SCSs and RTPs, rather than decreasing as SB 375 intended. (*Id.* at 4, 22-28.) Therefore, greater reductions in the transportation sector are essential to meet California's climate goals. ***The key takeaway from CARB's report is that more needs to be done and the Center hopes SCAG follows that message when preparing its PEIR and RTP/SCS.*** (*Id.* at 3-5.)

A. Climate Change is a Catastrophic and Pressing Threat to California

A strong, international scientific consensus has established that human-caused climate change is causing widespread harms to human society and natural systems, and climate change threats are becoming increasingly dangerous. In a 2018 *Special Report on Global Warming of 1.5°C* from the Intergovernmental Panel on Climate Change (IPCC), the leading international scientific body for the assessment of climate change describes the devastating harms that would occur at 2°C warming, highlighting the necessity of limiting warming to 1.5°C to avoid catastrophic impacts to people and life on Earth (IPCC 2018). The report provides overwhelming evidence that climate hazards are more urgent and more severe than previously thought, and that aggressive reductions in emissions within the next decade are essential to avoid the most devastating climate change harms.

The impacts of climate change will be felt by humans and wildlife. In addition to warming, many other aspects of global climate are changing, primarily in response to human activities. Thousands of studies conducted by researchers around the world have documented

changes in surface, atmospheric, and oceanic temperatures; melting glaciers; diminishing snow cover; shrinking sea ice; rising sea levels; ocean acidification; and increasing atmospheric water vapor (USGCRP 2017). In California, climate change will transform our climate, resulting in such impacts as increased temperatures and wildfires, and a reduction in snowpack and precipitation levels and water availability.

In response to inadequate action on the national level, California has taken steps through legislation and regulation to fight climate change and reduce statewide GHG emissions. Enforcement and compliance with these steps is essential to help stabilize the climate and avoid catastrophic impacts to our environment. California has a mandate under AB 32 to reach 1990 levels of GHG emissions by the year 2020, equivalent to approximately a 15 percent reduction from a business-as-usual projection. (Health & Saf. Code § 38550.) Based on the warning of the Intergovernmental panel on Climate Change and leading climate scientists, Governor Brown issued an executive order in April 2015 requiring GHG emission reduction 40 percent below 1990 levels by 2030. (Executive Order B-30-15 (2015).) The Executive Order is in line with a previous Executive Order mandating the state reduce emission levels to 80 percent below 1990 levels by 2050 in order to minimize significant climate change impacts. (Executive Order S-3-05 (2005).) That Executive Order's goal has now been incorporated into California's 2017 Scoping Plan update—its plan to achieve greenhouse gas emissions reductions. Thus, the 2017 Scoping Plan update set out strategies for putting the State on a path to toward the 2050 climate goal to reduce GHG emissions by 80 percent below 1990 levels. (See CARB 2017 Scoping Plan.) More recently, Governor Brown signed a new executive order to put California on the track to go carbon neutral by 2045. (Executive Order B-55-18 (2018).) The Legislature also passed S.B. 100 which requires renewables to account for 60 percent of electricity sales in 2030.

B. CARB's 2018 Progress Report Lays Out Clear Deficiencies in Previous RTP/SCS and Provides a Path Forward

As the NOP acknowledges, SCAG's RTP/SCS will provide detailed land use, housing and transportation strategies for the region. Those strategies can significant impacts on the community, as CARB noted in its 2018 Progress Report:

> *growth patterns have a profound impact on both the health of individuals and the environment. Where jobs are located and homes are built, and what roads, bike lanes, and transit connect them, create the fabric of life. How regions grow impacts where people can afford to live, how long it takes to get to work, how people travel, who has easy access to well-paying jobs and educational opportunities, the air people breathe, whether it is easy to spend time outdoors and with friends, social cohesion and civic engagement, and ultimately, how long people live.*

(CARB Progress Report 2018 at 6.) In the report, CARB goes on to note that "to meet the potential of SB 375 will require state, regional, and local agency staff and elected officials to make more significant changes across multiple systems that address the interconnected

relationship of land use, housing, economic and workforce development, transportation investments, and travel choices." (*Id*.) While SCAG, like other MPOs, has failed to meet this potential previous RTP/SCS, it has the opportunity to do so now. The Center urges SCAG to do all it can to review and adopt the best practices suggested by CARB when drafting its PEIR and RTP/SCS. This includes the following general principles:

- Providing viable travel alternatives to individual passenger vehicles
- Providing housing choices for all income levels in neighborhoods with access to sustainable transportation choices and economic opportunities
- Building self-sustaining neighborhood that are accessible to and near daily needs

C. SCAG Should Mandate A Robust Range of Mitigation Measures to Meet SB 375 GHG Emissions Reduction Targets

SCAG has made clear that it intends to use the PEIR as a first-tier CEQA document and provide "program wide mitigation measures" that adequately address and reduce GHG emissions from passenger vehicles resulting from land use, housing and transportation planning in the region. (NOP at 2, 7 [*citing* CEQA Guidelines Sec. 15168; SB 375 (2008)].) Therefore the PEIR and associated RTP/SCS must fully comply with CEQA's strict mandates for mitigation.

Mitigation of a project's environmental impacts is one of the "most important" functions of CEQA and it is the "policy of the state that public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures which will avoid or substantially lessen the significant environmental effects of such projects." (*Sierra Club v. Gilroy City Council* (1990) 222 Cal.App.3d 30, 41; Pub. Res. Code § 21002.) As the California Attorney General has noted, programmatic plans to reduce GHG emissions pursuant to CEQA Guidelines section 15183.5 must "[i]dentify a set of specific, enforceable measures that, collectively, will achieve the emissions targets…." (California Attorney General's Office). Therefore, SCAG must include a robust range of mitigation measures that are concrete and fully enforceable as required by CEQA to address the likely significant GHG emissions that will result from the RTP/SCS. (*Lincoln Place Tenants Assn. v. City of Los Angeles* (2007) 155 Cal.App.4th 425, 445 ["A 'mitigation measure' is a suggestion or change that would reduce or minimize significant adverse impacts on the environment caused by the project as proposed."]); *Preserve Wild Santee v. City of Santee* (2012) 210 CA 4th 260, 281 [mitigation measures that are so undefined that their effectiveness is impossible to determine are legally inadequate].)

When feasible, SCAG should mandate adoption of on-site mitigation measures or avoid GHG emissions through changes in project design, as suggested by (Office of Planning and Research, Discussion Draft: CEQA and Climate Change (2018) at 16.) Only if on-site mitigation measures are infeasible, should SCAG consider local and regional mitigation measures. (*Id.* at 17.) Potential mitigation measures for SCAG to consider include but are not limited to:

- Electric vehicle charging facilities;
- Projects to facilitate and increase use of carpooling, vanpooling and ridesharing;

- Measures to increase use of public transit, increase public transit route and times of operation;
- Use of energy efficient lighting technology;
- Funding for purchase of alternative fuel buses;
- Use of less GHG-intensive construction materials than cement and asphalt;
- Measures to reduce idling time;
- Use of alternative fuel vehicles;
- Road dust reduction strategies;
- Availability for transit vouchers;
- Investment in bike path construction, improvement and storage facilities;

The Center hopes SCAG will, at a minimum, adopt these and other mitigation measures to meet its GHG emission reduction targets. However, just encouraging more zero-emission vehicles or taking small measures to encourage more public transit will not be enough. "CARB's 2030 Scoping Plan Update identifies additional VMT reduction beyond that included in the SB 375 targets as necessary to achieve a statewide target of 40 percent below 1990 level emissions by 2030. Even greater reductions will be needed to achieve the new carbon neutrality goal by 2045." (CARB 2018 Progress Report at 27, citing CARB 2017 Scoping Plan and Executive Order B-55-18. September 2018.) What is more, CARB points out that "[e]ven if the share of new car sales that are ZEVs grows nearly 10-fold from today, California would still need to reduce VMT per capita 25 percent to achieve the necessary reductions for 2030." (*Id*. at 28.)

Put simply, California will not achieve the necessary greenhouse gas emissions reductions to meet mandates for 2030 and beyond without significant changes to how communities and transportation systems are planned, funded and built. (CARB Progress Report 2018 at 27.) Instead fundamental changes in land use planning by local and regional land use agencies must occur. RTP/SCS by MPO's like SCAG have the potential to guide these fundamental changes in land use and transportation planning. Specifically, CARB discouraged the approval of large, exurban developments with limited public transit, jobs and commercial centers. As noted above, ***SCAG's RTP/SCS must prioritize infill, transit-oriented development while discouraging sprawl or greenfield development far from existing population and employment centers.*** The Center hopes will seize this opportunity when drafting its RTP/SCS to take one of the largest regions of California on a different, more sustainable path that truly addresses the climate crisis facing our state.

II. The Goals of the RTP/SCS Should Include Maintaining and Enhancing Wildlife Movement and Habitat Connectivity

In planning SCAG's long-range vision to balance future mobility and housing needs with economic, environmental, and public health goals, it is essential to consider the impacts of transportation infrastructure and development on the region's natural landscapes. While Southern California is a popular area for people to live and work, it is also a biodiversity hotspot with many endemic species and unique habitats, and it is home to the most impacted mountain lion populations in California. To truly forge sustainable communities resilient to climate change,

wildlife movement and habitat connectivity should be an integral factor in land use planning and policy. Impacts to these resources should be adequately assessed in the PEIR.

A. Avoidance and Minimization of Impacts to Wildlife Movement and Habitat Connectivity Must be Prioritized.

The PEIR should prioritize avoiding and minimizing impacts of the RTP/SCS on wildlife movement and habitat connectivity. Roads and traffic create barriers that lead to habitat loss and fragmentation, which harms wildlife and people. As barriers to wildlife movement and the cause of injuries and mortalities due to wildlife vehicle collisions, roads and traffic can affect an animal's behavior, movement patterns, reproductive success, and physiological state, which can lead to significant impacts on individual wildlife, populations, communities, and landscapes (Mitsch and Wilson 1996; Trombulak and Frissell 2000; van der Ree et al. 2011; Haddad et al. 2015; Marsh and Jaeger 2015; Ceia-Hasse et al. 2018). For example, habitat fragmentation from roads and traffic has been shown to cause mortalities and harmful genetic isolation in mountain lions in southern California (Riley et al. 2006, 2014, Vickers et al. 2015), increase local extinction risk in amphibians and reptiles (Cushman 2006; Brehme et al. 2018), cause high levels of avoidance behavior and mortality in birds and insects (Benítez-López et al. 2010; Loss et al. 2014; Kantola et al. 2019), and alter pollinator behavior and degrade habitats (Trombulak and Frissell 2000; Goverde et al. 2002; Aguilar et al. 2008). In addition, wildlife vehicle collisions pose a major public safety and economic threat. Over the last three years (2015-2017) it is estimated that 7,000 to 23,000 wildlife vehicle collisions (with large mammals) have occurred annually on California roads (Shilling et al. 2017; Shilling et al. 2018, State Farm Insurance Company 2016, 2018). These crashes result in human loss of life, injuries, emotional trauma, and property damages that can add up to $300-600 million per year. Thus, avoiding and minimizing impacts of transportation projects and development on wildlife movement and habitat connectivity would help preserve biodiversity and ecosystem health while protecting human health and safety.

B. The PEIR Should Adequately Assess the Impacts of the RTP/SCS on Functional Connectivity.

The PEIR should ensure that effective, functional wildlife corridors that support multiple species movement are preserved. These should include continuous, intact habitats (not fragmented by roads or other anthropogenic features) that are wide enough to overcome edge effects, dominated by native vegetation, and have equal or higher habitat quality than core habitat patches (Bennett et al. 1994; Brooker et al. 1999; Forman 1995; Tilman et al 1997; Hilty et al 2006). Negative edge effects from human activity, traffic, lighting, noise, domestic pets, pollutants, invasive weeds, and increased fire frequency have been found to be biologically significant up to 300 meters (~1000 feet) away from development in terrestrial systems (Environmental Law Institute 2003).

C. The RTP/SCS Should Consider the Impacts of Climate Change and Should Incorporate Climate Adaptation Strategies for Wildlife Movement and Habitat Connectivity

The PEIR should consider the impacts of climate change on wildlife movement and habitat connectivity in the design and implementation of projects and any mitigation. Climate change is increasing stress on species and ecosystems, causing changes in distribution, phenology, physiology, vital rates, genetics, ecosystem structure and processes, and increasing species extinction risk (Warren et al. 2011). A 2016 analysis found that climate-related local extinctions are already widespread and have occurred in hundreds of species, including almost half of the 976 species surveyed (Wiens 2016). A separate study estimated that nearly half of terrestrial non-flying threatened mammals and nearly one-quarter of threatened birds may have already been negatively impacted by climate change in at least part of their distribution (Pacifici et al. 2017). A 2016 meta-analysis reported that climate change is already impacting 82 percent of key ecological processes that form the foundation of healthy ecosystems and on which humans depend for basic needs (Scheffers et al. 2016). Genes are changing, species' physiology and physical features such as body size are changing, species are moving to try to keep pace with suitable climate space, species are shifting their timing of breeding and migration, and entire ecosystems are under stress (Parmesan and Yohe 2003; Root et al. 2003; Parmesan 2006; Chen et al. 2011; Maclean and Wilson 2011; Warren et al. 2011; Cahill et al. 2012).

As SCAG is aware, state agencies must take climate change into account in their planning and investment decisions, see Public Resources Code §§ 71150-55 (Climate Change and Climate Adaptation). The law specifically mandates that all state agencies "take into account the current and future impacts of climate change when planning, designing, building, operating, maintaining and investing in state infrastructure." Public Res. Code § 71155. Thus, the RTP/SCS must also climate change and adaptation into account. There are many tools available for incorporating climate adaptation in planning. In 2018, the California Natural Resources Agency updated the Climate Adaptation Strategy[1] which recognizes the critical role infrastructure and mitigation planning have in meeting climate adaptation goals. Indeed, several of the key principles relate directly to infrastructure planning and emphasize the need for coordination (California Natural Resources Agency 2018):

> −Principle 5: Prioritize natural infrastructure solutions build climate preparedness, reduce greenhouse gas emissions, and produce other multiple benefits.
> − Principle 6: Promote collaborative adaptation processes with federal, local and regional government partners.
> − Principle 7: Increase investment in climate change vulnerability assessments of critical built infrastructure systems.

[1]Information available at http://resources.ca.gov/climate/safeguarding/ and http://cal-adapt.org/

D. The PEIR Should Ensure the RTP/SCS Promotes Wildlife Corridor Redundancy to Improve Functional and Resilient Connectivity.

To minimize project impacts to wildlife connectivity, the RTP/SCS should incorporate wildlife corridor redundancy (*i.e*. the availability of alternative pathways for movement) in project plans and mitigation. Corridor redundancy is important in regional connectivity plans because it allows for improved functional connectivity and resilience. Compared to a single pathway, multiple connections between habitat patches increase the probability of movement across landscapes by a wider variety of species, and they provide more habitat for low-mobility species while still allowing for their dispersal (Olson and Burnett 2008; Pinto and Keitt 2008; Mcrae et al. 2012). In addition, corridor redundancy provides resilience to uncertainty, impacts of climate change, and extreme events, like flooding or wildfires, by providing alternate escape routes or refugia for animals seeking safety (Mcrae et al. 2008; Olson and Burnett 2008; Pinto and Keitt 2008; Mcrae et al. 2012; Cushman et al. 2013).

E. The PEIR Should Ensure Adequate Mitigation Measures for Impacts to Wildlife Movement and Habitat Connectivity.

If impacts to wildlife movement and habitat connectivity are unavoidable, the PEIR should ensure that impacts are mitigated using the best available science to maintain and/or enhance wildlife connectivity. When appropriately implemented, wildlife crossing infrastructure has been shown to improve wildlife permeability and reduce wildlife vehicle collisions (Dodd Jr et al. 2004; Bissonette and Rosa 2012; Dodd et al. 2012; Sawyer et al. 2012; Sawaya et al. 2014; Kintsch et al. 2018). Wildlife crossing infrastructure design and implementation should be prepared and conducted in consultation with the California Department of Fish and Wildlife (CDFW) and other stakeholders, including federal and state agencies, academic institutions, non-governmental agencies, local experts and the public. Local and regional wildlife movement, habitat connectivity, and wildlife vehicle collision data should be collected and analyzed in the project area before projects are approved and budgets are set (Lesbarrères and Fahrig 2012; Shilling et al. 2018). New and renovated roads and developments should be designed with wildlife connectivity in mind – it is easier to plan a new road to avoid or minimize impacts to wildlife connectivity than it is to retroactively build wildlife crossings.

To provide appropriate mitigation for habitat connectivity and wildlife movement, the effectiveness of wildlife crossing infrastructure planning, design, and strategies should be thoroughly and systematically evaluated to determine which strategies work better than others and how they can be improved. Any mitigation involving crossing infrastructure should include the long-term monitoring and maintenance of crossing infrastructure as well as the use of appropriate metrics that adequately reflect effectiveness, such as species passage rates and counts of wildlife vehicle collision occurrences. The data and evaluations should inform future mitigation strategies and be made available to the public.

Mitigation via conservation easements should be in-kind within the project area or as close as possible within an ecologically meaningful unit, such as a watershed. Easements should be established and appropriately funded in perpetuity.

III. The PEIR Should Adequately Assess the Impacts of the RTP/SCS on Public Health and the Economy

The PEIR should adequately assess how the RTP/SCS impacts public health and safety and the economy. According to Caltrans, Californians seek more opportunities for walking, biking, or using public transit (Caltrans 2016), yet most transportation infrastructure efforts are focused on building and expanding more roads to accommodate (and facilitate) more cars. According to a 2017 analysis by INRIX, Los Angeles is the most congested city in the US; residents spend over 100 hours a year stuck in traffic, which is estimated to cost the city's economy over $19 billion (Mccarthy 2018). Long commutes cause increased stress levels and leave little to no time to exercise or spend time with families or communities, which can lead to mental and physical health impacts, reduced quality of life, and shorter life spans (Ewing et al. 2003; Leyden 2003; Frumkin et al. 2004). In addition, emissions from road transportation contribute to poor air quality that can lead to serious health effects, including respiratory and cardiovascular disease, compromised birth outcomes, and premature death (Lin et al. 2002; Andersen et al. 2011; Caiazzo et al. 2013; Chen et al. 2017). A recent study found that emissions from road transportation cause 53,000 premature deaths annually in the US, and California has about 12,000 early deaths every year due to air pollution from road transportation and commercial/residential sources (Caiazzo et al. 2013). Thus, roads and other transportation infrastructure should be made safer for drivers and communities where there are roads. Major cities around the world are acknowledging the detrimental effects of roads and traffic on people, and they are shifting their land use design focus from cars to human health and well-being (Conniff 2018). By reducing the amount of new roads and promoting design oriented towards pedestrians, cyclists, and transit instead of cars, SCAG has the opportunity to facilitate the implementation of transportation infrastructure that improves public health and safety and preserves wildlife connectivity.

IV. The PEIR Should Use the Best Available Science to Identify Wildfire Risk and Impacts of More Frequent Fires Due to Human Activities and Land Use

The Center is encouraged to see that SCAG has added wildfire as an environmental factor within the scope of the environmental analysis to be considered in the PEIR. The PEIR should adequately assess the risk and impacts of increased wildfire ignitions on public health and safety as well as on biological resources. Wildfire is a natural and necessary part of California's ecosystems. Forests, shrublands, and grasslands are adapted to fire and need fire to rejuvenate, although different habitats rely on different fire frequencies. In addition, climate change is leading to hotter, drier conditions that make fires more likely to burn, and people are starting more fires in more places throughout the year. In Southern California, sprawl developments with low/intermediate densities extending into chaparral and sage scrub habitats that are prone to fire have led to more frequent wildfires caused by human ignitions, like arson, improperly disposed cigarette butts, debris burning, fireworks, campfires, or sparks from cars or equipment (Keeley et al. 1999; Keeley and Fotheringham 2003; Syphard et al. 2007; Syphard et al. 2012; Bistinas et al. 2013; Balch et al. 2017; Radeloff et al. 2018). Human-caused fires account for 97% of all fires in Mediterranean California, which includes the SCAG region (Balch et al. 2017), and homes filled with petroleum-based products, such as wood interiors, paint, and furniture, provide additional fuel for the fires to burn longer and spread farther.

Much of the SCAG region is dominated by chaparral and sage scrub, native California habitats that rely on wildfires to persist. These habitats are adapted to infrequent (every 30 to 150 years), large, high-intensity crown fire regimes (Keeley and Fotheringham 2001), and if these regimes are disrupted, the habitats become degraded (Keeley 2005; Keeley 2006; Syphard et al. 2018). When fires occur too frequently, type conversion occurs and the native shrublands are replaced by non-native grasses and forbs that burn more frequently and more easily, ultimately eliminating native habitats and biodiversity while increasing fire threat over time (Keeley 2005; Keeley 2006; Syphard et al. 2009; Safford and Van de Water 2014; Syphard et al. 2018). We can no longer dismiss California's natural fire regime and the direct relationship between urban sprawl, roads, and deadly wildfires. The devastating environmental, health, social, and economic costs of poorly-planned, leapfrog developments in high fire-prone areas cannot be sustained (see Yap 2018).

The Center urges SCAG to protect human lives, property, and native biodiversity, by reforming growth strategies to focus on avoiding the placement of developments and roads in high fire threat areas. After the deadly and destructive Camp and Woolsey Fires in 2018, retired Cal Fire Director Ken Pimlott recommended that home construction in high fire-prone areas should be banned, stating that "we owe it" to homeowners, firefighters, and communities to make better local land use planning decisions to keep people safe and make communities more resilient (Thompson 2018). Urban planning and design should focus on infill development in urban core areas, where wildfire threat is lower and people have access to jobs, public transit, and community.

Existing communities in fire-risk areas should be incentivized to complete retrofits with features that have been shown to reduce the risk of destruction due to wildfires, such as ember-resistant vents, fire-resistant roofs, 100 feet of surrounding defensible space, rain gutter guards, and external sprinklers with an independent water source (Quarles et al. 2010; Syphard et al. 2014; California Chaparral Institute 2018). However, although these fire-resistant structural features are important, fire safety education and enforcement for home and property owners are vital for these safety measures to be effective. Proper maintenance and upkeep of the structural fire-resistant features and the immediate surroundings (*e.g.*, removing leaf litter from gutters and roofing; removing flammable materials like wood fences, overhanging tree branches, or trash cans away from the home) are required to reduce the chances of the structures burning. In addition, education about how to prevent fire ignitions in existing communities in high fire-prone areas would further reduce fire risk.

V. Conclusion

Thank you for the opportunity to submit comments on the Notice of Preparation of a Program Environmental Impact Report for Connect SoCal (2020-2045 Regional Transportation Plan/Sustainable Communities Strategy). Please add the Center to your notice list for all future updates to the PEIR and RTP/SCS. We look forward to working with SCAG to foster land use policy and growth patterns that promote wildlife movement and habitat connectivity and move towards the State's climate change goals. Please do not hesitate to contact the Center with any questions at the number or email listed below.

Sincerely,

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February 22, 2019

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Subject: Comments on the Notice of Preparation of a Draft Programmatic Environmental Impact Report for the Connect SoCal Project; SCH# 2019011061; Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties

Dear Mr. Chang:

The California Department of Fish and Wildlife (CDFW) has reviewed the above-referenced Notice of Preparation (NOP) for the Connect SoCal Draft Programmatic Environmental Impact Report (DPEIR) prepared by the Southern California Association of Governments (SCAG) pursuant to the California Environmental Quality Act (CEQA; Pub. Resources Code, § 21000 et. seq.)

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code.

CDFW's Role

CDFW is California's Trustee Agency for fish and wildlife resources and holds those resources in trust by statute for all the people of the State [Fish & Game Code, §§ 711.7, subdivision (a) & 1802; Public Resources Code, § 21070; California Environmental Quality Act (CEQA) Guidelines, § 15386, subdivision (a)]. CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species (Id., § 1802). Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect state fish and wildlife resources.

CDFW is also submitting comments as a Responsible Agency under CEQA (Public Resources Code, § 21069; CEQA Guidelines, § 15381). CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code, including Lake and Streambed Alteration (LSA) regulatory authority (Fish & Game Code, § 1600 et seq.). Likewise, to the extent implementation of the Project as proposed may result in "take" (see Fish & Game Code, § 2050) of any species protected under the California Endangered Species Act (CESA; Fish & Game Code, § 2050 et seq.) or the Native Plant Protection Act (NPPA; Fish & Game Code,

§1900 et seq.), CDFW recommends the project proponent obtain appropriate authorization under the Fish and Game Code.

Project Location: The Project will cover a six-county region including the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura.

Project Description/Objective: The Connect SoCal Project is also known as the 2020 Regional Transportation Plan and Sustainable Communities Strategy (Plan). This Plan is a regional planning document that is updated every four years pursuant to federal and state planning requirements (2016 version is now being updated). A DPEIR will be prepared and focus on the region's goals and policies for meeting current and future mobility needs, that will allow a coordinated transportation system. The DPEIR will identify needs and issues, recommended actions, and a list of projects needed to implement Connect SoCal.

There are three alternatives being looked at under the DPEIR:

1) A no project alternative;

2) 2020 Local Input Alternative. This alternative incorporates general plans to produce growth estimates and only uses policies and strategies incorporated into local jurisdictional plans; and,

3) Intensified Land Use Alternative. This alternative would use aggressive land use development patterns to maximize growth around high quality transit areas.

COMMENTS AND RECOMMENDATIONS

CDFW offers the following comments and recommendations to assist SCAG (Lead Agency) in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct and indirect impacts on fish and wildlife (biological) resources.

CDFW also recommends that SCAG include in the DPEIR measures or revisions below in a science-based monitoring program that contains adaptive management strategies as part of the Project's CEQA mitigation, monitoring and reporting program (Public Resources Code, § 21081.6 and CEQA Guidelines, § 15097).

General Comments

1) Project Description and Alternatives: To enable CDFW to adequately review and comment on the proposed Project from the standpoint of the protection of plants, fish, and wildlife, we recommend the following information be included in the DPEIR:

   a) A complete discussion of the purpose and need for, and description of, the proposed Project, including all staging areas and access routes to the construction and staging areas; and,

   b) A range of feasible alternatives to Project component location and design features to ensure that alternatives to the proposed Project are fully considered and evaluated. The alternatives should avoid or otherwise minimize direct and indirect impacts to sensitive biological resources and wildlife movement areas.

2) LSA: As a Responsible Agency under CEQA, CDFW has authority over activities in streams and/or lakes that will divert or obstruct the natural flow; or change the bed, channel, or bank (including vegetation associated with the stream or lake) of a river or stream; or use material from a streambed. For any such activities, the project applicant (or "entity") must provide written notification to CDFW pursuant to section 1600 et seq. of the Fish and Game Code. Based on this notification and other information, CDFW determines whether a LSA Agreement (Agreement) with the applicant is required prior to conducting the proposed activities. CDFW's issuance of an Agreement for a project that is subject to CEQA will require related environmental compliance actions by CDFW as a Responsible Agency. As a Responsible Agency, CDFW may consider the CEQA document prepared by the local jurisdiction (Lead Agency) for the Project. To minimize additional requirements by CDFW pursuant to section 1600 *et seq.* and/or under CEQA, the DPEIR should fully identify the potential impacts to the stream or riparian resources and provide adequate avoidance, mitigation, monitoring and reporting commitments for issuance of the LSA.[1]

   a) The Project area supports aquatic, riparian, and wetland habitats; therefore, a preliminary jurisdictional delineation of the streams and their associated riparian habitats should be included in the DPEIR. The delineation should be conducted pursuant to the U. S. Fish and Wildlife Service (USFWS) wetland definition adopted by the CDFW.[2] Some wetland and riparian habitats subject to CDFW's authority may extend beyond the jurisdictional limits of the U.S. Army Corps of Engineers' section 404 permit and Regional Water Quality Control Board section 401 Certification.

   b) In areas of the Project site which may support ephemeral streams, herbaceous vegetation, woody vegetation, and woodlands also serve to protect the integrity of ephemeral channels and help maintain natural sedimentation processes; therefore, CDFW recommends effective setbacks be established to maintain appropriately-sized vegetated buffer areas adjoining ephemeral drainages.

   c) Project-related changes in drainage patterns, runoff, and sedimentation should be included and evaluated in the DPEIR.

3) Wetlands Resources: CDFW, as described in Fish & Game Code section 703(a), is guided by the Fish and Game Commission's policies. The Wetlands Resources policy (http://www.fgc.ca.gov/policy/) of the Fish and Game Commission "…seek[s] to provide for the protection, preservation, restoration, enhancement and expansion of wetland habitat in California. Further, it is the policy of the Fish and Game Commission to strongly discourage development in or conversion of wetlands. It opposes, consistent with its legal authority, any development or conversion that would result in a reduction of wetland acreage or wetland habitat values. To that end, the Commission opposes wetland development proposals unless, at a minimum, project mitigation assures there will be 'no net loss' of either wetland habitat values or acreage. The Commission strongly prefers mitigation which would achieve expansion of wetland acreage and enhancement of wetland habitat values."

   a) The Wetlands Resources policy provides a framework for maintaining wetland resources and establishes mitigation guidance. CDFW encourages avoidance of wetland resources

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[1] A notification package for a LSA may be obtained by accessing the CDFW's web site at www.wildlife.ca.gov/habcon/1600.

[2] Cowardin, Lewis M., et al. 1970. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Department of the Interior, Fish and Wildlife Service.

as a primary mitigation measure and discourages the development or type conversion of wetlands to uplands. CDFW encourages activities that would avoid the reduction of wetland acreage, function, or habitat values. Once avoidance and minimization measures have been exhausted, the Project must include mitigation measures to assure a "no net loss" of either wetland habitat values, or acreage, for unavoidable impacts to wetland resources. Conversions include, but are not limited to, conversion to subsurface drains, placement of fill or building of structures within the wetland, and channelization or removal of materials from the streambed. All wetlands and watercourses, whether ephemeral, intermittent, or perennial, should be retained and provided with substantial setbacks, which preserve the riparian and aquatic values and functions for the benefit to on-site and off-site wildlife populations. CDFW recommends mitigation measures to compensate for unavoidable impacts be included in the DPEIR and these measures should compensate for the loss of function and value.

b) The Fish and Game Commission's Water policy guides CDFW on the quantity and quality of the waters of this state that should be apportioned and maintained respectively so as to produce and sustain maximum numbers of fish and wildlife; to provide maximum protection and enhancement of fish and wildlife and their habitat; encourage and support programs to maintain or restore a high quality of the waters of this state; prevent the degradation thereof caused by pollution and contamination; and, endeavor to keep as much water as possible open and accessible to the public for the use and enjoyment of fish and wildlife. CDFW recommends avoidance of water practices and structures that use excessive amounts of water, and minimization of impacts that negatively affect water quality, to the extent feasible (Fish and G. Code, § 5650).

4) CESA: CDFW considers adverse impacts to a species protected by CESA to be significant without mitigation under CEQA. As to CESA, take of any endangered, threatened, candidate species, or State-listed rare plant species that results from the Project is prohibited, except as authorized by state law (Fish and Game Code, §§ 2080, 2085; Cal. Code Regs., tit. 14, §786.9). Consequently, if the Project, Project construction, or any Project-related activity during the life of the Project will result in take of a species designated as endangered or threatened, or a candidate for listing under CESA, CDFW recommends that the Project proponent seek appropriate take authorization under CESA prior to implementing the Project. Appropriate authorization from CDFW may include an Incidental Take Permit (ITP) or a consistency determination in certain circumstances, among other options [Fish and G. Code, §§ 2080.1, 2081, subds. (b) and (c)]. Early consultation is encouraged, as significant modification to a Project and mitigation measures may be required in order to obtain a CESA Permit. Revisions to the Fish and Game Code, effective January 1998, may require that CDFW issue a separate CEQA document for the issuance of an ITP unless the Project CEQA document addresses all Project impacts to CESA-listed species and specifies a mitigation monitoring and reporting program that will meet the requirements of an ITP. For these reasons, biological mitigation monitoring and reporting proposals should be of sufficient detail and resolution to satisfy the requirements for a CESA ITP.

5) Biological Baseline Assessment: To provide a complete assessment of the flora and fauna within and adjacent to the project area, with particular emphasis upon identifying endangered, threatened, sensitive, regionally and locally unique species, and sensitive habitats, the DPEIR should include the following information:

a) Information on the regional setting that is critical to an assessment of environmental impacts, with special emphasis on resources that are rare or unique to the region [CEQA Guidelines, § 15125(c)];

b) A thorough, recent, floristic-based assessment of special status plants and natural communities, following CDFW's *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (see http://www.dfg.ca.gov/habcon/plant/);

c) Floristic, alliance- and/or association-based mapping and vegetation impact assessments conducted at the Project site and within the neighboring vicinity. *The Manual of California Vegetation*, second edition, should also be used to inform this mapping and assessment[3]. Adjoining habitat areas should be included in this assessment where site activities could lead to direct or indirect impacts offsite. Habitat mapping at the alliance level will help establish baseline vegetation conditions;

d) A complete, recent, assessment of the biological resources associated with each habitat type on site and within adjacent areas that could also be affected by the project. CDFW's California Natural Diversity Data Base (CNDDB) in Sacramento should be contacted to obtain current information on any previously reported sensitive species and habitat. CDFW recommends that CNDDB Field Survey Forms be completed and submitted to CNDDB to document survey results. Online forms can be obtained and submitted at http://www.dfg.ca.gov/biogeodata/cnddb/submitting_data_to_cnddb.asp;

e) A complete, recent, assessment of rare, threatened, and endangered, and other sensitive species on site and within the area of potential effect, including California SSC and California Fully Protected Species (Fish and Game Code §§ 3511, 4700, 5050 and 5515). Species to be addressed should include all those which meet the CEQA definition of endangered, rare or threatened species (see CEQA Guidelines § 15380). Seasonal variations in use of the project area should also be addressed. Focused species-specific surveys, conducted at the appropriate time of year and time of day when the sensitive species are active or otherwise identifiable, are required. Acceptable species-specific survey procedures should be developed in consultation with CDFW and the USFWS; and,

f) A recent, wildlife and rare plant survey. CDFW generally considers biological field assessments for wildlife to be valid for a one-year period, and assessments for rare plants may be considered valid for a period of up to three years. Some aspects of the proposed project may warrant periodic updated surveys for certain sensitive taxa, particularly if build out could occur over a protracted time frame, or in phases.

6) Biological Direct, Indirect, and Cumulative Impacts: To provide a thorough discussion of direct, indirect, and cumulative impacts expected to adversely affect biological resources, with specific measures to offset such impacts, the following should be addressed in the DPEIR:

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[3]Sawyer, J. O., Keeler-Wolf, T., and Evens J.M. 2008. A manual of California Vegetation, 2nd ed. ISBN 978-0-943460-49-9.

a) A discussion of potential adverse impacts from lighting, noise, human activity, exotic species, and drainage. The latter subject should address Project-related changes on drainage patterns and downstream of the project site; the volume, velocity, and frequency of existing and post-Project surface flows; polluted runoff; soil erosion and/or sedimentation in streams and water bodies; and, post-Project fate of runoff from the project site. The discussion should also address the proximity of the extraction activities to the water table, whether dewatering would be necessary and the potential resulting impacts on the habitat (if any) supported by the groundwater. Mitigation measures proposed to alleviate such Project impacts should be included;

b) A discussion regarding indirect Project impacts on biological resources, including resources in nearby public lands, open space, adjacent natural habitats, riparian ecosystems, and any designated and/or proposed or existing reserve lands (e.g., preserve lands associated with a Natural Community Conservation Plan (NCCP, Fish and G .Code, § 2800 et. seq.). Impacts on, and maintenance of, wildlife corridor/movement areas, including access to undisturbed habitats in adjacent areas, should be fully evaluated in the DPEIR;

c) An analysis of impacts from land use designations and zoning located nearby or adjacent to natural areas that may inadvertently contribute to wildlife-human interactions. A discussion of possible conflicts and mitigation measures to reduce these conflicts should be included in the DPEIR; and,

d) A cumulative effects analysis, as described under CEQA Guidelines section 15130. General and specific plans, as well as past, present, and anticipated future projects, should be analyzed relative to their impacts on similar plant communities and wildlife habitats.

7) Avoidance, Minimization, and Mitigation for Sensitive Plants: The DPEIR should include measures to fully avoid and otherwise protect sensitive plant communities from Project-related direct and indirect impacts. CDFW considers these communities to be imperiled habitats having both local and regional significance. Plant communities, alliances, and associations with a statewide ranking of S-1, S-2, S-3 and S-4 should be considered sensitive and declining at the local and regional level. These ranks can be obtained by querying the CNDDB and are included in *The Manual of California Vegetation*.

8) Compensatory Mitigation: The DPEIR should include mitigation measures for adverse Project-related impacts to sensitive plants, animals, and habitats. Mitigation measures should emphasize avoidance and reduction of Project impacts. For unavoidable impacts, on-site habitat restoration or enhancement should be discussed in detail. If on-site mitigation is not feasible or would not be biologically viable and therefore not adequately mitigate the loss of biological functions and values, off-site mitigation through habitat creation and/or acquisition and preservation in perpetuity should be addressed. Areas proposed as mitigation lands should be protected in perpetuity with a conservation easement, financial assurance and dedicated to a qualified entity for long-term management and monitoring. Under Government Code section 65967, the lead agency must exercise due diligence in reviewing the qualifications of a governmental entity, special district, or nonprofit organization to effectively manage and steward land, water, or natural resources on mitigation lands it approves.

9) Long-term Management of Mitigation Lands: For proposed preservation and/or restoration, the DPEIR should include measures to protect the targeted habitat values from direct and indirect negative impacts in perpetuity. The objective should be to offset the Project-induced qualitative and quantitative losses of wildlife habitat values. Issues that should be addressed include (but are not limited to) restrictions on access, proposed land dedications, monitoring and management programs, control of illegal dumping, water pollution, and increased human intrusion. An appropriate non-wasting endowment should be set aside to provide for long-term management of mitigation lands.

10) Nesting Birds: CDFW recommends that measures be taken to avoid Project impacts to nesting birds. Migratory nongame native bird species are protected by international treaty under the Federal Migratory Bird Treaty Act (MBTA) of 1918 (Title 50, § 10.13, Code of Federal Regulations). Sections 3503, 3503.5, and 3513 of the California Fish and Game Code prohibit take of all birds and their active nests including raptors and other migratory nongame birds (as listed under the Federal MBTA). Proposed Project activities including (but not limited to) staging and disturbances to native and nonnative vegetation, structures, and substrates should occur outside of the avian breeding season which generally runs from February 1 through September 1 (as early as January 1 for some raptors) to avoid take of birds or their eggs. If avoidance of the avian breeding season is not feasible, CDFW recommends surveys by a qualified biologist with experience in conducting breeding bird surveys to detect protected native birds occurring in suitable nesting habitat that is to be disturbed and (as access to adjacent areas allows) any other such habitat within 300-feet of the disturbance area (within 500-feet for raptors). Project personnel, including all contractors working on site, should be instructed on the sensitivity of the area. Reductions in the nest buffer distance may be appropriate depending on the avian species involved, ambient levels of human activity, screening vegetation, or possibly other factors.

11) Translocation/Salvage of Plants and Animal Species: Translocation and transplantation is the process of moving an individual from the Project site and permanently moving it to a new location. CDFW generally does not support the use of, translocation or transplantation as the primary mitigation strategy for unavoidable impacts to rare, threatened, or endangered plant or animal species. Studies have shown that these efforts are experimental and the outcome unreliable. CDFW has found that permanent preservation and management of habitat capable of supporting these species is often a more effective long-term strategy for conserving sensitive plants and animals and their habitats.

12) Moving out of Harm's Way: The proposed Project is anticipated to result in clearing of natural habitats that support many species of indigenous wildlife. To avoid direct mortality, we recommend that a qualified biological monitor approved by CDFW be on-site prior to and during ground and habitat disturbing activities to move out of harm's way special status species or other wildlife of low mobility that would be injured or killed by grubbing or Project-related construction activities. It should be noted that the temporary relocation of on-site wildlife does not constitute effective mitigation for the purposes of offsetting project impacts associated with habitat loss. If the project requires species to be removed, disturbed, or otherwise handled, we recommend that the DPEIR clearly identify that the designated entity shall obtain all appropriate state and federal permits.

13) Wildlife Movement and Connectivity: The project area supports significant biological resources and is located adjacent to a regional wildlife movement corridor. The project area contains habitat connections and supports movement across the broader landscape, sustaining both transitory and permanent wildlife populations. On-site features that

contribute to habitat connectivity should be evaluated and maintained. Aspects of the Project that could create physical barriers to wildlife movement, including direct or indirect project-related activities, should be identified and addressed in the DPEIR. Indirect impacts from lighting, noise, dust, and increased human activity may displace wildlife in the general Project area.

14) Revegetation/Restoration Plan: Plans for restoration and re-vegetation should be prepared by persons with expertise in southern California ecosystems and native plant restoration techniques. Plans should identify the assumptions used to develop the proposed restoration strategy. Each plan should include, at a minimum: (a) the location of restoration sites and assessment of appropriate reference sites; (b) the plant species to be used, sources of local propagules, container sizes, and seeding rates; (c) a schematic depicting the mitigation area; (d) a local seed and cuttings and planting schedule; (e) a description of the irrigation methodology; (f) measures to control exotic vegetation on site; (g) specific success criteria; (h) a detailed monitoring program; (i) contingency measures should the success criteria not be met; and (j) identification of the party responsible for meeting the success criteria and providing for conservation of the mitigation site in perpetuity. Monitoring of restoration areas should extend across a sufficient time frame to ensure that the new habitat is established, self-sustaining, and capable of surviving drought.

    a) CDFW recommends that local on-site propagules from the Project area and nearby vicinity be collected and used for restoration purposes. On-site seed collection should be initiated in the near future to accumulate sufficient propagule material for subsequent use in future years. On-site vegetation mapping at the alliance and/or association level should be used to develop appropriate restoration goals and local plant palettes. Reference areas should be identified to help guide restoration efforts. Specific restoration plans should be developed for various Project components as appropriate.

    b) Restoration objectives should include providing special habitat elements where feasible to benefit key wildlife species. These physical and biological features can include (for example) retention of woody material, logs, snags, rocks and brush piles (see Mayer and Laudenslayer, 1988[4]).

CONCLUSION

CDFW appreciates the opportunity to comment on the NOP for the Connect SoCal DPEIR. If you have any questions or comments regarding this letter, please contact Kelly Schmoker-Stanphill, Senior Environmental Scientist (Specialist), at (626) 335-9092 or by email at Kelly.schmoker@wildlife.ca.gov.

Sincerely,

FOR Erinn Wilson
Environmental Program Manager I

[4]Mayer, K. E. and W. F. Laudenslayer, Jr. 1988. Editors: A guide to wildlife habitats of California. State California, The Resources Agency, Department of Forestry and Fire Protection, Sacramento, CA.

cc: CDFW
Victoria Tang – Los Alamitos
Andrew Valand – Los Alamitos
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CALIFORNIA
NATIVE PLANT SOCIETY

February 22, 2019

Southern California Association of Governments
Attn: Roland Ok
900 Wilshire Blvd., Ste. 1700
Los Angeles, CA 90017
Submitted via email to: 2020PEIR@scag.ca.gov

RE: Response to the Notice of Preparation for Connect SoCal, the Southern California Association of Government's 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy

Dear Mr. Ok,

Thank you very much for the opportunity to provide scoping comments on the Southern California Association of Government's (SCAG) Programmatic Environmental Impact Report (PEIR) for Connect SoCal: the region's 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy.

The California Native Plant Society ("CNPS") is a non-profit environmental organization with 10,000 members in 35 Chapters across California and Baja California, Mexico. CNPS's mission is to protect California's native plant heritage and preserve it for future generations through the application of science, research, education, and conservation. CNPS works closely with decision-makers, scientists, and local planners to advocate for well-informed policies, regulations, and land management practices.

SCAG continues to play an important role in planning how and where development occurs in Southern California. SCAG is mandated by federal and state laws to produce an RTP/SCS, which dictates how the "region will address its transportation and land use challenges and opportunities in order to achieve its regional emissions standards and Greenhouse Gas (GHG) reduction targets."

At the scoping meetings on February 13, 2019, SCAG staff stated multiple times that the organization has no authority over the permitting/evaluation of individual projects, as this is under the purview of cities and counties. In this context, SCAG essentially claims to play no role in the implementation of a whole host of projects that are both damaging to the environment and local communities. We challenge

SCAG to be a little more creative, and not to downplay its role in guiding where future housing is built in Southern California. The multi-agency body that advises SCAG is intended to inform, advise, and otherwise assist in regional land use. The collective voice of these entities does in fact and by default empower SCAG in decision making. Local decision makers do ultimately have the final authority over projects under their jurisdiction. Nonetheless, many large development projects would not be possible without the building of new roads or the expansion of existing infrastructure. New highway construction, for example, often requires federal funding, and projects cannot receive this funding unless they appear on the project list in an RTP.

Likewise, as detailed in a recent report by the Air Resources Board[1], it will be challenging for California to meet its ambitious greenhouse gas (GHG) emission goals going forward. This is mostly because all of the low hanging fruit for GHG reduction has already been picked. In the coming decades, the state will fail to meet its goals if it does not curb the emissions that result from personal vehicle travel. Organizations like SCAG must exercise their authority and leadership to guide future growth in ways that do not obscure goals that are mandated by state laws including SB-32, AB-32, and SB-375.

As an organization, CNPS is not opposed to the construction of new housing. We favor policies and decisions that support the construction of new, affordable housing that is located close to mass transportation infrastructure, is respectful of existing communities, close to jobs, and that does not endanger precious and irreplaceable ecosystems.

With these thoughts in mind, we provide the following scoping comments to the forthcoming Connect SoCal PEIR:

1. The analysis of the Connect SoCal's impacts to biological resources should include all current data on sensitive biological resources. These data include, but are not limited to, the California Natural Diversity Database[2], CNPS Inventory of Rare, Threatened, or Endangered Plants[3], and the California Department of Fish and Wildlife's Sensitive Natural Communities List[4].

2. There are many areas that have been set aside for the conservation of plants, animals and habitats in Southern California. In many cases, these areas represent a significant investment public of the public's limited resources. In most cases, the conserved lands are intended to preserve and improve Southern California's natural heritage in perpetuity. These protected areas, and the public investment they represent, are not available as sites for transportation corridors, transportation infrastructure, and new development. The avoidance of impacts to these conservation lands should underlie all growth forecasts

[1] CARB, 2018 Status Report, November 2018
[2] CNDDB
[3] CNPS Inventory
[4] CDFW Natural Communities

and projects that are highlighted in Connect SoCal. Among other critical ecosystem services, they provide the watersheds and carbon sequestration lands that southern California requires to meet the challenges of the 21st Century.

All set aside lands must be subject to perpetual covenant of conservation easements that have funded monitoring and land management requirements. The holder of each easement must be an organization or agency, in long standing with the conservation community and capacity to effectively manage the property over decades.

3. Connect SoCal should be consistent with existing and ongoing plans that endeavor to balance development with conservation. These plans include, but are not limited to:

- Natural Community Conservation Plans[5]
- Habitat Conservation Plans[6]
- Region Conservation Investment Strategies[7] (e.g. Antelope Valley, San Bernardino County)
- Regional Conservation Assessments

4. CNPS is creating a statewide map of Important Plant Areas (IPAs)[8]. This data-driven effort identifies areas in California that should be prioritized for conservation actions. In Southern California, we have held workshops in the Mojave/Sonoran Desert and will be holding workshops covering the remainder of the region in the coming year. The data collected in these workshops will be incorporated into a model that will be used to delineate IPAs. Given that Connect SoCal will be produced in the same timeframe as our IPA map for the region we encourage SCAG to incorporate IPAs into the PEIR.

5. SCAG should reevaluate the assumptions underlying the growth models used in Connect SoCal, and confirm that these assumptions are reasonable. Based on this assessment changes should be incorporated into the growth models. Not doing this risks SCAG ending up a situation similar to conundrum that is being faced currently by the San Diego Association of Governments (SANDAG). SANDAG's director[9] recently had to admit that the organization cannot meet state GHG reduction goals given its current transportation plans. Consequently, SANDAG will have to scrap its current RTP/SCS and start over from scratch. This will delay the release of their RTP/SCS until 2022 or possibly later.

6. The baseline GHG reduction analysis should include a detailed accounting of carbon sequestration in natural habitats. The SCAG region both emits and sequesters greenhouse gases. The sequestration of carbon by existing vegetation is critical to the region's GHG reduction goals. Most of this carbon is

[5] NCCP
[6] CDFW Habitat Conservation Planning
[7] CDFW Regional Conservation Planning
[8] CNPS IPA Program
[9] Voice of San Diego, Climate Change and Transportation, February 14, 2019

sequestered in woody vegetation, particularly in montane forests. However, a not insignificant amount of carbon is also sequestered by other habitats including chaparral, desert scrub, grasslands, coastal sage scrub, riparian and wetland ecosystems, naturally-occurring water bodies, and soils. At the same time, carbon sequestration in these habitats may be eliminated by conversion to development and when vegetation is burned during wildfires. Much of the vegetation in the region has been mapped and quantified using Lidar. The PEIR should analyze how much carbon is currently stored in standing vegetation in the plan area. Additionally, the amount of carbon that is sequestered annually should be analyzed alongside the amount that will be lost to development under Connect SoCal's growth models.

All projects should incorporate green building standards, with associated environmental review analyzing GHG emissions potential for proposed construction, buildings, impervious surfaces prior to approval. Climate science indicates that 47-49% of carbon emissions is generated by the built environment and associated heating or cooling functions.

7. The PEIR should analyze assumptions about the water that will be available for future development to ensure that growth projections are in sync with water supplies. We are especially concerned about the potential impacts of the anticipated rationing of water from the Colorado River[10]. It is becoming increasingly likely that a drought emergency will be declared on this water supply in 2019 or 2020. The pending water rationing in Nevada and Arizona will undoubtedly affect the water supply in Southern California due to ongoing negotiations. This tenuous water supply will likely be relied upon by future development projects. Growth forecasts such as the ones used in SCAG models generally assume ample water will be available, as is often the case with "business as usual" models. The above example from the Colorado River illustrates that population growth forecasts should also prepare for a future in which water supplies are scarce.

8. The projects' mitigation funds should be pooled and used to purchase privately owned lands that have good natural values, and/or to help restore already-preserved lands. An example is Orange County's Measure M2. This Freeway Environmental Mitigation Program allocates funds to acquire land and fund habitat restoration projects in exchange for streamlined project approvals for 13 freeway improvement projects. Acquired properties are purchased and permanently preserved as open space. Funded restoration projects restore preserved open space lands to their native habitat and include the removal of invasive plant species[11].

9. Transportation corridors and similar infrastructure should be landscaped with plants native to Southern California. . Use of these commercially available materials host long-term benefits of water savings, lowered maintenance costs, no need for chemical inputs of fertilization and pest control, serve

[10] Voice of San Diego, Colorado River, January 14, 2019
[11] M2 Mitigation Program

as best source pollinators, and provide biotic continuity in the Wildland-Urban Interface. Since native plants are adapted to Southern California's climate, they need irrigation only during an initial 2-year establishment period. Little irrigation beyond natural rainfall is required once most native plants are established. Also, native plant landscaping often results in considerable cost savings over time, as a result of decreased water demands and lower maintenance costs. For more information on the benefits of native plant landscaping please see the ample information available from the CNPS Gardening Program[12].

10. We question some of the very fundamental assumptions about how growth should/will occur in Southern California, both location and type. While some strides have been made to locate new housing within urban boundaries, much of the housing growth in recent years has occurred on the periphery of existing urban areas. Some of these development projects threaten intact ecosystems. Still, other development projects (e.g. the Centennial[13] and Paradise Valley[14] Specific Plans) are located far from existing jobs and mass transportation infrastructure. In type, we question whether there is a single housing market. Rather, there appear to be multiple housing markets for luxury, median income, and affordable housing. While the development industry can readily produce profitable, high-end, single-family homes in subdivisions, these homes are so far out of the reach of most Californians and they do nothing to satisfy the demand for cheaper housing.[15]

In Connect SoCal, SCAG should study the true complexity of the housing markets in Southern California, exercise its leadership to encourage production of affordable housing and discourage leapfrog development and the production of surplus high end homes. Connect SoCal should find ways to incentivize builders to fulfill the demand for lower cost housing. One idea would be to exclude transportation projects from the PEIR if they fail to promote affordable housing and GHG reduction goals.

We could also like to point out that new home sales have decreased drastically in many Southern California markets[16]. We need to question the logic of lead agencies permitting construction of new cities when new homes are not even selling on the heels of ten years of economic growth. Is our current approach to building new housing consistent with the needs of the average Southern California resident? It is one thing to build a large number of new housing units, and an entirely different challenge to build housing where it is needed and at prices that average people can afford. In many ways, this will be the greatest challenge faced by Southern California counties and cities in the coming decades. We see Connect SoCal as an integral part of this solution.

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[12] CNPS Gardening Program
[13] CNPS Website on Centennial
[14] Article on Paradise Valley
[15] Shelterforce Housing Article, February 19, 2019
[16] LA Times Housing Article, January 29, 2019

Lastly, we are concerned about the role that SCAG continues to play in promoting poorly-planned and often destructive development projects in Southern California. A most striking example of this was a quote from SCAG's then-director, Hasan Ikharta, about Los Angeles County's Centennial Specific Plan that appeared the Los Angeles Times in August 2018. In this article[17], Ikharta essentially condones the construction of a new city 65 miles away from downtown Los Angeles with no planned mass transportation. He said "there will not be enough land and not enough cities around … to accommodate more than half of the growth within transit-quality areas." Ikharta even emphasized that "it's not only physically impossible, it's also politically impossible." With that statement coming from SCAG it is no wonder that Southern California continues to destroy native habitats while at the same time failing to meet GHG reduction goals. If the leadership necessary to effect change is not going to come from SCAG, where will it come from?

Thank you once again for the opportunity to provide scoping comments on Connect SoCal. Please feel free to contact me with any questions.

Sincerely,

Nick Jensen, PhD
Southern California Conservation Analyst
California Native Plant Society
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njensen@cnps.org

[17] LA Times, Centennial, August 26, 2018

February 21, 2019

Sent via email to: 2020PEIR@scag.ca.gov

Southern California Association of Governments (SCAG)
900 Wilshire Blvd, Suite 1700
Los Angeles, California 90017

RE: Notice of Preparation of a Program Environmental Impact Report for Connect SoCal (2020-2045 Regional Transportation Plan/Sustainable Communities Strategy)

Dear SCAG:

Friends of Harbors, Beaches, and Parks (FHBP) is a regional non-profit organization that works to protect the natural lands, waterways, and beaches of Orange County. We received the Southern California Association of Governments' (SCAG) Notice of Preparation (NOP) of a Program Environmental Impact Report (PEIR) for the next Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS).

FHBP has been engaged with land use, transportation, and housing issues and the associated impacts to natural lands (protected and unprotected) for last two RTP/SCS cycles. We appreciate the work done to date to advance conservation policies and look forward to continuing our role in this effort with this current iteration.

As it relates to biology and transportation and the impacts of the RTP/SCS, **we encourage a focus on advanced mitigation as a standard practice** or measure. The successes of the Orange County Transportation Authority (OCTA) and its comprehensive mitigation program show the extensive benefits that landscape-level mitigation programs could bring across the six-county-wide region. Notably, CalTrans has begun its own advanced mitigation effort on a statewide level to streamline permitting, reduce project costs, create better conservation outcomes, and reduce delays. We believe mitigation measures should focus on comprehensive programs with a net environmental benefit and improved project outcomes.

Additionally, as it relates to the land use analysis, FHBP participates regularly in the Natural and Farmlands Conservation Working Group under SCAG and **we encourage policies and mitigation measures that cover a wide spectrum of topics**. Too often a specific solution is offered in a geography that doesn't fit that model. For example, urban infill works in urban infill areas—not as easily or at all in suburban or rural areas. And, similarly, rural solutions may not work in suburban or urban areas. Ensuring a wide range of mitigation measures and policies that fit the spectrum of land uses and land areas is important.

P.O. Box 9256 • Newport Beach, CA 92658 • www.FHBP.org • (949) 274-9621

Finally, to comply with AB 32 (Global Warming Solutions Act of 2006) and SB 375 (Sustainable Communities Act of 2008), **we encourage a focus of city-centered, transit-oriented, sustainable mixed-use development**. With the rise of wildland fire occurrences and losses of both life and property locally and throughout the state, more thoughtful land use and public safety planning needs to be a priority to ensure safe communities. As a co-benefit, city-centered development increases the opportunities for transit, pedestrian/bike-friendly streets, and access to basic amenities (groceries, banks, day care, etc.). Increased access to amenities reduces vehicle miles travelled and greenhouse gas emissions, which helps meet the greenhouse gas reduction goals established by the California Air Resources Board. Meeting the goals of AB 32 and SB 375 with more sustainable planning in the land use, housing, and circulation analyses should be a primary focus of the environmental document.

We look forward to reviewing the RTP/SCS in detail and providing additional comments at that time.

Sincerely,

Michael Wellborn
President

Holland & Knight

400 S. Hope Street, 8th Floor | Los Angeles, CA 90071 | T 213.896.2400
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Jennifer L Hernandez
Jennifer.hernandez@hklaw.com

February 22, 2019

Via electronic mail to: 2020PEIR@scag.ca.gov

Southern California Association of Governments
Attn: Roland Ok, Senior Regional Planner

Re: **Scoping Comments of the Draft Program Environmental Impact Report (PEIR) For Connect SoCal 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy ("SCS")**

Dear Members of the Board, Executive Officers, and Staff:

We represent The 200, an accomplished group of civil rights leaders from all regions of California. The 200 believes minority home ownership is the cornerstone for creating multi-generational economic security, helping students to go to college and seniors to remain independent. The 200 believes that solving the housing crisis, and the housing-induced homelessness and poverty crisis, requires a Marshall Plan for building enough homes available for purchase by California's hard working minority families. The 200 supports public health and the environment, including protecting people from pollution and housing the poor, but these goals may only be equitably achieved if the all civil rights of minority communities are honored, including achieving the American (and California) dream that working families can own their own home.

Unfortunately, government agencies have for decades adopted and implemented racially discriminatory government policies and practices that harm minority home ownership. Four anti-housing measures in the California Air Resource Board's 2017 Scoping Plan are the latest additions to this Hall of Shame, and The 200 has filed a civil rights lawsuit against CARB challenging these discriminatory measures – including CARB's mandated reduction in Vehicles Miles Travelled ("VMT"). A copy of The 200 lawsuit petition is included as Attachment 1, and all arguments made therein against CARB's Scoping Plan mandate that VMT must be reduced even for an increasingly electric and efficient fleet, are hereby restated and submitted as comments on the required scope of the environmental and economic analysis that must be completed by SCAG for the SCS. As described in detail in the lawsuit, and in a followup letter recently submitted on behalf of The 200 to CARB and the California Transportation Commission

(Attachment 2), minority families are disproportionately harmed by the housing crisis, and are forced to "drive until they qualify" for housing they can afford to rent or buy. Poverty and homelessness rates also disproportionately plague minority communities.

We urge SCAG to fully and completely address, in its Program EIR ("PEIR") and accompanying economic analysis, both the feasibility and substantial and discriminatory adverse impacts caused by CARB's ever-more strident and infeasible VMT reduction demands. These are described in greater detail in Attachment 1, and include but are not limited to:

Notwithstanding billions of dollars in transit system expansions, traditional transit services such as fixed bus routes have continued to lose ridership – and fixed rail options that take 20 years to complete include stations proximate to only a small fraction of the homes and residences in the SCAG region. Emerging transit solutions that are growing in popularity and available for today's Californians, such as ride sharing and other app-based point-to-point public and private transit providers, do not reduce VMT. VMT is also a poor metric for greenhouse gas reductions, given California's past achievements and future legal mandates and policy commitments to electric vehicles, and low emission fleets. SCAG's air quality is far better now than it was with the far fewer cars, people, and VMT present in the region in the 1960's – and President Obama's EPA administration confirmed that today's cars are more than 98% cleaner than the pre-Clean Air Act fleet of the 1960's.

Unlike the Clean Air Act, however, which requires the systematic and transparent ranking of emission reduction measures by effectiveness and cost to consumers, CARB has at all times refused to engage in the same level of transparency and consumer accountability for its GHG reductions – and instead leaped to a VMT mandate that profoundly affects the health and welfare of the majority of Californians who now live in the SCAG region.

Again as cited in the lawsuit, poverty scholars from non-partisan organizations like the Brookings Institute have long affirmed that poor families with a car are better able to hold a job, keep their kids in school, and attain greater economic security than families forced to ride the bus. The 200 was supportive of efforts by SCAG staff and other regional transit agencies to dissuade CARB from mandating discriminatory VMT reductions in this next round of SCS targets, and instead establishing greenhouse gas ("GHG") reduction targets.

The 200 does not oppose California's commitment to be a climate leader. However, the entirety of the California economy – the fifth largest in the world – is responsible for less than 1% of global greenhouse gas emissions. As explained in the letter The 200 submitted to CARB and the California Transportation Commission (Attachment 2), this basic mathematical reality is critical to understand the level of increased housing, poverty and homelessness burdens that CARB is willing to inflict on Californians under the banner of addressing of global climate change:

- The only study, completed by a team at UC Berkeley, to quantify the expected benefits of confining all required new housing to existing urbanized areas acknowledged that it

would result in the demolition of "tens if not hundreds of thousands" of single family homes. The study assumed we needed only about two-thirds of the Governor's housing target of 3.5 million new homes, which under the study's methodology would result in the need to demolish hundreds of thousands of existing single family homes. The study also equates 2000 square foot homes with 800 square foot apartments, and assumes that new housing must be downsized from even traditional starter small homes into multi-family small units. SCAG's environmental and economic analysis must identify with specificity, and evaluate all economic and environmental impacts of, this radical demolition agenda – which if past is prologue, will follow the path of destruction by some redevelopment agencies in targeting minority neighborhoods for demolition.

- The displacement of minority communities in high density transit neighborhoods that are upzoned to high densities such as towers has been well-documented in both the SCAG and Bay Area regions. Only the wealthy (or foreign and institutional investors) can afford to buy these high rise condos costing more than $1 million, or rent high rise apartments costing more than $4000 per month. Units in mid- and high rise buildings cost 3-6 times more to construct than small starter homes and town homes: the building type itself is simply unaffordable for average working families. Even more perversely, people wealthy enough to move into these units are certainly wealthy enough to own – and drive – a car. Lower income working families displaced by this development typology are forced to move to more distant locations, where transit solutions are nonexistent and car ownership and use is absolutely required to timely get to jobs and other destinations. This displacement is not color blind: numerous studies now confirm that minority residents are far more likely to be displaced, and forced to more distant suburbs and even out of the region entirely, when high density housing for the wealthy overruns their neighborhood. Nor can this displacement be addressed by directing taxpayer funding to the "missing middle" of workforce housing: with the cost of producing even affordable low income units now surpassing $500,000 per unit in many SCAG markets, numerous experts from the public sector (e.g., the non-partisan) Legislative Analyst's Office and academics have shown that we cannot even make public dollars stretch far enough to address the housing needs of the homeless and very low income families, let alone build housing for the pre-school teachers, first responders, and scores of other occupations forced into 2+ hour commutes each day. The PEIR and accompanying economic analysis must match the affordability of housing to SCAG's growing population, and update the SCS to take into account the real prices, real costs, and real incomes of today.

- Poverty scholars have long confirmed that access to and use of a car is critical for low income families. It is entirely fanciful, if it wasn't so tragic and discriminatory, to accept CARB's doctrinal view that global climate change requires that parents take a two-bus ride with a fevered child to a doctor, or struggle with mid-day bus service gaps to pick up an injured child from school, or pay more than $3000 per month in rent for a tenth story new transit village apartment instead of spending the same amount on a mortgage for a

starter home that enhances family wealth, health and welfare. It is equally uncontested that homeowner households accrue family wealth between 37-45 times higher than rental households. Also uncontested: far less than 10% of jobs are accessible by SCAG commuters in less than 60 minutes on public transit, so even those who do live near an express bus stop are unlikely to be able to get to their job or school – let alone their doctor or grocer – on some later bus stop, which is why fixed bus routes in particular have shown collapsing ridership in the SCAG region and nationally. In the midst of a revolution in transportation services and technology, CARB is demanding that the non-wealthy among us spend hours extra each day away from our families reliant on 19th century transit technology.

- CARB's fixation on discriminatory VMT mandates is unmoored from both global climate change or GHG reductions. CARB has itself acknowledged that the entire California economy contributes less than 1% of global greenhouse gas emissions ("GHG"). CARB's VMT reduction mandate, as quantified by the same UCB study given CARB's refusal to show its own math, will result in less than 1% of CARB's unlegislated goal of reducing GHG in California 80% by 2050. This VMT reduction mandate is absolutely not required, as the CARB Scoping Plan itself shows, to achieve California's legislated target of reducing GHG 40% by 2030. CARB's discriminatory fixation on VMT deprives minority Californians of home ownership and vehicular access that wealthy Californians have long taken for granted is not just bad policy, it is illegal discrimination. We urge SCAG to not collude with CARB in this illegal discrimination. There are scores of alternative measures that can easily result in greater GHG reductions in California that do not discriminate against California's minority communities, from reducing forest fires and increasing renewable energy produced from dead and dying trees, to regulating GHG emissions from imported luxury goods. SB 375 did not give CARB legal authority to mandate reductions in VMT, and all legislative proposals to mandate VMT reductions have been derailed by the Legislature. Given the proven infeasibility of VMT reductions in a growing population and economy, the CARB Board decided in March of 2017 (with support from The 200) to not mandate VMT reductions in the upcoming round of SCS updates. In a breathtaking and arrogant rejection of its own Board decision, CARB staff in December 2018 decreed that staff would solely credit SCAG and other transit authorities with GHG reductions caused by VMT reductions, and not count any other form of GHG reduction achieved in the region. This staff decree is the equivalent of the VMT reduction mandate that the CARB Board rejected, and is simply and completely unlawful.

In addition to the foregoing comments, and the many more detailed comments about the adverse and discriminatory environmental and economic impacts of CARB's VMT and other anti-housing Scoping Plan measures described in the two Attachments, we offer the following comments that are specific to the SCS PEIR and accompanying economic impact analysis:

- The California Environmental Quality Act ("CEQA") Guidelines define "feasible" as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account **economic**, environmental, **legal, social**, **and** technical factors." (emphasis added). Neither the original or current SCS have resulted in adequate housing supplies that are affordable to hard working minority families, nor has it resulted in adequate transportation solutions for the SCAG population. In fact, the trajectory of VMT remains upward, in alignment with population and economic growth. Under CEQA, the PEIR must identify a reasonable range of "feasible" alternatives. Even the existing SCS, let alone an alternative that relies even more on unaffordable high density housing types that have already failed to make a dent in the region's housing crisis, fails as a CEQA alternative because substantial evidence shows that it is in fact not "feasible."

- Similarly, the SCS has been added to – and is linked for CEQA purposes to – the Regional Transportation Plan ("RTP"). SCAG has independent legal obligations under numerous other federal and state transportation and air quality laws to deliver transportation solutions for the region that actually work in practice. After 10 years of SB 375 implementation, and billions of dollars invested in conventional transit modes (bus and rail), ridership on these transit modes continues to decline in the midst of a revolution in transit modes and services. Greenhouse gas emission reductions – the legislated environmental objective of SB 375 – are not dependent on VMT reductions, especially as vehicular fleets are electrified and improved. Again, even the existing SCS, yet alone any higher density and anti-car alternative CARB would like to mandate pursuant to its December 2018 decree, have not in fact produced the level of transportation functionality demanded by SCAG's other legal compliance obligations and are thus legally infeasible.

- Apart from the current list of alternatives failing to meet the CEQA criteria for feasibility, it is critical that the impacts analysis for all topics required to be addressed by CEQA – not just GHG – be given equal and full consideration in the PEIR. CEQA further requires that mitigation measures proposed to lessen or avoid significant adverse impacts, such as the scores of significant unavoidable adverse impacts that even the prior SCS PEIR acknowledged would result from SCS implementation, be "feasible" and meet legal criteria for effectiveness and enforceability. Illusory mitigation through reliance on unenforceable policies, unfunded aspirations, or legally unauthorized future commitments, are not lawful. For example, in some of the more recent discussions of imposing new CEQA mitigation mandates on project-level VMT impacts, it was suggested that new housing units be required to annually fund, in perpetuity, bus passes in perpetuity to offset VMT impacts. Examples provided, such as paying for LAUSD student bus passes, were estimated to cost in excess of $6000 per unit of new housing per year – to be assessed for both rental and homeownership products. Given the overwhelming housing shortage and affordability crisis, as well as worst-in-nation poverty and homeless populations, ANY new mitigation obligations that even indirectly get passed along as new cost burdens to SCAG residents must be honestly described,

quantified, and assessed for feasibility given that more than 40% of today's California households cannot even afford to meet existing expense burdens.

In conclusion, we know that SCAG staff and Board members have been committed to a thorough and honest SCS process, and we commend SCAG for its leadership in attempting to work with CARB and, for example, dissuading the CARB Board from imposing VMT reduction mandates on the SCS. CARB staff, however, has not gotten the message – and while the rest of state and local governments are mobilized to solve the housing crisis and restore equity and economic mobility to all residents, CARB staff pursue the single silo goal of reducing GHG produced in California (and counting Californians who move to higher per capita GHG states like Texas and Nevada as a GHG "reduction" for California GHG accounting purposes) to extremes such as the 80% reduction by 2050 and VMT reduction mandates that have been expressly rejected by the Legislature.

The lawful foundation of this PEIR must begin with "feasible" alternatives, including the "no action" alternative – and be informed by the region's growing population, diverse and robust economy, and "feasible" housing and transportation options that can "feasibly" be implemented based on economic, legal and technical constraints. We are confident that adherence to these core legal mandates of CEQA (and NEPA) will require substantial revisions to the two "No Project" alternatives currently under consideration, and re-scoping of the PEIR with revised alternatives.

Please do not hesitate to contact us if you would like any further clarification on these issues. Also, please include us in stakeholder meetings and notices for the duration of this process.

Thank you for your time and consideration, and for your excellent work on behalf of the region.

Very truly yours,

HOLLAND & KNIGHT LLP

Jennifer L. Hernandez

cc: The 200 Leadership Council

JLH:gmr
Attachments

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THE TWO HUNDRED, *et al.*

SUPERIOR COURT OF THE STATE OF CALIFORNIA

COUNTY OF FRESNO

UNLIMITED CIVIL JURISDICTION

THE TWO HUNDRED, an unincorporated association of civil rights leaders, including LETICIA RODRIGUEZ, TERESA MURILLO, and EUGENIA PEREZ, Plaintiffs/Petitioners, v. CALIFORNIA AIR RESOURCES BOARD, RICHARD COREY, in his Official Capacity, and DOES 1-50, Respondents/Defendants.	Case No. 18CECG01494 **FIRST AMENDED[1] VERIFIED PETITION FOR WRIT OF MANDATE; COMPLAINT FOR DECLARATORY AND INJUNCTIVE RELIEF** **[Code Civ. Proc. §§ 1085, 1094.5, 1060, 526; Gov. Code § 12955 *et seq.* (FEHA); 42 U.S.C. § 3601 *et seq.* (FHA); Cal. Const. Art. I, § 7; Art. IV, § 16; U.S. Const. Amd. 14, § 1; 42 U.S.C. § 1983; Pub. Res. Code § 12000 *et seq.* (CEQA); Gov. Code § 11346 *et seq.* (APA); H&S Code § 38500 *et seq.* (GWSA); H&S Code § 39000 *et seq.* (CCAA); Gov. Code § 65088 *et seq.* (Congestion Management Plan)]**

[1] Principal added and revised allegations are at ¶¶ 262-351 and 379 (pages 79-108, 112) below. A full comparison between this First Amended Petition/Complaint and the original Petition/ Complaint, generated using Adobe Acrobat® Compare software, is attached as Exhibit 3.

Table of Contents

Page

I. INTRODUCTION AND SUMMARY OF REQUESTED RELIEF 4

A. California's Greenhouse Gas Policies and Housing-Induced Poverty Crisis 4

B. California's Historical Use of Environmental and Zoning Laws and Regulations to Oppress and Marginalize Minority Communities 10

C. Four New GHG Housing Measures in CARB's 2017 Scoping Plan Are Unlawful, Unconstitutional, and Would Exacerbate the Housing-Induced Poverty Crisis 12

II. JURISDICTION AND VENUE 21

III. PARTIES 22

IV. GENERAL ALLEGATIONS 32

A. California's Statutory Scheme To Reduce Greenhouse Gas Emissions and Avoid Disparate Impacts 32

B. The 2017 Scoping Plan 34

C. CARB's Improper "Cumulative Gap" Reduction Requirement 36

D. The Four New, Unlawful GHG Housing Measures the 2017 Scoping Plan Authorizes 42

1. Unlawful VMT Reduction Requirement 42

2. Unlawful CEQA Net Zero GHG Threshold 48

3. Unlawful Per Capita GHG Targets for Local Climate Action Plans 54

4. Appendix C "Vibrant Communities" Policies Incorporating Unlawful VMT, "Net Zero" and CO2 Per Capita Standards 59

E. CARB's Inadequate Environmental Analysis and Adverse Environmental Effects of the 2017 Scoping Plan 65

1. Deficient Project Description 66

2. Improper Project Objectives 67

3. Illegal Piecemealing 69

4. Inadequate Impact Analysis 69

F. CARB's Insufficient Fiscal Analysis and Failure To Comply with the APA's Cost-Benefit Analyis Requirements 73

G. The Blatantly Discriminatory Impacts of CARB's 2017 Scoping Plan 76

H. CARB'S GHG Housing Measures Are "Underground Regulations" and Ultra Vires 107

Table of Contents (Continued)

Page

FIRST CAUSE OF ACTION (Fair Employment and Housing Act, Gov. Code § 12955 *et seq.*) 108

SECOND CAUSE OF ACTION (Federal Housing Act and HUD Regulations, 42 U.S.C. § 3601 *et seq.*; 24 C.F.R. Part 100) 109

THIRD CAUSE OF ACTION (Denial of Due Process, Cal. Const. Art. I, § 7; U.S. Const. Amd. 14, § 1) 111

FOURTH CAUSE OF ACTION (Denial of Equal Protection, Cal. Const. Art. I, § 7, Art. IV § 16; U.S. Const. Amd. 14, § 1) 111

FIFTH CAUSE OF ACTION (Violations of CEQA, Pub. Res. Code § 21000 *et seq.* and CEQA Guidelines, 14 C.C.R. § 15000 *et seq.*) 112

SIXTH CAUSE OF ACTION (Violations of APA, Gov. Code § 11346 *et seq.*) 116

SEVENTH CAUSE OF ACTION (Violations of the California Global Warming Solutions Act, Health & Safety Code § 38500 *et seq.*) 118

EIGHTH CAUSE OF ACTION (Violations of the Health & Safety Code, § 39000 *et seq.*, including the California Clean Air Act, Stats. 1988, ch. 1568 (AB 2595)) 120

NINTH CAUSE OF ACTION (Violations of the APA – Underground Regulations, Gov. Code § 11340 – 11365) 123

TENTH CAUSE OF ACTION (Ultra Vires Agency Action, Cal. Code of Civil Proc. § 1085) 124

PRAYER FOR RELIEF 126

I. INTRODUCTION AND SUMMARY OF REQUESTED RELIEF

A. California's Greenhouse Gas Policies and Housing-Induced Poverty Crisis

1. California's reputation as a global climate leader is built on the state's dual claims of substantially reducing greenhouse gas ("GHG") emissions while simultaneously enjoying a thriving economy. Neither claim is true.

2. California has made far less progress in reducing GHG emissions than other states. Since the effective date of California's landmark GHG reduction law, the Global Warming Solutions Act,[2] 41 states have reduced per capita GHG emissions by more than California

3. California's lead climate agency, the California Air Resources Board ("CARB"), has ignored California's modest scale of GHG reductions, as well as the highly regressive costs imposed on current state residents by CARB's climate programs.

4. Others have been more forthcoming. Governor Jerry Brown acknowledged in 2017 that the state's lauded cap-and-trade program, which the non-partisan state Legislative Analysist's Office ("LAO") concluded would cost consumers between 24 cents and 73 cents more per gallon of gasoline by 2031,[3] actually "is not that important [for greenhouse gas reduction]. I know that. I'm Mr. 'It Ain't That Much.' It isn't that much. Everybody here [in a European climate change conference] is hype, hype to the skies."[4]

5. Governor Brown's acknowledgement was prompted by a report from Mother Jones—not CARB—that high rainfall had resulted in more hydroelectric power generation from

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[2] The Global Warming Solutions Act of 2006 ("GWSA") is codified at Health and Safety Code ("H&S Code") § 38500 *et seq.* and became effective in 2007. The Act is often referred to as "AB 32", the assembly bill number assigned to the legislation. AB 32 required California to reduce GHG emissions from a "business as usual" scenario in 2020 to the state's 1990 GHG emission level. AB 32 was amended in 2017 by Senate Bill 32 by the same author. SB 32 established a new GHG reduction mandate of 40% below California's 1990 GHG levels by 2030.

[3] LAO, Letter to Assembly Member Fong (Mar. 29, 2017), www.lao.ca.gov/letters/2017/fong-fuels-cap-and-trade.pdf.

[4] Julie Cart, *Weather Helped California's Greenhouse Gas Emissions Drop 5% Last Year*, CALMatters (Dec. 2, 2017), https://timesofsandiego.com/tech/2017/12/02/weather-helped-californias-greenhouse-gas-emissions-drop-5-last-year/.

existing dams than had occurred during the drought, and that this weather pattern resulted in a 5% decrease in California's GHG emissions.[5]

6. GHG emissions data from California's wildfires are also telling. As reported by the *San Francisco Chronicle* (again not CARB), GHG emissions from all California regulatory efforts "inched down" statewide by 1.5 million metric tons (from total estimated emissions of 440 million metric tons),[6] while just one wildfire near Fresno County (the Rough Fire) produced 6.8 million metric tons of GHGs, and other fires on just federally managed forest lands in California emitted 16 million metric tons of GHGs.[7]

7. Reliance on statewide economic data for the false idea that California's economy is thriving conflates the remarkable stock market profits of San Francisco Bay Area technology companies with disparate economic harms and losses suffered by Latino and African American Californians statewide, and by white and Asian American Californians outside the Bay Area.

8. Since 2007, which included both the global recession and current sustained period of economic recovery, California has had the highest poverty rate in the country—over 8 million people living below the U.S. Census Bureau poverty line when housing costs are taken into account.[8] By another authoritative poverty methodology developed by the United Way of California, which counts housing as well as other basic necessities like transportation and medical costs (and then offsets these with state welfare and related poverty assistance programs), about 40% of Californians "do not have sufficient income to meet their basic cost of living."[9] The

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[5] *Ibid.*

[6] California Air Resources Board, 2017 Edition California Greenhouse Gas Inventory for 2000-2015 (June 2017), https://www.arb.ca.gov/cc/inventory/data/data.htm.

[7] David R Baker, *Huge wildfires can wipe out California's greenhouse gas gains,* SF Chronicle, (Nov. 21, 2017), https://www.sfchronicle.com/bayarea/article/Huge-wildfires-can-wipe-out-California-s-12376324.php.

[8] Liana Fox, The Supplemental Poverty Measure: 2016, U.S. Census Bureau Report Number: P60-261, Table A-5 (Sept. 21, 2017), https://www.census.gov/library/publications/2017/demo/p60-261.html; Dan Walters, *Why does California have the nation's highest poverty level?*, CALMatters (Aug. 13, 2017), https://calmatters.org/articles/california-nations-highest-poverty-level/.

[9] Betsy Block et al., Struggling to Get By: The Real Cost Measure in California 2015, United Ways of California (2016), https://www.unitedwaysca.org/realcost.

Public Policy Institute of California used a methodology that also accounts for the cost of living and independently concluded that about 40% of Californians live in poverty.[10]

9. Poverty is just one of several indicators of the deep economic distress affecting California. California also has the highest homeless population, and the highest homelessness rate, in the nation. According to the U.S. Department of Housing and Urban Development, about 25% of the nation's homeless, or about 135,000 individuals, are in California.[11]

10. National homeownership rates have been recovering since the recession levels, but California's rate has plunged to the second lowest in the country—with homeownership losses steepest and most sustained for California's Latinos and African Americans.[12]

11. As shown in Figure 1, with the exception of white and Asian populations in the five-county Bay Area, elsewhere in California—and for Latino and African American residents statewide—incomes are comparable to national averages.

Figure 1

Median Income in 2007 and 2017, White, Asian, Latino and Black Populations

Bay Area, California excluding the Bay Area, and U.S. excluding California

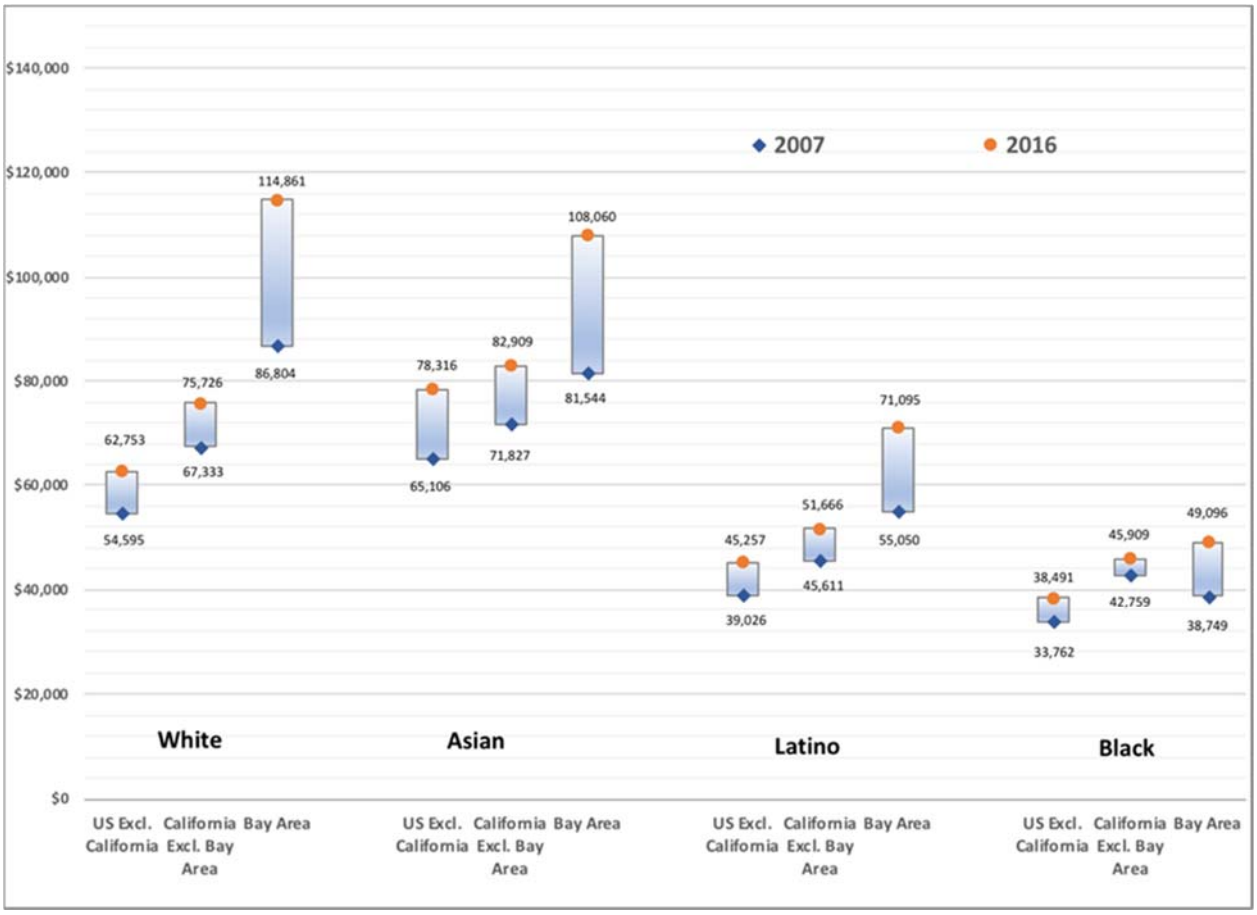
(nominal current dollars)[13]

[10] Public Policy Institute of California, Poverty in California (Oct. 2017), http://www.ppic.org/publication/poverty-in-california/.

[11] U.S. Department of Housing and Urban Development, 2017 Annual Homeless Assessment Report to Congress, https://www.hudexchange.info/resources/documents/2017-AHAR-Part-1.pdf; Kevin Fagan et al., *California's homelessness crisis expands to country*, SF Chronicle (Sept. 8, 2017), https://www.sfchronicle.com/news/article/California-s-homelessness-crisis-moves-to-the-12182026.php.

[12] U.S. Census Bureau, Housing Vacancies and Homeownership (CPS/HVS), Table 16. Homeownership Rates for the 75 Largest Metropolitan Statistical Areas: 2015 to 2017, https://www.census.gov/housing/hvs/data/ann17ind.html. See also 2007 and 2016 American Community Survey 1-Year Estimates, Table B25003 series (Tenure in Occupied housing units), California, https://factfinder.census.gov/.

[13] Median income estimated from household income distributions for 2007 and 2016 American Community Survey 1-Year Estimates, Table B19001 series, https://factfinder.census.gov/ (using the estimation methodology described by the California Department of Finance at http://www.dof.ca.gov/Forecasting/Demographics/Census_Data_Center_Network/documents/How_to_Recalculate_a_Median.pdf).



12. However, Californians pay far higher costs for basic necessities. A national survey of housing, food, medical and other costs conducted by the Council for Community & Economic Research showed that in 2017, California was the second most expensive state in the nation (after Hawaii), and had a cost of living index that was 41% higher than the national average.[14] The LAO reported that "California's home prices and rents are higher than just about anywhere else," with average home prices 2.5 times more than the national average and rents 50% higher than the national average.[15] Californians also pay 58% more in average electricity cost per KWh hour (2016 annual average)[16] and about $0.80 cents more per gallon of gas than the national average.[17]

[14] The 2017 survey by the Council for Community & Economic Research was published by the Missouri Economic Research and Information Center, https://www.missourieconomy.org/indicators/cost_of_living/index.stm.

[15] LAO, California's High Housing Costs: Causes and Consequences (Mar. 17, 2015), http://www.lao.ca.gov/reports/2015/finance/housing-costs/housing-costs.aspx.

[16] U.S. Energy Information Agency, Electric Power Annual, Table 2.10 (Dec. 2, 2017), https://www.eia.gov/electricity/annual/ (showing average annual 2016 prices).

[17] American Automobile Association, Regular Gas Prices, http://gasprices.aaa.com/state-gas-price-averages/, last visited April 25, 2018.

13. These high costs for two basic living expenses—electricity and transportation—are highest for those who live in the state's inland areas (and need more heating and cooling than the temperate coast), and drive farthest to jobs due to the acute housing crisis the LAO has concluded is worst in the coastal urban job centers like the San Francisco Bay Area and Los Angeles.[18]

14. An estimated 138,000 commuters enter and exit the nine-county Bay Area megaregion each day.[19] These are workers who are forced to "drive until they qualify" for housing they can afford to buy or rent.

15. San Joaquin County housing prices in cities nearest the Bay Area, such as Stockton, are about one-third lower, even though commute times to San Jose are 77 minutes each direction (80 miles and 2.5 hour daily commutes), and to San Francisco are 80 minutes (82 miles and 3 hour daily commutes).[20] The median housing price in Stockton is about $286,000—still double the national average of $140,000—while the median housing price in San Jose is over $1,076,000 and in San Francisco is over $1,341,000.[21]

16. California's poverty, housing, transportation and homeless crisis have created a perfect storm of economic hardship that has, in the words of the civil rights group Urban Habitat, resulted in the "resegregation" of the Bay Area.[22] Between 2000 and 2014, substantial African American and Latino populations shifted from central cities on and near the Bay, like San Francisco, Oakland, Richmond and San Jose, to eastern outer suburbs like Antioch, and Central Valley communities like Stockton and Suisun City.[23] As reported:

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[18] LAO, California's High Housing Costs: Causes and Consequences (Mar. 17, 2015), http://www.lao.ca.gov/reports/2015/finance/housing-costs/housing-costs.aspx.

[19] Bay Area Council, Another Inconvenient Truth (Aug. 16, 2016), www.bayareaeconomy.org/report/another-inconvenient-truth/.

[20] Commute times from Google navigation, calculated April 25, 2018.

[21] Zillow, Stockton CA Home Prices & Home Values, https://www.zillow.com/stockton-ca/home-values/; San Jose CA Home Prices and Home Values, https://www.zillow.com/san-jose-ca/home-values/; San Francisco CA Home Prices and Home Values, https://www.zillow.com/san-francisco-ca/home-values/.

[22] Urban Habitat League, Race, Inequality, and the Resegregation of the Bay Area (Nov. 2016), http://urbanhabitat.org/new-report-urban-habitat-reveals-growing-inequality-and-resegregation-bay-area-reflecting-divided; see also LAO, Lower Income Households Moving to Inland California from Coast (Sept. 2015), http://www.lao.ca.gov/LAOEconTax/Article/Detail/133.

[23] *Id.* p. 10-11, Maps 5 and 6.

> Low income communities of color are increasingly living at the expanding edges of our region. . . . Those who do live closer to the regional core find themselves unable to afford skyrocketing rents and other necessities; many families are doubling or tripling up in homes, or facing housing instability and homelessness.[24]

17. Los Angeles (#1) and the Bay Area (#3) are already ranked the worst in the nation for traffic congestion, flanking Washington DC (#2).[25] Yet California's climate leaders have decided to intentionally increase traffic congestion—to lengthen commute times and encourage gridlock—to try to get more people to ride buses or take other form of public transit.[26] This climate strategy has already failed, with public transit ridership—particularly by bus—continuing to fall even as California has invested billions in public transit systems.[27]

18. Vehicle miles travelled ("VMT") by Californians forced to drive ever-greater distances to homes they can afford have also increased by 15% between 2000 and 2015.[28] Serious

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[24] *Id.* p. 2.

[25] INRIX Global Traffic Scorecard (2017), http://inrix.com/scorecard/.

[26] Governor's Office of Planning and Research ("OPR"), Updating Transportation Analysis in the CEQA Guidelines, Preliminary Discussion Draft (Aug. 6, 2014), http://www.opr.ca.gov/docs/Final_Preliminary_Discussion_Draft_of_Updates_Implementing_SB_743_080614.pdf, p. 9 (stating that "research indicates that adding new traffic lanes in areas subject to congestion tends to lead to more people driving further distances. (Handy and Boarnet, "DRAFT Policy Brief on Highway Capacity and Induced Travel," (April 2014).) This is because the new roadway capacity may allow increased speeds on the roadway, which then allows people to access more distant locations in a shorter amount of time. Thus, the new roadway capacity may cause people to make trips that they would otherwise avoid because of congestion, or may make driving a more attractive mode of travel"). In subsequent CEQA regulatory proposals, and in pertinent parts of the 2017 Scoping Plan, text supportive of traffic congestion was deleted but the substantive policy direction remains unchanged. Further, the gas tax approved by the Legislature in 2017 was structured to limit money for addressing congestion to $250 million (less than 1% of the $2.88 billion anticipated to be generated by the new taxes). See Jim Miller, *California's gas tax increase is now law. What it costs you and what it fixes.* Sacramento Bee (April 28, 2017), http://www.sacbee.com/news/politics-government/capitol-alert/article147437054.html.

[27] See, e.g., Bay Area Metropolitan Planning Commission, Transit Ridership Report (Sept. 2017), http://www.vitalsigns.mtc.ca.gov/transit-ridership (showing transit ridership decline on a per capita basis by 11% since 1990 with per capita bus boardings declining by 33%); see also University of California Institute for Transportation Studies, Falling Transit Ridership: California and Southern California (Jan. 2018), https://www.scag.ca.gov/Documents/ITS_SCAG_Transit_Ridership.pdf (showing Los Angeles regional public transit decline).

[28] TRIP, California Transportation by the Numbers (Aug. 2016), https://mtc.ca.gov/sites/default/files/CA_Transportation_by_the_Numbers_TRIP_Report_2016.pdf.

adverse health impacts to individual commuters,[29] as well as adverse economic impacts to drivers and the California economy,[30] from excessive commutes have also worsened.

19. In 2016 and 2017, the combination of increased congestion and more VMT reversed decades of air quality improvements in California, and caused increased emissions of both GHG and other traditional air pollutants that cause smog and other adverse health effects,[31] for which reductions have long been mandated under federal and state clean air laws.

20. In short, in the vast majority of California, and for the whole of its Latino and African American populations, the story of California's "thriving" economy is built on CARB's reliance on misleading statewide averages, which are distorted by the unprecedented concentration of stock market wealth created by the Bay Area technology industry.

21. For most Californians, especially those who lost their home in the Great Recession (with foreclosures disproportionately affecting minority homeowners),[32] or who never owned a home and are struggling with college loans or struggling to find a steady job that pays enough to cover California's extraordinary living costs, CARB's assertion that California is a booming, "clean and green" economy is a distant fiction.

B. California's Historical Use of Environmental and Zoning Laws and Regulations to Oppress and Marginalize Minority Communities

22. The current plight of minority communities in California is the product of many decades of institutional racism, perpetuated by school bureaucrats of the 1940's who defended the "separate but equal" system, highway bureaucrats of the 1950's who targeted minority neighborhoods for demolition to make way for freeway routes, urban planning bureaucrats in the

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[29] Carolyn Kylstra, *10 Things Your Commute Does to Your Body*, Time Magazine (Feb. 2014), http://time.com/9912/10-things-your-commute-does-to-your-body/.

[30] TRIP, California Transportation by the Numbers (Aug. 2016), https://mtc.ca.gov/sites/default/files/CA_Transportation_by_the_Numbers_TRIP_Report_2016.pdf (stating that traffic congestion is estimated to cost California $28 billion, including lost time for drivers and businesses, and wasted fuels).

[31] Next 10, 2017 CA Green Innovation Index (Aug. 22, 2017), http://next10.org/sites/default/files/2017-CA-Green-Innovation-Index-2.pdf.

[32] Gillian White, *The Recession's Racial Slant,* Atlantic Magazine (June 24, 2015), https://www.theatlantic.com/business/archive/2015/06/black-recession-housing-race/396725/.

1960's who destroyed minority communities in pursuit of redevelopment, and those who enabled decades of "redlining" practices by insurance and banking bureaucrats aimed at denying minorities equal access to mortgages and home insurance.[33]

23. Environmental regulators are no less susceptible to racism and bias than other regulators. Members of The Two Hundred had to intervene when environmental regulators threatened to block construction of the UC Merced campus, which is the only UC campus in the Central Valley and serves the highest percentage of Latino students of any UC campus.[34]

24. Members of The Two Hundred also had to intervene to require environmental regulators to establish clear standards for the cleanup of contaminated property that blighted many minority neighborhoods, where cleanup and redevelopment could not be financed without the standards that virtually all other states had already adopted.[35]

25. Racial bias in environmental advocacy organizations, including those that heavily lobbied CARB in 2017 Scoping Plan proceedings, was also confirmed in an influential study funded by major foundations that contribute to such organizations.[36]

[33] See Richard Rothstein, Color of Law: A Forgotten History of How Our Government Segregated America (2017).

[34] UC Merced's Latino undergraduates comprise 53% of the student population, compared to the 21% rate of Latino undergraduate enrollment for the UC system as a whole. University of California System Enrollment (2017), https://www.universityofcalifornia.edu/infocenter/fall-enrollment-glance; UC Merced Fast Facts 2017-2018, https://www.ucmerced.edu/fast-facts; see also John Gamboa, Greenlining Institute, Brownfields, UC Merced, and Fighting for Environmental Equity (March 2018), http://greenlining.org/blog/2018/brownfields-uc-merced-fighting-environmental-equity/.

[35] John Gamboa, Greenlining Institute, Brownfields, UC Merced, and Fighting for Environmental Equity (Mar. 2018), http://greenlining.org/blog/2018/brownfields-uc-merced-fighting-environmental-equity/.

[36] Dorceta E. Taylor, Ph.D., The State of Diversity in Environmental Organizations: Mainstream NOGs, Foundations & Government Agencies (July 2014), http://vaipl.org/wp-content/uploads/2014/10/ExecutiveSummary-Diverse-Green.pdf.

26. Additional studies have confirmed racial bias in environmental organizations, and in media reports on environmental issues.[37] As the newest President of the Sierra Club Board of Directors, African American Aaron Mair recently confirmed: "White privilege and racism within the broader environmental movement is existent and pervasive."[38]

27. The simple fact is that vast areas of California, and disproportionately high numbers of Latino and African American Californians, have fallen into poverty or out of homeownership, and California's climate policies guarantee that housing, transportation and electricity prices will continue to rise while "gateway" jobs to the middle class for those without college degrees, such as manufacturing and logistics, will continue to locate in other states.

C. Four New GHG Housing Measures in CARB's 2017 Scoping Plan Are Unlawful, Unconstitutional, and Would Exacerbate the Housing-Induced Poverty Crisis

28. Defendant/Respondent CARB is the state agency directed by the Legislature to implement SB 32, which requires the State to set a target to reduce its GHG emissions to forty percent below 1990 levels by 2030 ("2030 Target").

29. CARB adopts a "Scoping Plan" every five years, as described in the GWSA. The most recent Scoping Plan sets out the GHG reduction measures that CARB finds will be required to achieve the 2030 Target ("2017 Scoping Plan"). The 2017 Scoping Plan was approved in December 2017.

30. The most staggering, unlawful, and racist components of the 2017 Scoping Plan target new housing. The Plan includes four measures, challenged in this action, that increase the cost and litigation risks of building housing, intentionally worsen congestion (including commute

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[37] See, e.g., Nikhil Swaminathan, *The Unsustainable Whiteness of Green*, Moyers & Company (June 30, 2017), https://billmoyers.com/story/unsustainable-whiteness-green/; Jedidiah Purdy, *Environmentalism's Racist History,* The New Yorker (Aug. 13, 2015), https://www.newyorker.com/news/news-desk/environmentalisms-racist-history; Brentin Mock, *The Green Movement Is Talking About Racism? It's About Time*, Outside Magazine (Feb. 27, 2017), https://www.outsideonline.com/2142326/environmentalism-must-confront-its-social-justice-sins.

[38] Nikhil Swaminathan, *The Unsustainable Whiteness of Green*, Moyers & Company (June 30, 2017), https://billmoyers.com/story/unsustainable-whiteness-green/

times and vehicular emissions) for workers who already spend more than two hours on the road instead of with their families, and further increase the cost of transportation fuels and electricity.

31. These newly-adopted measures (herein the "GHG Housing Measures") are: (A) The new VMT mandate; (B) The new "net zero" CEQA threshold; (C) The new CO2 per capita targets for local climate action plans for 2030 and 2050; and (D) The "Vibrant Communities" policies in Appendix C to the 2017 Scoping Plan, to the extent they incorporate the VMT, net zero and new CO2 per capita targets.[39]

32. The presumptive "net zero" GHG threshold requires offsetting GHG emissions for all new projects including housing under CEQA, the "Vibrant Communities" measures include limiting new housing to the boundaries of existing developed communities, and a mandate to substantially reduce VMT even for electric vehicles by (among other means) intentionally increasing congestion to induce greater reliance on buses and other transit modes.

33. The development of, and the measures included in, the 2017 Scoping Plan was required to be informed by an environmental analysis ("EA") pursuant to the California Environmental Quality Act (Pub. Res. Code § 21000 *et seq.*) ("CEQA"), and an economic fiscal analysis ("FA") as mandated by both the GWSA and the Administrative Procedure Act, Gov. Code § 11346 *et seq.* ("APA").

34. However, in one of many examples of the lack of analysis in the 2017 Scoping Plan and related documents, CARB does not disclose the GHG emission reductions it expects from the GHG Housing Measures. The Scoping Plan also omits any economic analysis that accounts for the cost of these measures on today's Californians, and omits any environmental analysis of the Plan's effects on existing California communities and infrastructure.

35. CARB concluded that in 2017 California's entire economy will emit 440 million metric tons of GHGs per year, and that California will need to reduce emissions by 181.8 million

[39] While CARB styled the GHG Housing Measures as "guidelines", they are self-implementing and unlawful underground regulations. All other components of the 2017 Scoping Plan will be implemented as regulations, such as the Cap and Trade program and low carbon fuel standard, and thus will undergo a formal rulemaking process. However, CARB refused to undertake the same legislatively-mandated public process for the four GHG Housing Measures.

metric tons to meet the 2030 Target. Notwithstanding widespread reports, and public and agency concern about the housing crisis, the homelessness crisis, the housing-induced poverty crisis, and the transportation crisis (collectively referred to herein as the "housing crisis"), neither the 2017 Scoping Plan, nor the environmental or economic analyses, disclose how much of this 181.8 million metric ton GHG reduction must or even may be achieved by constructing the at least three million new homes that experts,[40] and all candidates for Governor,[41] agree California must produce to resolve the current housing shortfall.

36. The core elements of the Scoping Plan related to housing call for new housing in California's existing communities (which comprise 4% of California's lands), with smaller multi-family units instead of single family homes located near public transit to reduce VMT. The 2017 Scoping Plan does not contemplate the need for any new regulations to implement this housing regime. Instead, it includes expert agency conclusions about how CEQA, a 1970 environmental law, must be implemented to achieve California's statutory climate change mandates as well as the unlegislated 2050 GHG reduction goal (80% reduction from 1990 GHG emissions by 2050) included in various Executive Orders from California Governors.

37. The best available data on the actual GHG reductions that will be achieved by the Scoping Plan's GHG Housing Measures is the "Right Type, Right Place" report, prepared by a multi-disciplinary team of housing and environmental law experts at the University of California, Berkeley, that examined some of the consequences from the housing crisis solution embedded in the 2017 Scoping Plan's GHG Housing Measures ("UCB Study").[42]

[40] Jonathan Woetzel et al., Closing California's Housing Gap, McKinsey Global Institute (Oct. 2016), https://www.mckinsey.com/global-themes/urbanization/closing-californias-housing-gap.

[41] Liam Dillon, *We asked the candidates how they planned to meet housing production goals. Here's how they responded*, LA Times (March 6, 2018), http://www.latimes.com/politics/essential/la-pol-ca-essential-politics-updates-we-asked-the-candidates-how-they-planned-1520382029-htmlstory.html.

[42] Nathaniel Decker et al., Right Type Right Place: Assessing the Environmental and Economic Impacts of Infill Residential Development through 2030, U.C. Berkeley Terner Center for Housing Innovation and Center for Law, Energy and the Environment (Mar. 2017), https://ternercenter.berkeley.edu/right-type-right-place.

38. The UCB Study anticipates constructing only 1.9 million new homes, less than two-thirds of California's 3.5 million shortfall identified by other experts. The Study examines the continuation of existing housing production, which is dominated by single family homes with fewer than 1% of Californians living in high rise structures, and compares this with a changed housing pattern that would confine new housing to the boundaries of existing cities and towns and replace traditional single family homes with smaller apartments or condos (thereby equating 2,000 square foot homes with 800 square foot apartments).

39. The UCB Study concludes that high rise and even mid-rise (e.g., six story) buildings are far more costly to build on a per unit basis than single family homes—three to five time higher—and are thus infeasible in most markets for most Californians. The Study thus recommends focusing on less costly housing units such as quadplexes (four units in two-story buildings) and stacked flats (one or two units per floor, generally limited to four stories)—which are still approximately 30% more costly than single family homes on a per unit basis.

40. The UCB Study then concludes that it would be possible for California to build all 1.9 million new homes in existing communities with these small multi-family structures, but to confine all new units to the 4% of California that is already urbanized would require the demolition of "tens, if not hundreds of thousands, of single family homes." The Study does not quantify the GHG emissions from such massive demolition activities, nor does it identify any funding source or assess any non-GHG environmental, public service, infrastructure, historic structure, school, traffic, or other impact associated with this new housing vision.

41. Unlike CARB's 2017 Scoping Plan, the UCB Study does quantify the GHG reductions to be achieved by remaking California's existing communities and housing all Californians harmed by the current housing crisis in small apartments. With this new housing future, California will reduce annual GHG emissions by 1.79 million metric tons per year, less than 1% of the 181.8 million metric tons required to meet the 2030 Target in SB 32.

42. The Scoping Plan's new CEQA provisions, which have already been cited as CEQA legal mandates by opponents to a Los Angeles County housing project called

"Northlake,"[43] would increase still further the cost of new housing (and thereby make it even less affordable to California's minority and other families). Since new housing—especially infill housing—is already the top target of CEQA lawsuits statewide,[44] the GHG Housing Measures will encourage even more anti-housing lawsuits, with attendant increases in project litigation costs and construction delays, as well as vehement opposition from existing residents.

43. CEQA lawsuits also disproportionately target multi-family housing such as apartments in existing urbanized "infill" locations. In a recent 3-year study of all CEQA lawsuits filed statewide, the approximately 14,000 housing units challenged in the six county region comprising the Southern California Association of Governments ("SCAG"), which includes Los Angeles, Orange, San Bernadino, Ventura, Imperial, and Riverside counties and all cities within those counties, SCAG determined that 98% of the challenged housing units were located in existing urbanized areas, 70% were within areas designated for transit-oriented high density development, and 78% were located in the whiter, wealthier and healthier areas of the region (outside the portions of the regions with higher minority populations, poverty rates, pollution, and health problems associated with adverse environmental conditions such as asthma).[45]

44. CEQA lawsuit petitioners also have an unusually high success rate against the cities and other government agencies responsible for CEQA compliance. A metastudy of administrative agency challenges nationally showed that agencies win approximately 70% of such cases. In contrast, three different law firm studies of CEQA reported appellate court opinions showed that CEQA petitioners prevailed in almost 50% of such cases.[46]

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[43] Center for Biological Diversity, Letter to Los Angeles County (April 16, 2018), http://planning.lacounty.gov/assets/upl/case/tr073336_correspondence-20180418.pdf.

[44] Jennifer L. Hernandez, California Environmental Quality Act Lawsuits and California's Housing Crisis, 24 Hastings Envtl. L.J. (2018), https://www.hklaw.com/files/Uploads/Documents/Articles/121317_HELJ_Jennifer_Hernandez.pdf.

[45] Jennifer Hernandez, David Friedman, Stephanie DeHerrera, In the Name of the Environment Update: CEQA Litigation Update for SCAG Region (2013-2015) (Jul. 2016), p. 31-34, https://www.hklaw.com/files/UPloads/Documents/Alerts/Environment/InfillHousingCEQALawsuits.pdf.

[46] Jennifer Hernandez, Spencer Potter, Dan Golub, Joanna Meldrum, CEQA Judicial Outcomes: Fifteen Years of Reported California Appellate and Supreme Court Decisions (2015), p. 3-4, 10, https://www.hklaw.com/files/Uploads/Documents/Articles/0504FINALCEQA.pdf.

45. As noted by senior CEQA practitioner William Fulton, "CEQA provides a way for anybody who wants anything out of a public agency to get some leverage over the situation – whether that's unions, environmentalists, businesses, developers, and even local governments themselves."[47]

46. As the founder of California's first law firm focused on filing CEQA lawsuit petitions, E. Clement Shute, recently reported when accepting a lifetime environmental law firm award from the California State Bar Environmental Section:

> Moving to the bad and ugly side of CEQA, projects with merit that serve valid public purposes and not be harmful to the environment can be killed just by the passage of the time it takes to litigate a CEQA case.
>
> In the same vein, often just filing a CEQA lawsuit is the equivalent of an injunction because lenders will not provide funding where there is pending litigation. This is fundamentally unfair. There is no need to show a high probability of success to secure an injunction and no application of a bond requirement to offset damage to the developer should he or she prevail.
>
> CEQA has also been misused by people whose move is not environmental protection but using the law as leverage for other purposes. I have seen this happen where a party argues directly to argue lack of CEQA compliance or where a party funds an unrelated group to carry the fight. These, in my opinion, go to the bad or ugly side of CEQA's impact.[48]

47. African American radio host and MBA, Eric L. Frazier, called this climate-based CEQA housing regime "environmental apartheid" since whiter, wealthier and older homeowners were less likely to be affected, while aspiring minority homeowners were likely to be denied housing even longer based on community opposition to widespread density increases and destruction of single family homes, bear even higher housing costs given the absence of funding

[47] William Fulton, Insight: Everyone wants to keep leverage under CEQA, California Planning & Development Report (Sept. 30, 2014), http://www.cp-dr.com/node/3585.

[48] E. Clement Shute, Jr., Reprise of Fireside Chat, Yosemite Environmental Law Conference, 25 Envtl Law News, 3 (2016).

sources to expand and replace undersized infrastructure and public services, and never be within reach of purchasing a family home.[49]

48. CARB's 2017 Scoping Plan, and its required CEQA analysis, also provide no assessment of alternatives for achieving the only 1% reduction in GHG emissions that the new housing future will accomplish from other sectors or sources, which could avoid adverse impacts to California's minority communities, avoid increased housing costs and CEQA litigation risks, and avoid impacting existing California communities by—for example—allowing urbanization of even 1% more of California's land.

49. CARB also ignores a history of success in reducing traditional pollutants from cars, as required by the federal and state Clean Air Acts, while preserving the transportation mobility of people and goods. U.S. Environmental Protection Agency ("EPA") reported in 2016 that most auto tailpipe pollutants had declined by 98-99% in comparison to 1960's cars, gasoline got cleaner with the elimination of lead and reduction in sulfur, and even though it had not been directly regulated, the primary GHG from cars (carbon dioxide) has risen nationally by less than 20% even as VMT nationally more than doubled as a co-benefit of mandatory reductions of traditional pollutants.[50]

50. In contrast to this success, CARB's VMT reduction scheme and its ongoing efforts to intentionally increase congestion are an assault on the transportation mobility of people, which disparately harm minority workers who have been forced by the housing crisis to drive ever greater distances to work.

51. CARB staff's response to The Two Hundred's December 2017 comment letter on the 2017 Scoping Plan is plain evidence of the intentional concealment and willful omission of the true impacts of the 2017 Scoping Plan and the GHG Housing Measures on California. CARB

[49] Eric L. Frazier, The Power is Now, Facebook Live Broadcast (Feb. 28, 2018), https://thepowerisnow.com/events/event/jennifer-hernandez/.

[50] U.S. EPA, Historic Success of the Clean Air Act (2016), https://www.epa.gov/air-pollution-transportation/accomplishments-and-success-air-pollution-transportation.

staff said that GHG Housing Measures were in a separate chapter and thus not part of the 2017 Scoping Plan after all.[51]

52. California's climate change policies, and specifically those policies that increase the cost and delay or reduce the availability of housing, that increase the cost of transportation fuels and intentionally worsen highway congestion to lengthen commute times, and further increase electricity costs, have caused and will cause unconstitutional and unlawful disparate impacts to California's minority populations, which now comprise a plurality of the state's population. These impacts also disproportionately affect younger Californians including millennials (the majority of whom are minorities), as well as workers without college degrees.

53. In short, in the midst of California's unprecedented housing, homeless, poverty and transportation crisis, CARB adopted a 2017 Scoping Plan which imposes still higher housing, transportation and electricity costs on Californians. CARB did so without disclosing or assessing the economic consequences or the significant adverse environmental consequences of its GHG Housing Measures on California residents.

54. In doing so, CARB again affirmed its now-wanton and flagrant pattern of violating CEQA—a pattern consistent with what an appellate court termed "ARB's lack of good faith" in correcting earlier CEQA violations as ordered by the courts.

55. The GHG Housing Measures have a demonstrably disproportionate adverse impact on already-marginalized minority communities and individuals, including but not limited to Petitioners LETICIA RODRIGUEZ, TERESA MURILLO and EUGENIA PEREZ, who are Latina residents of Fresno County that are personally, directly and disproportionately adversely affected by the affordable housing shortage and the future exacerbation of that shortage if the GHG Housing Measures are allowed to remain in effect.

56. The Legislature has recognized the equal right to access to housing, *inter alia*, in the California Fair Employment and Housing Act (Gov. Code § 12900 *et seq.*) ("FEHA"). FEHA

[51] Supplemental Responses to Comments on the Environmental Analysis Prepared for the Proposed Strategy for Achieving California's 2030 Greenhouse Gas Target (Dec. 14, 2017), p. 14-16, https://www.arb.ca.gov/cc/scopingplan/final-supplemental-rtc.pdf.

§ 12921(b) provides that: "The opportunity to seek, obtain, and hold housing without discrimination because of race, color, . . . source of income . . . or any other basis prohibited by Section 51 of the Civil Code is hereby recognized and declared to be a civil right."

57. California's housing crisis is particularly acute, and has long-lasting adverse impacts. As the Director of the California Department of Housing and Community Development, Ben Metcalf, recently reported: "Research has been unequivocal in supporting two undeniable conclusions: Low-income households paying more than half their income in rent have profoundly reduced expenditures on food, retirement, health care, and education compared with non–rent-burdened households. And children growing up in neighborhoods of concentrated poverty are more likely to have psychological distress and health problems."[52]

58. The 2017 Scoping Plan is also violative of the due process and equal protection clauses of the California and U.S. Constitutions (Cal. Const. Art. I, § 7, U.S. Const., Amd. 14, § 1). Accordingly, Petitioners in this action seek declaratory and injunctive relief from these violations pursuant to 42 U.S.C. § 1983. The GHG Housing Measures are thus unconstitutional on their face and as applied to Petitioners.

59. While the unlawful and unconstitutional disparate impact of the GHG Housing Measures on minority communities, including Petitioners, is the most egregious feature of the regulations, there are numerous other flaws, *each* of which is fatal to the 2017 Scoping Plan and the GHG Housing Measures. As detailed herein, these include violations of CEQA, the APA, the GWSA, the California Health and Safety Code, including the California Clean Air Act (H&S Code § 39607 *et seq.*) ("CCAA"), and the California Congestion Management Act (Gov. Code § 65088 *et seq.*). Moreover, CARB has acted in excess of its statutory authority (ultra vires).

60. The GHG Housing Measures are unlawful both procedurally (because they were adopted in violation of numerous statutory requirements, including but not limited to CEQA) and substantively (because they frustrate and violate a wide range of state and federal laws and regulations prohibiting housing regulations that have an unjustified discriminatory effect).

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[52] Donna Kimura, Pop Quiz with Ben Metcalf, Affordable Housing Finance (July 8, 2016), http://www.housingfinance.com/news/pop-quiz-with-ben-metcalf_o.

61. California's commitment to climate leadership does not require or allow CARB to violate the civil rights of California's minority communities, or constitutional and statutory mandates for clean air, fair housing, historic preservation, consumer protection, transportation mobility, CEQA, or administrative rulemaking.

62. With climate change repeatedly described as a "catastrophe" that could destroy civilizations, perhaps it is necessary for CARB to plunge more of California's minority residents into poverty and homelessness. If so—if climate change requires that the state ignore civil rights, federal and state clean air, fair housing, transportation and consumer protection mandates, and ignore the administrative law checks and balances that require a thorough environmental and economic assessment of regulatory proposals—then this is a conclusion that may only be implemented by the Legislature, to the extent it can do so consistent with the California and federal Constitutions.

63. For this reason, this action seeks declaratory and injunctive relief setting aside the four GHG Housing Measures, each of which places a disproportionate burden on California's minority community members, including Petitioners, and for the court to direct CARB to complete a thorough economic and environmental analysis prior to adopting any new regulations or taking other actions to implement the 2017 Scoping Plan, and to return to this court with a revised Scoping Plan that complies with state and federal law.

II. JURISDICTION AND VENUE

64. This Court has jurisdiction over this proceeding pursuant to California Code of Civil Procedure ("CCP") §§ 410.10, 1085, 1094.5, 526, *et seq.* and 1060. Defendants are subject to personal jurisdiction because their new GHG Housing Measures would, if allowed to remain in effect, pertain to Petitioners and others located within the County of Fresno. Defendants may be properly be served here, and jurisdiction and venue are proper here under CCP § 401, because Defendants are being sued in their official capacities as members of an agency of the State of California, and the Attorney General maintains an office in Fresno, California and the GHG regulations complained of herein have an effect in, and apply in, the County of Fresno, California.

III. PARTIES

65. Petitioners/Plaintiffs THE TWO HUNDRED are a California-based unincorporated association of community leaders, opinion makers and advocates working in California (including in Fresno County) and elsewhere on behalf of low income minorities who are, and have been, affected by California's housing crisis and increasing wealth gap.[53]

66. The Two Hundred is committed to increasing the supply of housing, to reducing the cost of housing to levels that are affordable to California's hard working families, and to restoring and enhancing home ownership by minorities so that minority communities can also benefit from the family stability, enhanced educational attainment over multiple generations, and improved family and individual health outcomes, that white homeowners have long taken for granted. The Two Hundred includes civil rights advocates who each have four or more decades of experience in protecting the civil rights of our communities against unlawful conduct by government agencies as well as businesses.

67. The Two Hundred supports the quality of the California environment, and the need to protect and improve public health in our communities.

68. The Two Hundred have for many decades watched with dismay decisions by government bureaucrats that discriminate against and disproportionately harm minority communities. The Two Hundred have battled against this discrimination for entire careers, which for some members means working to combat discrimination for more than 50 years. In litigation and political action, The Two Hundred have worked to force two government bureaucrats to reform policies and programs that included blatant racial discrimination—by for example denying minority veterans college and home loans and benefits that were available to white veterans, and promoting housing segregation as well as preferentially demolishing homes in minority communities.

69. The Two Hundred sued and lobbied and legislated to force federal and state agencies to end redlining practices that denied loans and insurance to aspiring minority home

[53] See www.the200leaders.org.

buyers and small businesses. The Two Hundred sued and lobbied to force regulators and private companies to recognize their own civil rights violations, and end discriminatory services and practices, in the banking, telecommunication, electricity, and insurance industries.

70. The Two Hundred have learned, the hard way, that California's purportedly liberal, progressive environmental regulators and environmental advocacy group lobbyists are as oblivious to the needs of minority communities, and are as supportive of ongoing racial discrimination in their policies and practices, as many of their banking, utility and insurance bureaucratic peers.

71. Several years ago, The Two Hundred waged a three year battle in Sacramento to successfully overcome state environmental agency and environmental advocacy group opposition to establishing clear rules for the cleanup of the polluted properties in communities of The Two Hundred, and experienced first-hand the harm caused to those communities by the relationships between regulators and environmentalists who financially benefited from cleanup delays and disputes instead of creating the clear, understandable, financeable, insurable, and equitable rules for the cleanup and redevelopment of the polluted properties that blighted these communities.

72. THE TWO HUNDRED's members include, but are not limited to, members of and advocates for minority communities in California, including the following:

- Joe Coto- Joe Coto is Chair of THE TWO HUNDRED. Mr. Coto is an American educator, city council member, and Democratic politician. From 2004-2010, he was a member of the California State Assembly, representing the 23rd Assembly District. He served as Chair of the Assembly's Insurance committee, and held positions on the Elections and Redistricting, Governmental Organization, and Revenue and Taxation committees. He also served on the Special committee on Urban Education. Coto served as Chair of the 26 member Latino Legislative Caucus for a 2-year term, and as Vice Chair for a 2-year term..
- John Gamboa – John Gamboa is Vice-Chair of THE TWO HUNDRED. Mr. Gamboa is the former Executive Director of the Greenlining Institute and has experience in academia, the private sector and the non-profit sector. Prior to the

Greenlining Institute, he was Executive Director of Latino Issues Forum, Communications Manager at U.C. Berkeley, Executive Director of Project Participar, a citizenship program, and Marketing and Advertising Manager at Pacific Bell. At the Greenlining Institute, Mr. Gamboa focuses on public policy issues that promote economic development in urban and low-income areas, and in developing future leaders within the country's minority youth. He has been active in combating redlining and in providing a voice for the poor and underserved in insurance, philanthropy, banking, housing, energy, higher education and telecommunications. He has served on numerous boards and commissions.

- Cruz Reynoso – Cruz Reynoso, now retired, formerly served as Legal Counsel for THE TWO HUNDRED. Mr. Reynoso has dedicated his life to public service championing civil rights, immigration and refugee policy, government reform, and legal services for the poor. Mr. Reynoso began his career in private practice then moved to public service as the assistant director of the California Fair Employment Practices Commission, the associate general counsel of the Equal Employment Opportunity Commission, and head of the California Rural Legal Assistance (CRLA). Mr. Reynoso was a faculty member at the University of New Mexico School of Law and in 1976, he was appointed associate justice of the California Courts of Appeal. In 1982, he became the first Latino to be appointed an associate justice of the California Supreme Court. Mr. Reynoso later returned to private practice, and resumed his teaching career by joining the UCLA School of Law and then the UC Davis School of Law. Mr. Reynoso has served as Vice Chair of the U.S. Commission on Civil Rights, was a member of the Select Commission on Immigration and Human Rights, and received the Presidential Medal of Freedom.
- José Antonio Ramirez – José Antonio Ramirez is a Council Member of THE TWO HUNDRED. He has dedicated his life to public service, especially for the residents

of the Central Valley, seeking to improve economic vitality, strengthen community life, and increase educational opportunities and housing affordability for all Californians, including disadvantaged members of the Latino community. He currently serves as President of Community Development Inc. and as City Manager for the City of Livingston. He was previously Program Manager, International Affairs Coordinator and Security Engineer and Emergency Management Coordinator for the U.S. Bureau of Reclamation. He served on the San Joaquin River Resource Management board, the Valley Water Alliance Board and as Chairman of the Technical Review Boards for Merced and Fresno County.

- Herman Gallegos – Herman Gallegos is a Council Member of THE TWO HUNDRED. He has provided active leadership in a wide variety of community, corporate and philanthropic affairs spanning local, national and international interests. As a pioneer civil rights activist in the early 1950s, Gallegos was a leader in the formation of the Community Service Organization, a civil rights-advocacy group organized to promote the empowerment and well-being of Latinos in California. In 1965, while serving as a Consultant to the Ford Foundation's National Affairs Program, Gallegos, with Dr. Julian Samora and Dr. Ernesto Galarza, made an assessment with recommendations on how the foundation might initiate support to address the critical needs of the rapidly growing Latino population in the U.S.. As a result, he was asked to organize a new conduit for such funds—the Southwest Council of La Raza, now the National Council of La Raza. Gallegos went on to become the council's founding executive director. Gallegos also served as CEO of several business firms, including the U. S. Human Resources Corporation and Gallegos Institutional Investors Corporation. He became one of the first Latinos elected to the boards of publicly traded corporations and the boards of preeminent private and publicly supported philanthropic organizations, such as the Rockefeller Foundation, The San Francisco Foundation, The Poverello Fund and the California Endowment.

- Hyepin Im – Hyepin Im is a Council Member of THE TWO HUNDRED. She currently serves as the Founder and President of Korean Churches for Community Development (KCCD) whose mission is to help churches build capacity to do economic development work. Under Ms. Im's leadership, KCCD has implemented a historic homeownership fair in the Korean community, a Home Buyer Center Initiative with Freddie Mac, a national database and research study on Korean American churches, and ongoing training programs. Previously, Ms. Im was a venture capitalist for Renaissance Capital Partners, Sponsorship and Community Gifts Manager for California Science Center, a Vice President with GTA Consulting Company, and a Consultant and Auditor with Ernst & Young LLP. Ms. Im serves on the Steering Committee of Churches United for Economic Development, as Chair for the Asian Faith Commission for Assemblymember Herb Wesson, and has served as the President of the Korean American Coalition, is a member of the Pacific Council, was selected to be a German Marshall Fund American Memorial Marshall Fellow, and most recently, was selected to take part in the Harvard Divinity School Summer Leadership Institute.
- Don Perata – Don Perata is a Council Member of THE TWO HUNDRED. Mr. Perata began his career in public service as a schoolteacher. He went on to serve on the Alameda County Board of Supervisors (1986-1994) and the California State Assembly (1996-1998). In 1998, he was elected to the California State Senate and served as president pro tem of the Senate from 2004-2008. As president pro tem, Mr. Perata oversaw the passage of AB 32, California's cap and trade regulatory scheme to reduce greenhouse gases. Mr. Perata has guided major legislation in health care, in-home services, water development and conservation and cancer, biomedical and renewable energy. Mr. Perata has broad experience in water, infrastructure, energy, and environmental policies, both as an elected official and a consultant. He is versed in the State Water Project, Bay Delta restoration,

renewable energy, imported water and water transfers, recycling, conservation, groundwater regulation, local initiative, storage and desalination.

- Steven Figueroa – Steven Figueroa is a Council Member of THE TWO HUNDRED. He was born in East L. A., with a long history in California. Working on his first political campaign at age nine he learned that if you want change you have to be involved. As an adult he was involved in the labor movement through the California School Employees Association and later as a union shop steward at the U.S.P.S. A father of three, Steven has been advocating for children with disabilities for 30 years, beginning in 1985, for his own son, who is autistic. He took the Hesperia School District to court for violating his disabled son's rights and prevailed. He advocates for disabled children throughout the United States, focusing on California. Currently, he serves as president of the Inland Empire Latino Coalition and sits on the advisory boards of California Hispanic Chambers of Commerce, the National Latina Business Women Association Inland Empire the Disability Rights and Legal Center Inland Empire, and as Executive Director for Latin PBS. He previously served as the vice president of the Mexican American Political Association Voter Registration & Education Corp.
- Sunne Wright McPeak – Sunne McPeak is a Council Member of THE TWO HUNDRED. She is the President and CEO of the California Emerging Technology Fund, a statewide non-profit whose mission is to close the Digital Divide by accelerating the deployment and adoption of broadband. She previously served for three years as Secretary of the California Business, Transportation and Housing Agency where she oversaw the largest state Agency and was responsible for more than 42,000 employees and a budget in excess of $11 billion. Prior to that she served for seven years as President and CEO of the Bay Area Council, as the President and CEO of the Bay Area Economic Forum, and for fifteen years as a member of the Contra Costa County Board of Supervisors. She has led numerous statewide initiatives on a variety of issues ranging from water, to housing, to child

care, and served as President of the California State Association of Counties in 1984. She was named by the San Francisco League of Women Voters as "A Woman Who Could Be President." She also served on the Boards of Directors of First Nationwide Bank and Simpson Manufacturing Company.

- George Dean – George Dean is a Council Member of THE TWO HUNDRED. Mr. Dean has been President and Chief Executive Officer of the Greater Phoenix Urban League since 1992. As such, he has brought a troubled affiliate back to community visibility, responsiveness and sound fiscal accountability. Mr. Dean, a former CEO of the Sacramento, California and Omaha, Nebraska affiliates boasts more than 25 years as an Urban League staff member. His leadership focuses on advocacy toward issues affecting the African-American and minority community, education, training, job placement and economic development. Mr. Dean annually raises more than 3 million dollars from major corporations, local municipalities and state agencies for the advancement of minority enterprises, individuals, families and non-profits. Mr. Dean is nationally recognized in the field of minority issues and advancement, and affordable housing.
- Joey Quinto – Joey Quinto is a Council Member of THE TWO HUNDRED. Mr. Quinto's has made many contributions to the advancement of the API community. He began his professional career as a mortgage banker. As a publisher, his weekly newspaper advances the interests of the API community and addresses local, consumer and business news, and community events. He is a member of several organizations including the Los Angeles Minority Business Opportunity Committee and The Greenlining Coalition. Mr. Quinto is the recipient of the Award for Excellence in Journalism during the Fourth Annual Asian Pacific Islander Heritage Awards in celebration of the Asian Pacific Islander American Heritage Month. He was also listed among the Star Suppliers of the Year of the Southern California Regional Purchasing Council, received the Minority Media

Award from the U.S. Small Business Administration, and earned a leadership award from the Filipino American Chamber of Commerce based in Los Angeles.

- Bruce Quan, Jr. – Bruce Quan is a Council Member of THE TWO HUNDRED. Mr. Quan is a fifth generation Californian whose great grandfather, Lew Hing founded the Pacific Coast Canning Company in West Oakland in 1905, then one of the largest employers in Oakland. Bruce attended Oakland schools, UC Berkeley, and Boalt Hall School of Law. At Berkeley, he was a community activist for social justice, participated in the Free Speech Movement and the Vietnam Day Committee and was elected student body president. In 1973, he was chosen as one of three students to clerk for the Senate Watergate Committee and later returned to Washington to draft the "Cover-up" and "Break-in" sections of the committee's final report. He worked in the Alameda's City Attorney office, his own law practice advising Oakland's Mayor Lionel Wilson on economic development issues in Chinatown and serving Mayor Art Agnos as General Counsel for the San Francisco-Shanghai Sister City Committee and the San Francisco-Taipei Sister City Committee. In 2000, he moved to Beijing, continued his law practice, worked as a professor with Peking Law School, and became senior of counsel with Allbright Law Offices. Now in Oakland, he has reengaged in issues affecting the Chinese community and on issues of social justice, public safety and economic development in Oakland.
- Robert J. Apodaca – Robert Apodaca is a Council Member of THE TWO HUNDRED. He is a Founder of ZeZeN Advisors, Inc., a boutique financial services firm that connects institutional capital with developers and real estate owners. He has a 45-year career that spans private and public sectors. He was Chairman and Trustee of Alameda County Retirement Board (pension fund) and then joined Kennedy Associates, an institutional investor for pension funds as Senior Vice President & Partner. He represented Kennedy Companies on Barings Private Equity's "Mexico Fund" board of directors. He later joined McLarand

Vasquez Emsiek & Partners, a leading international architectural and planning firm, as Senior Vice President of Business Development. He currently serves on numerous board of directors including Jobs and Housing Coalition, Greenlining Institute, California Community Builders and California Infill Federation.

- Ortensia Lopez – Ortensia Lopez is a Council Member of THE TWO HUNDRED. She is a nationally recognized leader in creating coalitions, collaboratives and partnerships, resulting in innovative initiatives that ensure participation for low-income communities. Ms. Lopez has worked in the non-profit sector for over forty-one years in executive management positions. She is the second of 11 children born to parents from Mexico and the first to graduate from college. She currently serves on the California Public Utilities Commission's Low-Income Oversight Board, as Co-Chairperson and founding member of the Greenlining Institute, as Vice-President Chicana/Latina Foundation, as Director of Comerica Advisory Board, and on PG&E's Community Renewables Program Advisory Group. Ms. Lopez has earned numerous awards, including Hispanic Magazine's "Hispanic Achievement Award", San Francisco's "ADELITA Award", the prestigious "Simon Bolivar Leadership Award", the League of Women Voters of San Francisco "Woman Who Could Be President" award, California Latino Civil Rights Network award, and the Greenlining Lifetime Achievement.
- Frank Williams – Frank Williams is a Council Member of THE TWO HUNDRED. He is an established leader in the mortgage banking industry, with over 25 years of experience, and is an unwavering advocate for creating wealth through homeownership for underrepresented communities. Frank began his real estate finance career in 1990, emphasizing Wholesale Mortgage Banking. He founded Capital Direct Funding, Inc. in 2009. Today, as Co-founder and Divisional Manager, Mr. Williams has made Capital Direct Funding into California's premier private lending firm. Capital Direct Funding's foundations are built on giving back to the community by supporting several non-profits. He

currently serves as President of East LA Classic Theater, a non-profit that works with underserved school districts in California. Frank was also Past President for Los Angeles' National Association of Hispanic Real Estate Professionals.

- Leticia Rodriguez - Leticia Rodriguez is a resident of Fresno County, California. She is a low-income single mother and Latina who suffers ongoing personal harm from the severe shortage of housing that is affordable to working-class families. Within the last three years, she has spent more than 30% of her income on rent. She has been forced to move into her parents' home because she cannot afford a decent apartment for herself and her family.
- Teresa Murillo – Teresa Murillo is a resident of the City of Parlier in Fresno County, California. She is a young Latina with a low income. In recent years, she has spent approximately 30% of her income on housing. She currently is unable to afford a decent apartment and has been forced to move back in with her parents.
- Eugenia Perez – Eugenia Perez is a resident of Fresno County, California. She is a Latina grandmother. The majority of her income goes to pay rent. She currently is renting a room on E. Fremont Avenue in Fresno. She struggles to pay rent and lives in fear of becoming homeless if housing prices and rent continue to increase.

73. Defendant CALIFORNIA AIR RESOURCES BOARD is an agency of the State of California. On information and belief, current members of the CALIFORNIA AIR RESOURCES BOARD are: Mary D. Nichols, Sandra Berg, John R. Balmes, Hector De La Torre, John Eisenhut, Dean Flores, Eduardo Garcia, John Gioia, Ricardo Lara, Judy Mitchell, Barbara Riordan, Ron Roberts, Phil Serna, Alexander Sherriffs, Daniel Sperling, and Diane Takvorian.

74. Defendant RICHARD COREY, sued herein in his official capacity, is Executive Officer of the CALIFORNIA AIR RESOURCES BOARD.

75. Petitioners are ignorant of the true names or capacities of the defendants sued herein under the fictitious names DOES 1 through 20 inclusive. When their true names and capacities are ascertained, Petitioners will amend this Petition/Complaint to show such true names and capacities. Petitioners are informed and believe, and thereon allege, that DOES 1 through 20,

inclusive, and each of them, are agents or employees of one or more of the named Defendants responsible, in one way or another, for the promulgation and prospective enforcement of the GHG Housing Measures sought to be invalidated and set aside herein.

IV. GENERAL ALLEGATIONS

A. California's Statutory Scheme To Reduce Greenhouse Gas Emissions and Avoid Disparate Impacts

76. As part of developing solutions to global warming, the California Legislature adopted the California Global Warming Solutions Act of 2006 (otherwise known as "AB 32" or the "GWSA") and established the first comprehensive greenhouse gas regulatory program in the United States. H&S Code § 38500 *et seq.*

77. Under AB 32, CARB is the state agency charged with regulating and reducing the sources of emissions of GHGs that cause global warming. H&S Code § 38510.

78. AB 32 required CARB to set a statewide GHG emissions limit equivalent to California's 1990 GHG emissions to be achieved by 2020. H&S Code § 38550.

79. AB 32 also required CARB to prepare, approve, and periodically update a scoping plan detailing how it would achieve the maximum technologically feasible and cost-effective GHG emissions reductions by 2020. H&S Code § 38561(a). The scoping plan is required to identify and make recommendations on direct emissions reductions measures, alternative compliance mechanisms, market-based compliance mechanisms, and potential monetary and nonmonetary incentives for sources to achieve reductions of GHGs by 2020. H&S Code § 38561(b). The scoping plan must be updated at least every five years. H&S Code § 38561(h).

80. In adopting a scoping plan, CARB must evaluate the total potential costs and total potential benefits of the plan to California's economy, environment, and public health. H&S Code § 38561(d).

81. Each scoping plan update also must identify, for each emissions reduction measure, the range of projected GHG emissions reductions that result from the measure, the range of projected air pollution reductions that result from the measure, and the cost-effectiveness, including avoided social costs, of the measure. H&S Code § 38562.7.

82. The initial scoping plan[54] was discussed in public hearings on or about December 11, 2008. The initial scoping plan was adopted by CARB on or about May 7, 2009.

83. On or about December 23, 2009, the initial scoping plan was challenged in the Superior Court for the City and County of San Francisco for failing to meet the statutory requirements of AB 32, the APA, and CEQA. The superior court accepted the challenge in part and the appeal was thereafter resolved after a further environmental document was filed.[55]

84. The Low Carbon Fuel Standard ("LCFS") was an early action item under AB 32. The LCFS was adopted on or about November 25, 2009 by CARB's executive officer. CARB's action to adopt the LCFS also was challenged for CEQA and APA violations. On or about November 2011, the Superior Court of Fresno County found that CARB had not violated the APA or CEQA. On or about July 15, 2013 the Fifth District Court of Appeal reversed the superior court's judgment and ordered it to issue a preemptory writ of mandate ordering CARB to revise and recertify its environmental assessment to meet CEQA's standards.[56]

85. The first update to the scoping plan[57] was adopted on or about May 22, 2014.

86. Thereafter, on or about May 30, 2017, the Fifth District Court of Appeal again found that CARB had violated CEQA and the APA, and that it had not acted in good faith in responding to certain of the Court's prior orders.[58] Specifically, the court found that CARB violated CEQA in deferring its analysis and mitigation of potential increases in nitrogen oxide emissions resulting from impacts of the LCFS regulations.

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[54] California Air Resources Board, Climate Change Scoping Plan (Dec. 2008), https://www.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf.

[55] *Ass'n. of Irritated Residents v. Cal. Air Res. Bd.*, 2011 WL 8897315 (Cal. Super. May 20, 2011) (approving challenges to alternatives analysis and improper "pre-approval" under CEQA) and *Ass'n. of Irritated Residents v. Cal. Air Res. Bd.* (2012) 206 Cal.App.4th 1487.

[56] *POET, LLC v. California Air Resources Board* (2013) 217 Cal.App.4th 1214 (holding that CARB prematurely approved the LCFS and improperly deferred analysis and mitigation of potential NOx emissions increased by the rule).

[57] California Air Resources Board, First Update to the Climate Change Scoping Plan (May 2014), https://www.arb.ca.gov/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf.

[58] *POET, LLC v. State Air Resources Board* (2017) 12 Cal.App. 5th 52.

87. In 2016, the California Legislature adopted SB 32, which required CARB to ensure that rules and regulations adopted pursuant to the GWSA would target California's GHG emissions for reductions of 40% below 1990 levels by 2030. H&S Code § 38566.

88. AB 32 requires CARB to update the scoping plan at least every five years. CARB superseded its 2014 Scoping Plan with the current 2017 Scoping Plan adopted on December 14, 2017. The 2017 Scoping Plan contains the new GHG Housing Measures complained of herein.[59]

89. Between December, 2017 and mid-April, 2018, Petitioners, through counsel, sought to persuade CARB to eliminate or materially modify the four new GHG Housing Measures complained of herein, without success. During this time, the parties entered into a series of written tolling agreements that were continuously operative until April 30, 2018.

B. The 2017 Scoping Plan

90. Throughout 2016 and 2017, CARB prepared the 2017 Scoping Plan. CARB held meetings on or about January 27, 2017, February 16-17, 2017 and December 14, 2017 to accept public comment on the proposed 2017 Scoping Plan.

91. Because the Scoping Plan is both sweeping and vague, and because it was not preceded by a notice of proposed rulemaking, Petitioners THE TWO HUNDRED, *et al.* did not initially appreciate the significance of the new GHG regulations and standards embedded in the 2017 Scoping Plan by CARB staff.

92. Petitioners submitted a detailed letter commenting on the 2017 Scoping Plan on December 11, 2017, in advance of CARB's meeting to vote on the 2017 Scoping Plan.[60] The letter included extensive citations to documents and publications analyzing California's ongoing housing crisis and the disproportionate impact of the worsening housing shortage on marginalized minority communities.

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[59] California Air Resources Board, The 2017 Climate Change Scoping Plan Update (Jan. 20, 2017), https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf.

[60] The Two Hundred Comment Letter dated Dec. 11, 2017, can be found in the Supplemental Responses to Comments on the Environmental Analysis Prepared for the Proposed Strategy for Achieving California's 2030 Greenhouse Gas Target (Dec. 14, 2017), p. 74, https://www.arb.ca.gov/cc/scopingplan/final-supplemental-rtc.pdf

93. On December 14, 2017, CARB adopted the 2017 Scoping Plan.

94. While the 2017 Scoping Plan is replete with protestations to the effect that it is only providing "guidance" rather than a "directive or mandate to local governments" (see, e.g., Scoping Plan, p. 99), it is plain that CARB's pronouncements on the GHG Housing Measures, by their nature, will be given the force and effect of law. Numerous courts have stated that when an agency has specific expertise in an area and/or acts as lead or responsible agency under CEQA, and publishes guidance, that guidance must be taken into consideration and will be given heavy weight.

95. In *California Building Industry Assn. v. Bay Area Air Quality Mgmt. Dist.* (2016) 2 Cal.App.5th 1067, 1088, the court rejected the notion that the District's CEQA guidelines were a nonbinding, advisory document. The court stated that the guidelines suggested a routine analysis of air quality in CEQA review and were promulgated by an air district that acts as either lead or responsible agency on projects within its jurisdictional boundaries.

96. In addition, in *Center for Biological Diversity v. Cal. Dept. of Fish and Wildlife* (2015) 62 Cal.4th 204, 229, the court recognized the value of "performance based standards" as CEQA thresholds, as outlined in the Scoping Plan or other authoritative body of regulations.

97. Further, in *Cleveland Nat. Forest Foundation, et al v. San Diego Assoc. of Governments* (2017) 3 Cal.5th 497, 515, the court held that even though the 2050 Executive Order was not an adopted GHG reduction plan and there was no legal requirement to use it as a threshold of significance, that was not dispositive of the issue. Although lead agencies have discretion in designing an Environmental Impact Report ("EIR") under CEQA, the court stated that the exercise of that discretion must be "based to the extent possible on scientific and factual data" and thus the scientific basis for the Executive Order's and CARB's emission reduction goals must be considered in a CEQA analysis.

98. Thus, because CEQA documents must take a long term view of GHG compliance and because of the deference and weight other agencies are required to give to CARB guidance, the measures alleged to be "guidance" are in reality self-implementing regulations having an immediate "as applied" effect.

99. The LAO also has recognized that CARB's Scoping Plans include "a wide variety of regulations intended to help the state meet its GHG goal…"[61]

C. CARB's Improper "Cumulative Gap" Reduction Requirement

100. In AB 32, the Legislature directed CARB to reduce statewide GHG emissions to 1990 levels by 2020 via measures in the first Scoping Plan. This legislative mandate is simple and uncontested. CARB concluded that California's GHG emissions were 431 million metric tons of carbon dioxide equivalent ("$MMTCO_2e$") in 1990.

101. SB 32 established the more stringent mandate of reducing GHG emissions to 40% below 1990 levels by 2030, even though California's population and economic activities are expected to continue to increase during this period. The 2030 Target is simple math: 40% below 431 $MMTCO_2e$ equals 258.6 $MMTCO_2e$.[62] Thus, the 2017 Scoping Plan created measures to reduce statewide emissions to 260 MMTCO2e by 2030.

102. The 2017 Scoping Plan first evaluates the "Reference Scenario", which is the emissions expected in 2030 by continuing "Business as Usual" and considering existing legal mandates to reduce GHG emissions that have been implemented, but without adopting any new GHG reduction measures. The Scoping Plan concludes that in this scenario California's GHG .emissions will fall to 389 MMTCO2e by 2030.

103. Because numerous GHG reduction mandates are being phased in over time, CARB also evaluated a "Known Commitments Scenario" (which CARB confusingly named the "Scoping Plan Scenario") which estimates GHG emissions in 2030 based on compliance with all legally required GHG reduction measures, including those that have not yet been fully implemented. Under the "Known Commitments Scenario" the 2017 Scoping Plan concludes that California's GHG emissions will fall to 320 MMTCO2e by 2030.

[61] LAO, Cap-and-Trade Revenues: Strategies to Promote Legislative Priorities (Jan. 21, 2016), http://www.lao.ca.gov/reports/2016/3328/cap-trade-revenues-012116.pdf, at p. 5-6.

[62] CARB generally rounds this to 260 MMTCO2e.

104. Given that SB 32 required a reduction to 260 MMTCO2e, this left a gap of 60 MMTCO2e for which CARB was required to identify measures in the 2017 Scoping Plan in the "Known Commitments Scenario" and 129 MMTCO2e in the "Reference Scenario".

105. CARB declined to comply with this legislated mandate, and instead invented a different "cumulative gap" reduction requirement which requires far more GHG emission reductions.

106. Neither the Scoping Plan nor any of its appendices explain how this "cumulative gap" reduction requirement was derived, and the methodology and assumptions CARB used can only be located in one of several modeling spreadsheets generally referenced in the plan.

107. CARB's unlegislated "cumulative gap" requirement is based on the unsupportable assumption that state emissions must decline in a fixed trajectory from 431 $MMTCO_2e$ in 2020 to 258.6 MMTCO2e in 2030 despite the fact that SB 32 does not require that the state reach the 2030 Target in any specific way. CARB arbitrarily created the "cumulative gap" requirement by summing the annual emissions that would occur from 2021-2030 if emissions declined in a straight line trajectory, which totaled 3,362 MMTCO2e, as follows:

	Annual emissions based on a straight line trajectory from 2020 to 2030 ($MMTCO_2e$)
2020	431.0
2021	413.8
2022	396.5
2023	379.3
2024	362.0
2025	344.8
2026	327.6
2027	310.3
2028	293.1
2029	275.8
2030	258.6
2021-2030 Cumulative Emissions	3,362

108. CARB then summed the annual emissions projected to occur from 2021-2030 under the "Reference Scenario" without the implementation of the measures included in the "Known Commitments Scenario," as 3,982 MMTCO2e.

109. CARB then subtracted the cumulative "Reference Scenario" emissions (3,982 $MMTCO_2e$) from the cumulative emissions based on the straight line trajectory (3,362 $MMTCO_2e$) and illegally used the difference, 621 $MMTCO_2e$, as a new, unlegislated GHG "cumulative gap" reduction requirement.

Year	"Reference Scenario" Annual Emissions ($MMTCO_2e$)
2020	415.8
2021	411.0
2022	405.5
2023	400.3
2024	397.6
2025	398.7
2026	396.8
2027	395.5
2028	394.4
2029	393.9
2030	388.9
2021-2030 Cumulative Emissions	3,982
Difference from Straight Line Cumulative Emissions Total	621

110. Scoping Plan Figure 7, for example, is titled "Scoping Plan Scenario – Estimated Cumulative GHG Reductions by Measure (2021–2030)." The identified measures show the amount of reductions required to "close" the 621 $MMTCO_2e$ GHG "cumulative gap" CARB invented from the difference in cumulative emissions from 2021-2030 between a hypothetical straight line trajectory to the 2030 Target and the "Reference Scenario" projections.

111. Figure 8 of the Scoping Plan and associated text provide an "uncertainty analysis to examine the range of outcomes that could occur under the Scoping Plan policies and measures" which is entirely based on the 621 $MMTCO_2e$ GHG "cumulative gap" metric.[63]

112. CARB also calculated that the cumulative annual emissions projected to occur under the "Known Commitments Scenario" from 2021-2030 would be 3,586 MMTCO2e and subtracted this amount from the cumulative emissions generated by the straight line trajectory (3,362 $MMTCO_2e$). The difference is 224 $MMTCO_2e$, which is incorrectly shown as 236 $MMTCO_2e$ in Table 3 of the Scoping Plan and in the text following Table 3. CARB illegally characterized the 224 $MMTCO_2$ difference as the "cumulative emissions reduction gap" in the "Known Commitments Scenario" in the Scoping Plan and evaluated the need for additional measures on the basis of "closing" this unlegislated and unlawful "cumulative gap".

Year	"Known Commitments Scenario" Annual Emissions ($MMTCO_2e$)
2020	405.5
2021	396.8
2022	387.1
2023	377.6
2024	367.4
2025	362.7
2026	354.4
2027	347.1
2028	340.4
2029	331.8
2030	320.4
2021-2030 Cumulative Annual Emissions	3,586
Difference from Straight Line Cumulative Emissions Total	224

[63] The analysis discussion references Scoping Plan Appendix E for more details.

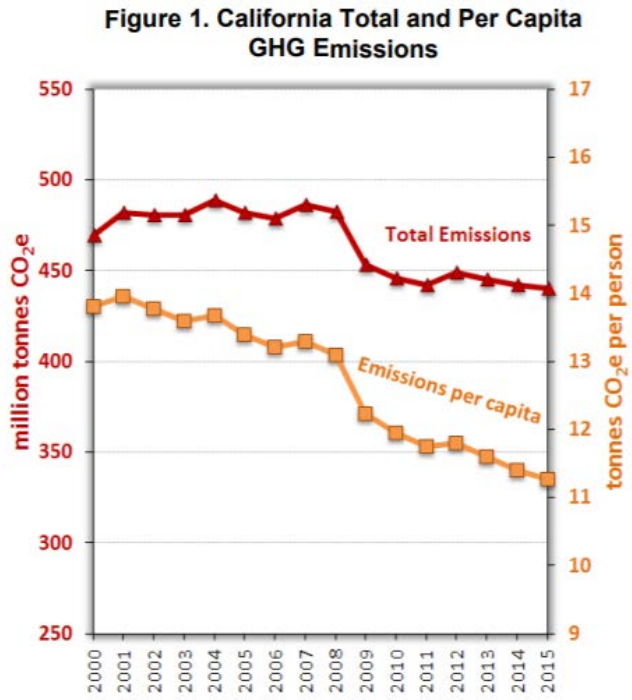
113. The California legislature in no way authorized CARB to invent a "cumulative gap" methodology based on an unreasonable and arbitrary straight line trajectory from 2020 to the 2030 Target, which counted each year's shortfall against the 2030 Target and then added all such shortfalls to inflate reduction needed from the 129 and 60 $MMTCO_2e$ (depending on scenario) required by the 2030 Target to the 621 and 224 $MMTCO_2e$ "cumulative gap" requirements.

114. SB 32 does not regulate cumulative emissions and only requires that the 2030 Target of 260 MMTCO2e be achieved by 2030. CARB's own analysis shows that existing legal requirements will reduce emissions to 320 $MMTCO_2e$ in 2030. At most, CARB was authorized to identify measures in the Scoping Plan that would further reduce emissions by 60 $MMTCO_2e$ in 2030 under the "Known Commitments Scenario". CARB instead illegally created new, and much larger "cumulative gap" reduction requirements of 224 $MMTCO_2e$ and 621 $MMTCO_2e$.

115. CARB arbitrarily determined that the straight line trajectory to the 2030 Target was the only way to reach the mandate of 260 MMTCO2e by 2030 when there are numerous potential paths that California's GHG emission reductions could take between 2021 and 2030.

116. For example, as shown in Figure 1 below, in reaching the 2020 Target, California's GHG emissions reductions have not followed a straight line trajectory, but have gone up and down based on the economy and other factors.[64]

[64] Figure 1 is from the California Air Resources Board's 2017 Edition of California's GHG Emission Inventory (June 6, 2017), p. 2, https://www.arb.ca.gov/cc/inventory/pubs/reports/2000_2015/ghg_inventory_trends_00-15.pdf.



117. CARB's arbitrary and capricious requirement that reductions must meet a cumulative GHG reduction total, rather than take any path feasible that gets the state to the 2030 Target is unlawful.

118. Both AB 32 (and earlier Scoping Plans) and SB 32 contemplated a "step down" of GHG emissions to the quantity established for the target year, with the "step down" increments occurring as new technologies, regulations, and other measures took effect. This step down approach has been part of air pollution control law for decades.

119. Under the federal Clean Air Act ("CAA"), the EPA sets National Ambient Air Quality Standards ("NAAQS") that set air quality levels in certain years for specific pollutants (*e.g.*, the 2015 NAAQS for ozone is 70 ppb and it must be achieved as expeditiously as possible). States then create and adopt State Implementation Plans ("SIPs") which include control measures to indicate how the state will meet the NAAQS standard. The reductions that the SIPs must achieve via their control measures to reach the NAAQS are always interpreted as being applicable to the target year, *i.e.,* how much reduction will need to occur in one year to reduce emissions from business as usual to the NAAQS level? The SIPs do not plan for emission reduction measures that must reduce emissions cumulatively over time (from the time of adoption of the

2015 ozone NAAQS until the year it is reached), such that not meeting the NAAQS in earlier years means that those excess emissions must be added to future years to create the required emissions reductions to balloon over time as the NAAQS goes unmet.

120. In addition, criteria air pollutants regulated by EPA, CARB, and California's local air districts are always regulated under a cost/ton disclosure metric in which the expected cost to reduce emissions must be not only explained in rulemaking documents, but taken into consideration in deciding whether to adopt any rule controlling emissions. This system has worked to reduce tailpipe emissions of criteria pollutants from passenger cars by 99% over time.

121. Given this clear and consistent pattern of EPA and CARB interpretation of the legal status of air quality levels to be achieved by a certain time, it was arbitrary and capricious for CARB to create this "deficit accounting" metric in the cumulative gap analysis rather than merely creating measures which would meet the 2030 Target by 2030.

122. CARB also used the unlawful "cumulative gap" reduction metric to identify the nature and extent of Scoping Plan reduction measures, including the GHG Housing Measures, address uncertainties in achieving these reductions, and to complete the legally mandated FA and EA for the 2017 Scoping Plan.

123. CARB's unilateral creation and use of the "cumulative gap" reduction requirement instead of the statutory SB 32 2030 Target is unlawful, and imposes new cost burdens, including on housing, that will further exacerbate the housing-induced poverty crisis.

D. The Four New, Unlawful GHG Housing Measures the 2017 Scoping Plan Authorizes

1. Unlawful VMT Reduction Requirement

124. Among the new regulations and standards added to CARB's 2017 Scoping Plan—which were not in any of its earlier scoping plans—is a requirement to reduce VMT. This requirement is part of the Scoping Plan Scenario presented in Chapter 2 in the "Mobile Source Strategy."[65]

[65] See Scoping Plan, p. 25 Table 1: Scoping Plan Scenario (listing Mobile Source Strategy (Cleaner Technology and Fuels [CTF] Scenario)).

125. The "Mobile Source Strategy" includes a requirement to reduce VMT. This allegedly would be achieved by continued implementation of SB 375, regional Sustainable Communities Strategies, statewide implementation of SB 743, and potential additional VMT reduction strategies included in Appendix C ("Potential VMT Reduction Strategies for Discussion"). Scoping Plan, p. 25.

126. The 2017 Scoping Plan states that "VMT reductions will be needed to achieve the 2030 target" and to meet the 2050 GHG emission reduction goal set in Executive Order S-3-05. Scoping Plan, p. 75.

127. CARB states that VMT reductions of 7 percent below projected VMT are necessary by 2030 and 15 percent below projected VMT by 2050. Scoping Plan, p. 101.

128. The "Mobile Source Strategy" measure requires a 15 percent reduction in total light-duty VMT from the business as usual scenario by 2050. Scoping Plan, p. 78. It also requires CARB to work with regions to update SB 375 targets to reduce VMT to reach the 2050 goal and to implement VMT as the CEQA metric for assessing transportation impacts. ***Id.***

129. The "Mobile Source Strategy" as a whole is estimated to result in cumulative GHG emission reductions of 64 $MMTCO_2e$ per year. Scoping Plan, p. 28.

130. These VMT reduction requirements are included in the 2017 Scoping Plan without appropriate recognition of the counterproductive effects of such a fixation on reducing VMT in the context of affordable housing proximate to job centers.

131. The 2017 Scoping Plan notes that promoting stronger boundaries to suburban growth, such as urban growth boundaries, will reduce VMT. Scoping Plan, p. 78. This also raises housing prices within the urban growth boundary and pushes low-income Californians, including minorities, to unacceptable housing locations with long drive times to job centers.

132. Other VMT reduction measures in the 2017 Scoping Plan, such as road user and/or VMT-based pricing mechanisms, congestion pricing, and parking pricing, further disadvantage low-income and minority residents who must drive farther through more congested roads.

133. The VMT reductions called for in Chapters 2 and 5 of the Scoping Plan make no distinction for miles driven by electric vehicles with zero GHG emissions or for miles driven by

hybrid vehicles when using only electric power. Instead, they would advance a suite of new burdens, including charging individual drivers for each vehicle mile travelled, and intentionally increasing overall roadway congestion to induce more workers to use public transit.

134. CARB's new VMT requirements, which purport to encourage public transit, essentially ignore the fact that far fewer than 10% of Californians can get from their home to their jobs in less than one hour on public transit, and that public transit ridership has fallen nationally and in California.[66] CARB's new VMT requirements fail to rationally address the reality that VMT continues to increase rather than decrease in California due to increasing population and employment levels.[67]

135. CARB's answer to reducing VMT by increasing bicycling, walking, and transit use is a laughable solution for low-income Californians, such as those living in the San Joaquin Valley and commuting to jobs in the San Francisco Bay Area.[68]

136. The burden of CARB's VMT reduction measures falls disproportionately on minority workers already forced by the housing crisis to endure long and even "mega" commutes lasting more than three hours per day.[69] The vast majority of middle and lower-income jobs (disproportionately performed by minority workers) require those workers to be physically present at their job sites to be paid. Affected job categories include teachers, nurses, emergency

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[66] Laura J. Nelson, *L.A. Bus Ridership Continues to Fall: Officials Now Looking to Overhaul the System*, L.A. Times (May 23, 2017) http://www.latimes.com/local/lanow/la-me-ln-bus-ridership-study-20170518-story.html; Center for Transportation Studies, Access Across America, University of Minnesota (2017) http://www.cts.umn.edu/research/featured/access.

[67] California Air Resources Board, Updated Final Staff Report, Proposed Update to the SB 375 Greenhouse Gas Emission Reduction Targets, Feb. 2018, https://www.arb.ca.gov/cc/sb375/sb375_target_update_final_staff_report_feb2018.pdf, p. 19.

[68] Conor Dougherty, Andrew Burton, *A 2:15 Alarm, 2 Trains and a Bus Get Her to Work by 7 A.M.*, N.Y. Times (Aug. 17, 2017), https://www.nytimes.com/2017/08/17/business/economy/san-francisco-commute.html.

[69] 2007 and 2016 American Community Survey 1-Year Estimates, Table B08303 series (Travel Time To Work, Workers 16 years and over who did not work at home), https://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t (showing increase in commute time from 2007 to 2016 in California and Bay Area); 2007 and 2016 American Community Survey 1-Year Estimates, Table S802 series (Means of transportation to work by selected characteristics), https://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t (showing more Latino and noncitizen workers commuting to work by driving alone).

responders, courtroom and municipal service workers, construction workers, day care and home health care workers, retail clerks, and food service workers.[70]

137. In addition to being ill-conceived, CARB's new VMT measures are not statutorily authorized. The Legislature has repeatedly rejected proposed legislation to mandate that Californians reduce their use of cars and light duty trucks (e.g., personal pickup trucks), including most recently in 2017 (Senate Bill 150, Allen).

138. Only a different agency, the Office of Planning and Research ("OPR"), has legislative authority to regulate VMT. It has not done so. In Senate Bill 743 (2013), the Legislature authorized OPR to consider adopting VMT as a new threshold for assessing the significance of transportation impacts under CEQA, but only after OPR completed a rulemaking process and amended the regulatory requirements implementing CEQA, *i.e.*, the CEQA Guidelines (14 C.C.R. § 15000 *et seq.*) ("CEQA Guidelines"). OPR has commenced but not completed the process for amending the CEQA Guidelines as authorized by SB 743.

139. Instead of regulating VMT, CARB's role under SB 375 is to encourage higher density housing and public transit and thereby reduce GHGs. In this context, CARB has included VMT reduction metrics for helping achieve GHG reduction goals in current SB 375 targets.

140. In the past, when CARB proposed to establish standalone VMT reduction targets (independent of GHG emission reduction targets) it has been swamped with objections and concerns, including challenges to its legal authority to attempt to impose fees and restrictions on driving as a standalone mandate independent of regional GHG reduction targets.

141. Until its adoption of the 2017 Scoping Plan, CARB had rightly stopped short of purporting to set out standalone VMT reduction targets and methods. At the same meeting that CARB approved the 2017 Scoping Plan, CARB agreed to indefinitely postpone establishing regional VMT reduction targets for a variety of reasons (including but not limited to the fact that notwithstanding current efforts, VMT is actually increasing).

[70] Adam Nagourney and Conor Dougherty, *The Cost of a Hot Economy in California: A Severe Housing Crisis,* N.Y. Times (July 17, 2017), https://www.nytimes.com/2017/07/17/us/california-housing-crisis.html.

142. Immediately following its determination to indefinitely postpone its proposal to adopt standalone VMT reduction targets, CARB nevertheless voted to approve the 2017 Scoping Plan's VMT reduction mandate, which includes in pertinent part a GHG measure requiring additional VMT reductions beyond the reductions achieved via SB 743 and SB 375. See Scoping Plan p. 25, Table 1, p. 101.

143. The inherent contradiction between the morning CARB agenda discussion indefinitely postponing establishing SB 375 VMT reduction targets, and CARB's afternoon agenda item approving the 2017 Scoping Plan, going above and beyond the VMT reductions CARB elected not to set a few hours earlier, caused widespread confusion. Even the CARB Board chair reported that she was "confused" – but CARB's unlawful action to mandate reduced driving by individual Californians was nevertheless unanimously approved in the 2017 Scoping Plan that CARB has now adopted.

144. In order to achieve these newly-mandated reductions in VMT, CARB intends to intentionally increase congestion to induce transit use. OPR's proposal for updating the CEQA Guidelines to include VMT as a metric for analyzing transportation impacts states that adding new roadway capacity increases VMT.[71] The OPR proposal further states that "[r]educing roadway capacity (i.e. a "road diet") will generally reduce VMT and therefore is presumed to cause a less than significant impact on transportation. Building new roadways, adding roadway capacity in congested areas, or adding roadway capacity to areas where congestion is expected in the future, typically induces additional vehicle travel." *Id.* at p. III:32.

145. Attempting to reduce VMT by purposefully increasing congestion by reducing roadway capacity will not lead to GHG emission reductions. Instead, increasing congestion will cause greater GHG emissions due to idling, not to mention increased criteria air pollutant[72] and

[71] OPR, Revised Proposal on Updates to the CEQA Guidelines Evaluating Transportation Impacts in CEQA (Jan. 20, 2016), p. I:4, http://www.opr.ca.gov/docs/Revised_VMT_CEQA_Guidelines_Proposal_January_20_2016.pdf.

[72] The six criteria air pollutants designated by the Environmental Protection Agency ("EPA") are particulate matter ("PM"), ozone, nitrogen dioxide ("NO_2" or "NOx"), carbon monoxide ("CO"), sulfur dioxide ("SO_2"), and lead.

toxic air contaminant[73] emissions. CARB has no authority to impose a VMT limit and any VMT limit imposed by an agency must be approved in a formal rulemaking process.

146. As implemented, CARB's VMT reduction measure will not achieve the GHG reductions ascribed to it in the 2017 Scoping Plan and has no rational basis. In fact, it will increase air quality and climate related environmental impacts, something not analyzed in the EA for the 2017 Scoping Plan.

147. In addition, CARB has recently undergone an update of regional GHG emission reduction targets under SB 375 in which CARB stated that: "In terms of tons, CARB staff's proposed [SB 375] targets would result in an estimated additional reduction of approximately 8 million metric tons of CO2 per year in 2035 compared to the existing targets. The estimated remaining GHG emissions reductions needed would be approximately 10 million metric tons CO2 per year in 2035 based on the Scoping Plan Update scenario. These remaining GHG emissions reductions are attributed to new State-initiated VMT reduction strategies described in the Scoping Plan Update."[74]

148. Thus, CARB's only stated support for needing the VMT reduction mandates in the 2017 Scoping Plan is to close a gap to the Scoping Plan Update Scenario that the SB 375 targets will not meet. However, all of the allegedly "necessary" reductions in the Scoping Plan Update Scenario are based on CARB's unlawful "cumulative gap" reduction requirement, which, as described above, improperly ballooned the GHG reductions required from 60 to 224 $MMTCO_2e$ based on the "Known Commitments Scenario" and from 129 to 621 $MMTCO_2e$ based on the "Reference Case Scenario."

149. Because of CARB's unlawful "cumulative gap" calculation, CARB now argues that the VMT reduction mandates are necessary, but the only reason they are necessary is to meet the unlawful "cumulative gap" reduction requirements.

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[73] Toxic air contaminants, or TACs, include benzene, hexavalent chrome, cadmium, chloroform, vinyl chloride, formaldehyde, and numerous other chemicals.

[74] California Air Resources Board, Updated Final Staff Report, Proposed Update to the SB 375 Greenhouse Gas Emission Reduction Targets (Feb. 2018), p. 35, https://www.arb.ca.gov/cc/sb375/sb375_target_update_final_staff_report_feb2018.pdf.

150. There is also no evidence that CARB's estimated 10 MMTCO2e per year reductions based on the VMT reduction mandate is in any way achievable. The Right Type, Right Place report[75] estimates only 1.79 MMTCO2e per year will be reduced from both lower VMT and smaller unit size houses using less energy and thus creating lower operational emissions.

151. The Staff Report for SB 375 acknowledges that VMT has increased, that the results of new technologies are at best mixed in early reports as to VMT reductions, and that the correlation between VMT and GHG is declining.[76] There is no evidence that the 10 MMTCO2e per year reductions based on the VMT reduction mandate in the 2017 Scoping Plan is in any way something other than a number created solely based on the fundamental miscalculation about the 2030 target demonstrated by the "cumulative gap" methodology in the 2017 Scoping Plan.

2. Unlawful CEQA Net Zero GHG Threshold

152. The 2017 Scoping Plan also sets a net zero GHG threshold for all projects subject to CEQA review, asserting that "[a]chieving no net additional increase in GHG emissions, resulting in no contribution to GHG impacts, is an appropriate overall objective for new development". Scoping Plan, p. 101-102.

153. The Scoping Plan directs that this new CEQA "zero molecule" GHG threshold be presumptively imposed by all public agencies when making all new discretionary decisions to approve or fund projects in all of California, where under CEQA "project" is an exceptionally broad legal term encompassing everything from transit projects to recycled water plants, from the renovation of school playgrounds to building six units of affordable housing, from the adoption of General Plans applicable to entire cities and counties to the adoption of a single rule or regulation.

154. This is an unauthorized, unworkable and counterproductive standard as applied to new housing projects. CEQA applies to the "whole of a project", which includes construction

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[75] Nathaniel Decker et al., Right Type Right Place: Assessing the Environmental and Economic Impacts of Infill Residential Development through 2030, U.C. Berkeley Terner Center for Housing Innovation and Center for Law, Energy and the Environment (Mar. 2017), https://ternercenter.berkeley.edu/right-type-right-place.

[76] California Air Resources Board, Updated Final Staff Report, Proposed Update to the SB 375 Greenhouse Gas Emission Reduction Targets (Feb. 2018), p. 19, https://www.arb.ca.gov/cc/sb375/sb375_target_update_final_staff_report_feb2018.pdf.

activities, operation of new buildings, offsite electricity generation, waste management, transportation fuel use, and a myriad of other activities. Meeting a net zero threshold for these activities is not possible. While there have been examples of "net zero" buildings—which are more expensive than other housing[77]—none of these examples included the other components of a "project" as required by CEQA.

155. The Scoping Plan's "net zero" CEQA provisions also would raise housing and homeowner transportation costs and further delay completion of critically needed housing by increasing CEQA litigation risks—thereby exacerbating California's acute housing and poverty crisis.[78]

156. Despite CARB's claim that this "net zero" threshold is "guidance", CARB's status as the expert state agency on GHG emissions means that all lead agencies or project proponents will have to accept this standard in CEQA review unless they can prove by substantial evidence that a project cannot meet the standard.

157. The threshold has immediate evidentiary weight as the expert conclusion of the state's expert GHG agency. An agency's failure to use the 2017 Scoping Plan's CEQA threshold has already been cited as legal error in the comment letter preceding the expected lawsuit against the Northlake housing project in Los Angeles.[79]

158. A "net zero" GHG threshold is inconsistent with current California precedent affirming that compliance with law is generally an acceptable CEQA standard. See, e.g., *Center for Biological Diversity v. Dept. of Fish and Wildlife* (2016) 62 Cal.4th 204, 229 ("*Newhall"*) (a lead agency can assess consistency with AB 32 goal by looking to compliance with regulatory programs). This includes, but is not limited to, using compliance with the cap-and-trade program as appropriate CEQA mitigation for GHG and transportation impacts.

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[77] LAO, Evaluating California's Pursuit of Zero Net Energy State Buildings (Nov. 14, 2017), http://www.lao.ca.gov/Publications/Report/3711.

[78] Chang-Tai Hsieh and Enrico Moretti, *How Local Housing Regulations Smother the U.S. Economy*, N.Y. Times (Sept. 6, 2017), https://www.nytimes.com/2017/09/06/opinion/housing-regulations-us-economy.html.

[79] Center for Biological Diversity, Letter to Los Angeles County (April 16, 2018), http://planning.lacounty.gov/assets/upl/case/tr073336_correspondence-20180418.pdf.

159. The Scoping Plan's expansive new "net zero" GHG CEQA threshold is directly at odds with, and is dramatically more stringent than, the existing CEQA regulatory threshold for GHG emissions. This existing threshold was adopted by OPR pursuant to specific authorization and direction from the Legislature in SB 97. In the SB 97 rulemaking context, OPR, in its Statement of Reasons, expressly rejected a "zero molecule" or "no net increase" GHG threshold (now adopted by CARB without Legislative authority) as being inconsistent with, and not supported by, CEQA's statutory provisions or applicable judicial precedent. OPR stated that "[n]otably, section 15064.4(b)(1) is not intended to imply a zero net emissions threshold of significance. As case law makes clear, there is no "one molecule rule" in CEQA."[80]

160. In January of 2017, OPR commenced a formal rulemaking process for what it describes as a "comprehensive" set of regulatory amendments to the CEQA Guidelines. After adoption of the 2017 Scoping Plan, OPR has not proposed to change the existing GHG thresholds in the Guidelines to conform with CARB's unauthorized new "net zero" GHG threshold. Instead, OPR has expressly criticized reliance on a numerical project-specific assessment of GHGs.

161. In short, CARB's "net zero" GHG threshold is inconsistent with OPR's legal conclusion that CEQA cannot be interpreted to impose a "net zero" standard.[81]

162. In addition to being Legislatively unauthorized and unlawful, the "net zero" GHG threshold would operate unconstitutionally so as to disproportionately disadvantage low income minorities in need of affordable housing relative to wealthier, whiter homeowners who currently occupy the limited existing housing stock.[82] This disadvantage arises because of the use of CEQA

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[80] OPR, Final Statement of Reasons for Regulatory Action, Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB 97 (Dec. 2009), p. 25, http://resources.ca.gov/ceqa/docs/Final_Statement_of_Reasons.pdf.

[81] See OPR, Proposed Updates to the CEQA Guidelines (Nov. 2017), p. 81-85, http://opr.ca.gov/docs/20171127_Comprehensive_CEQA_Guidelines_Package_Nov_2017.pdf.

[82] See Richard Rothstein, Color of Law: A Forgotten History of How Our Government Segregated America (2017) for a historical review of how zoning and land use laws were designed to promote discrimination against African Americans and other communities of color, patterns that, in many instances, have been maintained to this day; see also Housing Development Toolkit, The White House (Sept. 2016), https://www.whitehouse.gov/sites/whitehouse.gov/files/images/Housing_Development_Toolkit%20f.2.pdf.

litigation by current homeowners to block new housing for others, including especially low income housing for minorities.[83]

163. Under CEQA, once an impact is considered "significant", it must be "mitigated" by avoidance or reduction measures "to the extent feasible." Pub. Res. Code §§ 21002, 21002.1; 14 C.C.R. § 15020(a)(2). By imposing a presumptive "net zero" GHG threshold on all new projects pursuant to CEQA, CARB has instantly and unilaterally increased the GHG CEQA mitigation mandate to "net zero" unless a later agency applying CEQA can affirmatively demonstrate, through "substantial evidence", that this threshold is not "feasible" as that term is defined in the CEQA Guidelines.

164. Under CEQA, any party—even an anonymous litigant—can file a CEQA lawsuit challenging the sufficiency of a project's analysis and mitigation for scores of "impacts," including GHG emissions. *See Save the Plastic Bag Coalition v. City of Manhattan Beach* (2011) 52 Cal.4th 155.

165. Anonymous use of CEQA lawsuits, as well as reliance on CEQA lawsuits to advance economic objectives such as fast cash settlements, union wage agreements, and competitive advantage, has been repeatedly documented—but Governor Brown has been unable

[83] See Jennifer L. Hernandez, California Environmental Quality Act Lawsuits and California's Housing Crisis, 24 Hastings Envtl. L.J. (2018), https://www.hklaw.com/files/Uploads/Documents/Articles/121317_HELJ_Jennifer_Hernandez.pdf; see also Jennifer Hernandez, David Friedman, and Stephanie DeHerrera, In the Name of the Environment Update: CEQA Litigation Update for SCAG Region (2013-2015) (Jul. 2016), https://www.hklaw.com/files/UPloads/Documents/Alerts/Environment/InfillHousingCEQALawsuits.pdf; Jennifer Hernandez, David Friedman, and Stephanie DeHerrera, In the Name of the Environment: Litigation Abuse Under CEQA (August 2015), https://www.hklaw.com/publications/in-the-name-of-the-environment-litigation-abuse-under-ceqa-august-2015/.

to secure the Legislature's support for CEQA because, as he explains, unions use CEQA to leverage labor agreements.[84]

166. Using CEQA to advance economic rather than environmental objectives, and allowing anonymous lawsuits to mask more nefarious motives including racism and extortion, has established CEQA litigation (and litigation threats) as among the top reasons why adequate housing supplies have not been built near coastal jobs centers.[85]

167. The "net zero" threshold, as applied to new housing projects in California, adds significantly to the risk and CEQA litigation outcome uncertainty faced by persons who wish to build such housing.[86] Not even the California Supreme Court, in *Newhall, supra,* 62 Cal.4th 204, could decide how CEQA should apply to a global condition like climate change in the context of considering the GHG impacts of any particular project. Instead, the Supreme Court identified four "potential pathways" for CEQA compliance. Notably, none of these was the "net zero" threshold adopted by CARB in its 2017 Scoping Plan.

168. The California Supreme Court has declined to mandate, under CEQA, a non-statutory GHG threshold. Instead, the California Supreme Court has recognized that this area remains in the province of the Legislature, which has acted through directives such as SB 375. *Cleveland National Forest Foundation v. San Diego Assn. of Gov'ts* (2017) 3 Cal.5th 497 ("*SANDAG"*).

169. As explained in The Two Hundred's comment letter, and referenced academic and other studies in that letter, the top litigation targets of CEQA lawsuits statewide are projects that

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[84] See Jennifer Hernandez, David Friedman, and Stephanie DeHerrera, In the Name of the Environment Update: CEQA Litigation Update for SCAG Region (2013-2015) (Jul. 2016), https://www.hklaw.com/files/UPloads/Documents/Alerts/Environment/InfillHousingCEQALawsuits.pdf, p. 10-12 (stating Governor Brown's 2016 conclusion that CEQA litigation reform was politically impossible because labor unions use litigation threats to "hammer" project sponsors into agreeing to enter into union labor agreements, and Building Trades Council lobbyist Caesar Diaz testimony in "strong opposition" to legislative proposal to require disclosure of the identity and interests of those filing CEQA lawsuits at the time CEQA lawsuits are filed, rather than at the end of the litigation process when seeking attorneys' fees, wherein Mr. Diaz concluded that requiring such disclosure would "dismantle" CEQA).

[85] Legislative Analyst's Office, California's High Housing Costs: Causes and Consequences, May 17, 2015, http://www.lao.ca.gov/reports/2015/finance/housing-costs/housing-costs.aspx.

[86] See *Id.*

include housing.[87] Over a three year period in the SCAG region, nearly 14,000 housing units were challenged in CEQA lawsuits, even though 98% of these units were located in already developed existing communities and 70% were located within a short distance of frequent transit and other existing infrastructure and public services. This and a referenced prior study also showed that the vast majority of CEQA lawsuits filed statewide are against projects providing housing, infrastructure and other public services and employment uses within existing communities.[88]

170. Thus, the same minority families victimized by the housing-induced poverty crisis, and forced to drive ever longer distances to qualify for housing they can afford to rent or buy are disproportionately affected by CEQA lawsuits attacking housing projects that are proximate to jobs.

171. Expanding CEQA to require only future occupants of acutely needed housing units to double- and triple-pay to get to and from work with a CEQA mitigation obligation to purchase GHG offsets to satisfy a "net zero" threshold unlawfully and unfairly discriminates against new occupants in violation of equal protection and due process.

172. Finally, CARB's "net zero" threshold fails to address the likelihood that it will actually be counterproductive because of "leakage" of California residents driven out to other states because of unaffordable housing prices.[89] Including this measure in the 2017 Scoping Plan bypasses statutory requirements to discourage and minimize "leakage"—movement of

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[87] See Jennifer L. Hernandez, California Environmental Quality Act Lawsuits and California's Housing Crisis, 24 Hastings Envtl. L.J. (2018), https://www.hklaw.com/files/Uploads/Documents/Articles/121317_HELJ_Jennifer_Hernandez.pdf; see also Jennifer Hernandez, David Friedman, and Stephanie DeHerrera, In the Name of the Environment Update: CEQA Litigation Update for SCAG Region (2013-2015) (Jul. 2016), https://www.hklaw.com/files/UPloads/Documents/Alerts/Environment/InfillHousingCEQALawsuits.pdf; Jennifer Hernandez, David Friedman, and Stephanie DeHerrera, In the Name of the Environment: Litigation Abuse Under CEQA (August 2015), https://www.hklaw.com/publications/in-the-name-of-the-environment-litigation-abuse-under-ceqa-august-2015/

[88] *Ibid.*

[89] California experienced a net loss of 556,710 former residents to other states during 2010 to 2017. U.S. Census Bureau, Table 4. Cumulative Estimates of the Components of Resident Population Change for the United States, Regions, States, and Puerto Rico: April 1, 2010 to July 1, 2017 (NST-EST2017-04) (Dec. 2017), https://www.census.gov/data/datasets/2017/demo/popest/nation-total.html.

economically productive activities to other states or countries that have much higher GHG emissions on a per capita basis than California. Imposing "net zero" standards that end up shutting down or blocking economic activities in California results in a global increase in GHGs when those activities move to other states or countries with higher per capita GHG emissions.[90]

173. It is noteworthy that the GWSA and SB 32 "count" only GHG emissions produced within the state, and from the generation of out-of-state electricity consumed in the state. When a family moves from California to states such as Texas (nearly three times higher per capita GHG emissions) or Nevada (more than double California's per capita GHG emissions), *global* GHG emissions increase even though California's GHG emissions decrease.

174. The housing crisis has resulted in a significant emigration of families that cannot afford California housing prices, and this emigration increases global GHG emissions—precisely the type of "cumulative" contribution to GHGs that OPR explains should be evaluated under CEQA, rather than CARB's net zero GHG threshold which numerically-focuses on project-level GHG emissions and mitigation.[91]

175. The Scoping Plan's CEQA threshold is appropriately justiciable, and should be vacated for the reasons set forth herein.

3. Unlawful Per Capita GHG Targets for Local Climate Action Plans

176. California's per capita GHG emissions are already far lower than all but two states. The only state with low per capita GHG emissions that is comparable to California is New York, which has a lower per capita GHG emission level but also six nuclear power plants

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[90] Philip Reese, *California Exports Its Poor to Texas, Other States, While Wealthier People Move In*, The Sacramento Bee (Mar. 5, 2017), http://www.sacbee.com/news/state/california/article136478098.html; Drew Lynch, *Californians Consider Moving Due to Rising Housing Costs, Poll Finds*, Cal Watchdog (Sept. 21, 2017), https://calwatchdog.com/2017/09/21/californians-consider-moving-due-rising-housing-costs-poll-finds/; U.S. Energy Information Agency, State Carbon Dioxide Emissions Data, October 2017, https://www.eia.gov/environment/emissions/state/.

[91] Philip Reese, *California Exports Its Poor to Texas, Other States, While Wealthier People Move In*, The Sacramento Bee (Mar. 5, 2017), http://www.sacbee.com/news/state/california/article136478098.html; Drew Lynch, *Californians Consider Moving Due to Rising Housing Costs, Poll Finds*, Cal Watchdog (Sept. 21, 2017), https://calwatchdog.com/2017/09/21/californians-consider-moving-due-rising-housing-costs-poll-finds/; U.S. Energy Information Agency, State Carbon Dioxide Emissions Data, October 2017, https://www.eia.gov/environment/emissions/state/.

(compared to California's one) as well as more reliable hydropower from large dams that are less affected by the cyclical drought cycles affecting West Coast rivers.[92]

177. California's current very low per capita GHG emissions are approximately 11 MMTCO2e.

178. The existing CEQA Guidelines include a provision that allows projects that comply with locally-adopted "climate action plans" ("CAPs") to conclude that project-related GHG emissions are less than significant, and thus require no further mitigation that would add to the cost of new housing projects.

179. In *Newhall*, *supra,* 62 Cal.4th at 230, the California Supreme Court endorsed CAPs, and wrote that a project's compliance with an approved CAP could be an appropriate "pathway" for CEQA compliance. No local jurisdiction is required by law to adopt a CAP, but if a CAP is adopted, then the Supreme Court has held that it must have enforceable measures to actually achieve the CAP's GHG reduction target. *SANDAG, supra,* 3 Cal.5th 497.

180. The CAP compliance pathway through CEQA was upheld in *Mission Bay Alliance v. Office of Community Invest. & Infrastructure* (2016) 6 Cal.App.5th 160. This compliance pathway provides a more streamlined, predictable, and generally cost-effective pathway for housing and other projects covered by the local CAP.

181. In stark contrast, CARB's unlawful new per capita GHG requirements effectively direct local governments—cities and counties—to adopt CAPs that reduce per capita GHG emissions from eleven to six MMTCO2e per capita by 2030, and to two MMTCO2e per capita by 2050. This mandate is unlawful.

182. First, CARB has no statutory authority to impose any 2050 GHG reduction measure in CAPs or otherwise since the Legislature has repeatedly declined to adopt a 2050 GHG target (including by rejecting earlier versions of SB 32 that included such a 2050 target), and the California Supreme Court has declined to interpret CEQA to mandate a 2050 target based on an Executive Order. *SANDAG, supra,* 3 Cal.5th at 509; *Newhall, supra,* 62 Cal.4th at 223.

[92] U.S. Energy Information Agency, State Carbon Dioxide Emissions Data, October 2017, https://www.eia.gov/environment/emissions/state/.

183. Second, the Scoping Plan attributes the vast majority of state GHG emissions to transportation, energy, and stationary source sectors over which local governments have little or no legal jurisdiction or control. A local government cannot prohibit the sale or use of gasoline or diesel-powered private vehicles, for example—nor can a local government regulate and redesign the state's power grid, or invent and mandate battery storage technology to capture intermittent electricity produced from solar and wind farms for use during evening hours and cloudy days.

184. The limited types of GHG measures that local governments can mandate (such as installation of rooftop solar, water conservation, and public transit investments) have very small—or no—measurable quantitative effect on GHG emission reductions. The 2017 Scoping Plan Appendix recommending local government action does not identify any measure that would contribute more than a tiny fraction toward reducing a community's per capita GHG emissions to six metric tons or two metric tons, respectively.

185. Additionally, under state law, local governments' authority to require more aggressive GHG reductions in buildings is subject to a cost-effectiveness test decided by the California Building Standards Commission ("CBSC")—the same CBSC that has already determined that "net zero", even for single family homes and even for just the electricity used in such homes, is *not* yet feasible or cost-effective to impose.[93]

186. Third, it is important to consider the per capita metrics that the 2017 Scoping Plan wants local governments to achieve in their localized climate action plans in a real world context. Since most of the world's energy is still produced from fossil fuels, energy consumption is still highly correlated to economic productivity and per capita incomes and other wealth-related metrics such as educational attainment and public health.[94] The suggested very low per capita

[93] California Energy Commission, 2019 Building Energy Efficiency Standards PreRulemaking Presentation - Proposed 2019 Building Energy Efficiency Standards ZNE Strategy (Aug. 24, 2017), http://docketpublic.energy.ca.gov/PublicDocuments/17-BSTD-01/TN220876_20170824T105443_82217_ZNE_Strategy_Presentation.pdf.

[94] See Mengpin Ge, Johannes Friedrich, and Thomas Damassa, 6 Graphs Explain the World's Top 10 Emitters, World Resources Institute (Nov. 25, 2014), https://wri.org/blog/2014/11/6-graphs-explain-world%E2%80%99s-top-10-emitters (see tables entitled "Per Capita Emissions for Top 10 Emitters" and "Emissions Intensity of Top 10 Emitters" showing that emissions are generally linked to GDP).

metrics in the 2017 Scoping Plan are currently only achieved by countries with struggling economies, minimal manufacturing and other higher wage middle income jobs, and extremely high global poverty rates.

187. Growing economies such as China and India bargained for, and received, permission to substantially increase their GHG emissions under the Paris Accord precisely because economic prosperity remains linked to energy use.[95] This is not news: even in the 1940's, the then-Sierra Club President confirmed that inexpensive energy was critical to economic prosperity AND environmental protection.

188. Nor has CARB provided the required economic or environmental analysis that would be required to try to justify its irrational and impractical new per capita GHG target requirements. As with CARB's project-level "net zero" CEQA threshold, the per capita CEQA expansion for CAPs does not quantify the GHG emission reductions to be achieved by this measure.

189. Finally, these targets effectively create CEQA thresholds as compliance with a CAP is recognized by the California Supreme Court as a presumptively valid CEQA compliance pathway. *Newhall, supra,* 62 Cal.4th at 230 (stating that local governments can use climate action plans as a basis to tier or streamline project-level CEQA analysis). The targets clearly establish CARB's position on what would (or would not) be consistent with the 2017 Scoping Plan and the State's long-term goals. Courts have stated that GHG determinations under CEQA must be consistent with the statewide CARB Scoping Plan goals, and that CEQA documents taking a goal-consistency approach to significance need to consider a project's effects on meeting the State's longer term post-2020 goals. Thus, these per capita targets are essentially self-implementing CEQA requirements that lead and responsible agencies will be required to use.

190. The CAP measure thus effectively eliminates the one predictable CEQA GHG compliance pathway that has been upheld by the courts, compliance with an adopted CAP. The

[95] Marianne Lavelle, *China, India to Reach Climate Goals Years Early, as U.S. Likely to Fall Far Short,* Inside Climate News (May 16, 2017), https://insideclimatenews.org/news/15052017/china-india-paris-climate-goals-emissions-coal-renewable-energy.

pathway that CARB's per capita GHG targets would unlawfully displace is fully consistent with the existing CEQA Guidelines adopted pursuant to full rulemaking procedures based on express Legislative direction.

191. In short, the 2017 Scoping Plan directs local governments to adopt CAPs—which the Supreme Court has explained must then be enforced—with per capita numeric GHG reduction mandates in sectors that local governments have no legal or practical capacity to meet, without any regard for the consequential losses to middle income jobs in manufacturing and other business enterprises, or to the loss of tax revenues and services from such lost jobs and businesses,[96] or to the highly disparate impact that such anti-jobs measures would have on minority populations already struggling to get out of poverty and afford housing.

192. While the 2017 Scoping Plan acknowledges that some local governments may have difficulty achieving the per capita targets if their communities have inherently higher GHG economic activities, such as agriculture or manufacturing, such communities are required to explain why they cannot meet the numeric targets—and withstand potential CEQA lawsuit challenges from anyone who can file a CEQA lawsuit.

193. As with CARB's project-level "net zero" CEQA threshold, CARB's new per capita GHG targets are entirely infeasible, unlawful, and disparately affect those in most need of homes they can afford with jobs that continue to exist in manufacturing, transportation, and other sectors having GHG emissions that are outside the jurisdiction and control of local governments.

[96] Just four states—Ohio, Pennsylvania, Georgia and Indiana—collectively have a population and economy comparable with California. With a combined gross product of $2.25 trillion in 2016, these four states would be the 8th largest economy in the world if considered a nation. Yet despite achieving five times more GHG emission reductions than California since 2007, in 2016 these four states had 560,000 fewer people in poverty and 871,000 more manufacturing jobs (including 200,000 new jobs from 2009 to 2017 compared with just 53,000 in California). U.S. Bureau of Labor Statistics, Monthly Total Nonfarm Employment, Seasonally Adjusted, https://www.bls.gov/data/; U.S. Bureau of Economic Analysis, Table 3. Current-Dollar Gross Domestic Product (GDP) by State, 2016:Q1-2017:Q3, https://www.bea.gov/newsreleases/regional/gdp_state/qgdpstate_newsrelease.htm; Liana Fox, The Supplemental Poverty Measure: 2016, U.S. Census Bureau Report Number: P60-261 (Sept. 21, 2017), https://www.census.gov/library/publications/2017/demo/p60-261.html; U.S. Census Bureau, 2016 American Community Survey 1-Year Estimates, Table B15001, Sex by age by educational attainment for the population 18 years and over, https://factfinder.census.gov/.

They are also inconsistent with current standards and common sense and result in unjustifiable disproportionate adverse impacts on California minorities, including Petitioners.

4. Appendix C "Vibrant Communities" Policies Incorporating Unlawful VMT, "Net Zero" and CO2 Per Capita Standards

194. Chapter 5 of CARB's 2017 Scoping Plan explains that notwithstanding the other GHG Housing Measures (*e.g.*, the VMT reduction mandated in Chapter 2), California must do "more" to achieve the 2030 Target. With this in mind, CARB purports to empower eight new state agencies—including itself—with a new, non-legislated role in the plan and project approval process for local cities and counties. This hodgepodge of unlegislated, and in many cases Legislatively-rejected, new "climate" measures is included in what the Scoping Plan calls a "Vibrant Communities" appendix.

195. Cities and counties have constitutional and statutory authority to plan and regulate land use, and related community-scale health and welfare ordinances. Cities and counties are also expressly required to plan for adequate housing supplies, and in response to the housing crisis and resulting poverty and homeless crisis, in 2017 the Legislature enacted 15 new bills designed to produce more housing of all types more quickly. These include: Senate Bills ("SB") 2, SB 3, SB 35, SB 166, SB 167, SB 540, SB 897, and Assembly Bills ("AB") 72, AB 73, AB 571, AB 678, AB 1397, AB 1505, AB 1515, and AB 1521.

196. The Legislature has periodically, and expressly, imposed new statutory obligations on how local agencies plan for and approve land use projects. For example, in recent years, the Legislature required a greater level of certainty regarding the adequacy of water supplies as well as expressly required new updates to General Plans, which serve as the "constitution" of local land use authority, to expressly address environmental justice issues such as the extent to which poor minority neighborhoods are exposed to disproportionately higher pollution than wealthier and whiter neighborhoods.

197. Local government's role in regulating land uses, starting with the Constitution and then shaped by scores of statutes, is where the "rubber hits the road" on housing: without local

government approval of housing, along with the public services and infrastructure required to support new residents and homes, new housing simply cannot get built.

198. The Legislature has repeatedly authorized and/or directed specific agencies to have specific roles in land use decisionmaking.

199. The Legislature also is routinely asked to impose limits on local land use controls that have been rejected during the legislative process, such as the VMT reduction mandates described above. The Vibrant Communities Scoping Plan appendix is a litany of new policies, many of which were previously considered and rejected by the Legislature, directing eight state agencies to become enmeshed in directing the local land use decisions that under current law remain within the control of cities and counties (and their voting residents) and not within any role or authority delegated by the Legislature.

200. Just a few examples of Vibrant Community Scoping Plan measures adopted by CARB that have been expressly considered and rejected by the Legislature or are not legal include:

(A) **Establishing mandatory development area boundaries (urban growth boundaries) around existing cities,** that cannot be changed even if approved by local voters as well as the city and county, to encourage higher density development (*e.g.*, multi-story apartments and condominiums) and to promote greater transit use and reduce VMT. An authoritative study that CARB funded, as well as other peer reviewed academic studies, show that there is no substantial VMT reduction from these high density urban housing patterns—although there is ample confirmation of "gentrification" (displacement of lower income, disproportionately minority) occupants from higher density transit neighborhoods to distant suburbs and exurbs where workers are forced to drive greater distances to their jobs.[97] Mandatory urban growth boundaries have been routinely rejected in the Legislature. See AB 721 (Matthews, 2003)

[97] UCLA Department of Urban and Regional Planning, Oriented For Whom? The Impacts of TOD on Six Los Angeles Neighborhoods (June 2, 2015), http://www.urbandisplacement.org/sites/default/files/images/spring_2015_tod.pdf.

(proposing the addition of mandatory urban growth boundaries in the land use element of municipalities' general plans).

(B) **Charging new fees for cities and counties to pay for "eco-system services"** such as carbon sequestration from preserved vegetation on open space forests, deserts, agricultural and rangelands. Taxes or fees could not be imposed on residents of Fresno or Los Angeles to pay for preservation of forests in Mendocino or watersheds around Mount Lassen unless authorized by votes of the people or the Legislature—*except* that payment of fees has become a widespread "mitigation measure" for various "impacts" under CEQA. The 2017 Scoping Plan's express approval of the "Vibrant Communities" Appendix creates a massive CEQA mitigation measure work-around that can be imposed in tandem with agency approvals of local land use plans and policies that entirely bypasses the normal constitutional and statutory requirements applicable to new fees and taxes. Since CEQA applies only to new agency approvals, this unlawful and unauthorized framework effectively guarantees that residents of newly-approved homes will be required to shoulder the economic costs of the additional "mitigation" measures. This idea of taxation has been rejected by voter initiatives such as Proposition 13 (which limits ad valorem tax on real property to 1 percent and requires a 2/3 vote in both houses to increase state tax rates or impose local special taxes) and Proposition 218 (requiring that all taxes and most charges on property owners are subject to voter approval).

(C) **Intentionally worsening roadway congestion**, even for voter-funded and CARB-approved highway and roadway projects, to "induce" people to rely more on walking, biking, and public transit, and reduce VMT. Efficient goods movement, and avoidance of congestion, on California's highways and roads is required under both federal and state transportation and air quality laws. This component of "Vibrant Communities" is another example of a VMT reduction mandate, but is even more flatly inconsistent with applicable laws and common sense. Voters have routinely approved funding for new carpool lanes and other congestion relief projects. The goods movement industry—which is linked to almost 40% of all economic activity in Southern California and is critical to agricultural and other product-based business sectors throughout

California—cannot function under policies that intentionally increase congestion.[98] CARB has itself approved hundreds of highway improvement projects pursuant to the Legislative mandates in SB 375—yet the "Vibrant Communities" appendix unilaterally rejects this by telling Californians not to expect any relief from gridlock, ever again. The Legislature and state agencies have also consistently rejected VMT reduction mandates. See SB 150 (Allen, 2017) (initially requiring regional transportation plans to meet VMT reductions but modified before passage); SB 375 (Steinberg, 2008) (early version stating bill would require regional transportation plan to include preferred growth scenario designed to achieve reductions in VMT but modified before passage).

(D) **Mileage-based road pricing strategies which charge a fee per miles driven.** These types of "pay as you drive" fees are barred by current California law, which prohibits local agencies from "imposing a tax, permit fee or other charge" in ways that would create congestion pricing programs. Vehicle Code § 9400.8. Yet CARB attempts to override a Legislative mandate via the 2017 Scoping Plan and its "Vibrant Communities" strategies.

201. Through the Vibrant Communities strategies, CARB attempts to give state agencies expansive authority and involvement in city and county decisionmaking. The 2017 Scoping Plan asserts that the Vibrant Communities strategies will reduce GHG emissions by an amount that is "necessary" to achieving California's 2030 Target. However, no effort is made by CARB to quantify the reductions it anticipates would result from injecting these agencies into local decisionmaking processes. Instead, CARB merely states that the "Vibrant Communities" appendix is a supposedly-necessary step to meet the 2030 Target.

202. The eight named state agencies CARB attempts to give unauthorized authority over local actions are:[99]

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[98] Edward Humes, *Four Easy Fixes for L.A. Traffic*, L.A. Times (Apr. 10, 2016), http://www.latimes.com/opinion/livable-city/la-oe-humes-why-cant-trucks-and-cars-just-get-along-20160410-story.html; Eleanor Lamb, *California Eyes Future Projects to Relieve Freight Congestion,* Transport Topics (Mar. 26, 2018), http://www.ttnews.com/articles/california-eyes-future-projects-relieve-freight-congestion.

[99] Several of the eight named agencies are parent agencies, each of which has several subordinate agencies and departments. If these are counted, they collectively elevate the number of state agencies being coopted to join in CARB's local land use power grab to nearly twenty.

(1) **Business, Consumer Services and Housing Agency**, which among other subordinate agencies includes the Department of Housing and Community Development (HCD), which alone among these agencies has direct statutory responsibility for designating housing production and corresponding land use planning requirements for cities and counties;

(2) **California Environmental Protection Agency**, which is the parent agency for CARB as well as several other agencies and departments;

(3) **California Natural Resources Agency**, another parent agency of subordinate agencies and departments;

(4) **California State Transportation Agency**, most notably **Caltrans** – which the Scoping Plan would redirect from implementing their statutory responsibilities to reduce congestion and facilitate transportation on the state's highways to instead advancing CARB's "road diet" policy of intentionally increasing congestion to satisfy CARB's desire to induce more public transit ridership;

(5) **California Health and Human Services Agency**, which among other duties administers health and welfare assistance programs;

(6) **California Department of Food and Agriculture**, which among other duties regulates food cultivation and production activities;

(7) **Strategic Growth Council**, formed in 2008 by SB 732, which is tasked with "coordinating" activities of state agencies to achieve a broad range of goals but has no independent statutory authority to regulate housing or local land use plans and projects; and

(8) **Governor's Office of Planning and Research**, which has statutory responsibility to issue the CEQA Guidelines as well as "advisory" guidelines for local agency preparation of General Plans pursuant to Gov. Code § 65040.

203. The "Vibrant Communities" Appendix includes provisions that conflict with applicable law and/or have been rejected by the Legislature and cannot now be imposed by CARB through the 2017 Scoping Plan given California's comprehensive scheme of agency-allocated land use obligations (certain agencies—such as California Department of Fish and

Game, the Regional Water Quality Control Boards, and the Coastal Commission—already possess land use authority or obligations based on statutory or voter-approved schemes).

204. If CARB intends that other agencies be imbued with similar land use authority, it should ask the Legislature for such authority for those agencies, not its own Board. The "Vibrant Communities" Appendix should be struck from the 2017 Scoping Plan for this reason.

205. Less housing that is more expensive (urban growth boundary)[100], increased housing cost (CEQA mitigation measure fees), and ever-worsening gridlock resulting in ever-lengthier commutes with ever-increasing vehicular emissions and ever-reduced time at home with children, is the dystopian "necessity" built into the "Vibrant Communities" appendix.

206. Bureaucrats and tech workers in the "keyboard" economy who can work remotely, with better wages, benefits and job security that remove the economic insecurity of lifetime renter status, should be just fine. They can live in small apartments in dense cities filled with coffee shops and restaurants, rely on home delivery of internet-acquired meals and other goods, and enjoy "flextime" jobs that avoid the drudgery of the five-day work week model.

207. But for the rest of the California populace—including particularly the people (disproportionately minorities) staffing those restaurants and coffee shops, delivering those goods, providing home healthcare and building and repairing our buildings and infrastructure, and those Californians that are actually producing food and manufacturing products that are consumed in California and around the world—"Vibrant Communities" is where they can't afford to live, where they sleep in their cars during the week, where they fall into homelessness for missing rental payments because of an illness or injury to themselves or a family member.[101] For these folks, "Vibrant Communities" amounts to an increase in poverty, homelessness, and premature "despair deaths" as well as permanent drop outs from the work force.

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[100] Shishir Mathur, Impact of Urban Growth Boundary on Housing and Land Prices: Evidence from King County, Washington, Journal of Housing Studies Vol. 29 – Issue 1 (2014), https://tandfonline.com/doi/abs/10.1080/02673037.2013.825695.

[101] Alastair Gee, *Low-income workers who live in RVs are being 'chased out' of Silicon Valley streets,* The Guardian (June 29 2017), https://www.theguardian.com/us-news/2017/jun/29/low-income-workers-rvs-palo-alto-california-homeless.

208. For the foregoing reasons, the "Vibrant Communities" appendix is an unlawful and unconstitutional attempt by CARB to supplant existing local land use law and policy processes with a top-down regime that is both counterproductive and discriminatory against already-disadvantaged minority Californians, including but not limited to Petitioners.

E. CARB's Inadequate Environmental Analysis and Adverse Environmental Effects of the 2017 Scoping Plan

209. Along with the 2017 Scoping Plan, CARB prepared an EA purporting to comply with CEQA requirements.[102]

210. Under its certified regulatory program, CARB need not comply with requirements for preparing initial studies, negative declarations, or environmental impact reports. CARB's actions, however, remain subject to other provisions of CEQA. CEQA Guidelines § 15250.

211. CARB's regulatory program is contained in 17 C.C.R. §§ 60005, 60006, and 60007. These provisions require the preparation of a staff report at least 45 days before the public hearing on a proposed regulation, which report is required to be available for public review and comment. It is also CARB's policy "to prepare staff reports in a manner consistent with the environmental protection purposes of [ARB's] regulatory program and with the goals and policies of [CEQA]." The provisions of the regulatory program also address environmental alternatives and responses to comments on the EA.

212. For purposes of its CEQA review, CARB defined the project as the Proposed Strategy for Achieving California's 2030 Greenhouse Gas Target (Scoping Plan) and the recommended measures in the 2017 Plan (Chapter 2).

213. The Draft EA was released on or about January 20, 2017 for an 80-day public review period that concluded on or about April 10, 2017.

214. On or about November 17, 2017, CARB released the Final EA. CARB did not modify the Draft EA to bring it into compliance with CEQA's requirements.

[102] CARB has a regulatory program certified under Pub. Res. Code § 21080.5 and pursuant to this program CARB conducts environmental analyses to meet the requirements of CEQA.

215. The Final EA provides a programmatic analysis of the potential for adverse environmental impacts associated with implementation of the 2017 Scoping Plan. It also describes feasible mitigation measures for identified significant impacts.

216. The Final EA states that, although the 2017 Scoping Plan is a State-level planning document that recommends measures to reduce GHG emissions to achieve the 2030 target, and its approval does not directly lead to any adverse impacts on the environment, implementation of the measures in the Plan may indirectly lead to adverse environmental impacts as a result of reasonably foreseeable compliance responses.

217. The Final EA also states that CARB expects that many of the identified potentially significant impacts can be feasibly avoided or mitigated to a less-than-significant level either when the specific measures are designed and evaluated (e.g., during the rulemaking process) or through any project-specific approval or entitlement process related to compliance responses, which typically requires a project-specific environmental review.

218. The EA violated CEQA by failing to comply with its requirements in numerous ways, as described below.

1. Deficient Project Description

219. The EA's Project description was deficient because CARB did not assess the "whole of the project" as required by CEQA. The GHG Housing Measures are included in the 2017 Scoping Plan (in Chapters 2 and 5) and thus the "project" for CEQA purposes should have been defined to include potential direct and indirect impacts on the environment from the four GHG Housing Measures. Instead, CARB described the Project for CEQA purposes as the measures only in Chapter 2 of the 2017 Scoping Plan.

220. CARB has acknowledged that Chapter 5 of the 2017 Scoping Plan (which sets out the new GHG Housing Measures) was not part of what it analyzed in issuing the Scoping Plan. In CARB's words, "These recommendations in the 'Enabling Local Action' subchapter of the

Scoping Plan are not part of the proposed 'project' for purposes of CEQA review."[103] Thus, CARB admits that it did not even pretend to analyze the consequences of the provisions of Chapter 5 of the Scoping Plan.

221. The VMT reduction requirement is part of the Scoping Plan Scenario presented in Chapter 2 in the "Mobile Source Strategy".[104] Chapter 2 is included in the description of the Project in the EA but Chapter 5 is not, despite the fact that the VMT reduction mandate is found in both chapters.

222. For this reason, CARB applied an unreasonable and unlawful "project" definition and undermined CEQA's informational and decision-making purposes.

2. Improper Project Objectives

223. The Project objectives in the EA are also improperly defined in relation to the 2017 Scoping Plan, the unlawful GHG Housing Measures, and the goals explained in the 2017 Scoping Plan.[105] The EA states that the primary objectives of the 2017 Scoping Plan are:

- Update the Scoping Plan for achieving the maximum technologically feasible and cost-effective reductions in GHG emissions to reflect the 2030 target;
- Pursue measures that implement reduction strategies covering the State's GHG emissions in furtherance of executive and statutory direction to reduce GHG emissions to at least 40 percent below 1990 levels by 2030;
- Increase electricity derived from renewable sources from one-third to 50 percent;
- Double efficiency savings achieved at existing buildings and make heating fuels cleaner;
- Reduce the release of methane and other short-lived climate pollutants;

[103] Supplemental Responses to Comments on the Environmental Analysis Prepared for the Proposed Strategy for Achieving California's 2030 Greenhouse Gas Target (Dec. 14, 2017), p. 14-16, https://www.arb.ca.gov/cc/scopingplan/final-supplemental-rtc.pdf.

[104] Scoping Plan, p. 25 Table 1: Scoping Plan Scenario (listing Mobile Source Strategy (Cleaner Technology and Fuels [CTF] Scenario)).

[105] Appendix F to 2017 Scoping Plan, Final Environmental Analysis for the Strategy for Achieving California's 2030 Greenhouse Gas Target, p. 10-11, https://www.arb.ca.gov/cc/scopingplan/2030sp_appf_finalea.pdf.

- Pursue emission reductions that are real, permanent, quantifiable, verifiable and enforceable;
- Achieve the maximum technologically feasible and cost-effective reductions in GHG emissions, in furtherance of reaching the statewide GHG emissions limit;
- Minimize, to the extent feasible, leakage of emissions outside of the State;
- Ensure, to the extent feasible, that activities undertaken to comply with the measures do not disproportionately impact low-income communities;
- Ensure, to the extent feasible, that activities undertaken pursuant to the measures complement, and do not interfere with, efforts to achieve and maintain the NAAQS and CAAQS and reduce toxic air contaminant ("TAC") emissions;
- Consider overall societal benefits, including reductions in other air pollutants, diversification of energy sources, and other benefits to the economy, environment, and public health;
- Minimize, to the extent feasible, the administrative burden of implementing and complying with the measure;
- Consider, to the extent feasible, the contribution of each source or category of sources to statewide emissions of GHGs;
- Maximize, to the extent feasible, additional environmental and economic benefits for California, as appropriate;
- Ensure that electricity and natural gas providers are not required to meet duplicative or inconsistent regulatory requirements.

224. Because CARB used the unlawful "cumulative gap" methodology to calculate the emission reductions that it was required to achieve by 2030, the 2017 Scoping Plan does not meet the project objectives as described in the EA, *i.e.*, to meet the 2030 Target.

225. As explained throughout this Petition, CARB's 2017 Scoping Plan and the unlawful GHG Housing Measures are not cost-effective, are contrary to law, are not equitable to all Californians, and will increase criteria and TAC emissions preventing attainment of the NAAQS and CAAQS

226. For this reason, other alternatives to the 2017 Scoping Plan, including an alternative without the GHG Housing Measures, should have been assessed in the EA.

3. Illegal Piecemealing

227. CEQA requires an environmental analysis to consider the whole of the project and not divide a project into two or more pieces to improperly downplay the potential environmental impacts of the project on the environment.

228. CARB improperly piecemealed its 2017 Scoping Plan and the GHG Housing Measures within it from its similar and contemporaneous SB 375 GHG target update.[106] Both projects address mandated GHG reductions based on VMT and thus should have been addressed as one project for CEQA purposes.

229. In separately issuing the 2017 Scoping Plan and the SB 375 GHG target update, CARB improperly piecemealed a project under CEQA and thus the EA is inadequate as a matter of law.

4. Inadequate Impact Analysis

230. The analysis in the EA also was deficient because the EA did not analyze impacts from implementing the four GHG Housing Measures in Chapter 5, including, but not limited to, the CEQA net zero threshold, the VMT limits, and per capita GHG CAP targets, and the suite of Vibrant Communities measures.

231. Potential environmental impacts from these GHG Housing Measures overlap substantially with similar high density, transit-oriented, automobile use reduction measures included in regional plans to reduce GHGs from the land use and transportation sectors under SB 375. CARB has reviewed and approved more than a dozen SB 375 regional plans, each of which is informed by its own "programmatic environmental impact report ("PEIR").

232. Each PEIR for each regional plan has identified multiple significant adverse environmental impacts which cannot be avoided or further reduced with feasible mitigation

[106] California Air Resources Board, Updated Final Staff Report, Proposed Update to the SB 375 Greenhouse Gas Emission Reduction Targets (Feb. 2018), https://www.arb.ca.gov/cc/sb375/sb375.htm.

measures or alternatives.[107] In the first regional plan adopted for the SCAG region, California's most-populous region, the PEIR compared the impacts of developing all new housing within previously-developed areas in relation to developing half of such new housing in such areas, and the other half in previously-undeveloped areas near existing major infrastructure like freeways.

233. The SCAG 2012 PEIR concluded that the all-infill plan caused substantially more unavoidable significant adverse environmental impacts in relation to the preferred plan which divided new development equally between infill and greenfield locations.[108]

234. Following public comments and refinement of the PEIR (inclusive of the addition and modification of various mitigation measures to further reduce significant adverse environmental impacts), SCAG approved the mixed infill/greenfield plan instead of the all-infill alternative. CARB then approved SCAG's plan—first in 2012 and then again in 2016—as meeting California's applicable statutory GHG reduction mandates.[109]

235. The Scoping Plan's GHG Housing Measures now direct an infill only (or mostly infill) outcome, which SCAG's 2012 PEIR assessed and concluded caused far worse environmental impacts, even though it would result in fewer GHG emissions. In other words, SCAG's PEIR—and the other regional land use and transportation plan PEIRs prepared under SB 375—all disclosed a panoply of adverse non-GHG environmental impacts of changing California's land use patterns, and shaped both their respective housing plans and a broad suite of mitigation measures to achieve California's GHG reduction mandates while minimizing other adverse environmental impacts to California.

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[107] See SB 375 "Sustainable Communities Strategies" review page at https://www.arb.ca.gov/cc/sb375/sb375.htm, which includes links to the regional land use and transportation plans for multiple areas (which then further link to the PEIRs).

[108] SCAG, Final PEIR for the 2012-2035 RTP/SCS (April 2012), http://rtpscs.scag.ca.gov/Pages/Final-2012-PEIR.aspx.

[109] CARB Executive Order accepted the SCAG determination that its regional plan that balanced infill and greenfield housing development, and increased transit investments to encourage greater transit use without any VMT reduction mandate, would meet the GHG reduction targets mandated by law. See generally https://www.arb.ca.gov/cc/sb375/sb375.htm.

236. CARB's willful refusal to acknowledge, let alone analyze, the numerous non-GHG environmental impacts of its GHG Housing Measures in the 2017 Scoping Plan EA is an egregious CEQA violation.

237. Based on the greater specificity and the significant unavoidable adverse non-GHG environmental impacts identified in regional SB 375 plan PEIRs, the EA here clearly did not fully analyze the potential adverse environmental impacts from creating high-density, transit-oriented development that will result from the measures in the 2017 Scoping Plan, such as:

- Aesthetic impacts such as changes to public or private views and character of existing communities based on increased building intensities and population densities;
- Air quality impacts from increases in GHG, criteria pollutants, and toxic air contaminant emissions due to longer commutes and forced congestion that will occur from the implementation of the VMT limits in the 2017 Scoping Plan;
- Biological impacts from increased usage intensities in urban parks from substantial infill population increases;
- Cultural impacts including adverse changes to historic buildings and districts from increased building and population densities, and changes to culturally and religiously significant resources within urbanized areas from increased building and population densities;
- Urban agriculture impacts from the conversion of low intensity urban agricultural uses to high intensity, higher density uses from increasing populations in urban areas, including increasing the urban heat island GHG effect;
- Geology/soils impacts from building more structures and exposing more people to earthquake fault lines and other geologic/soils hazards by intensifying land use in urban areas;
- Hazards and hazardous materials impacts by locating more intense/dense housing and other sensitive uses such as schools and senior care facilities near freeways, ports, and stationary sources in urbanized areas;

- Hydrology and water quality impacts from increasing volumes and pollutant loads from stormwater runoff from higher density/intensity uses in transit-served areas as allowed by current stormwater standards;
- Noise impacts from substantial ongoing increases in construction noise from increasing density and intensity of development in existing communities and ongoing operational noise from more intensive uses of community amenities such as extended nighttime hours for parks and fields;
- Population and housing impacts from substantially increasing both the population and housing units in existing communities;
- Recreation and park impacts from increasing the population using natural preserve and open space areas as well as recreational parks;
- Transportation/traffic impacts from substantial total increases in VMT in higher density communities, increased VMT from rideshare/carshare services and future predicted VMT increases from automated vehicles, notwithstanding predicted future decrease in private car ownership;
- Traffic-gridlock related impacts and multi-modal congestion impacts including noise increases and adverse transportation safety hazards in areas of dense multi-modal activities;
- Public safety impacts due to impacts on first responders such as fire, police, and paramedic services from congested and gridlocked urban streets; and
- Public utility and public service impacts from substantial increases in population and housing/employment uses and demands on existing water, wastewater, electricity, natural gas, emergency services, libraries and schools.

238. CARB failed to complete a comprehensive CEQA evaluation of these and related reasonably foreseeable impacts from forcing all or most development into higher densities within existing urban area footprints, intentionally increasing congestions and prohibiting driving, and implementing each of the many measures described in the "Vibrant Communities" appendix. The

EA failed to identify, assess, and prescribe feasible mitigation measures for each of the significant unavoidable impacts identified above.

F. CARB's Insufficient Fiscal Analysis and Failure To Comply with the APA's Cost-Benefit Analysis Requirements

239. The APA sets out detailed requirements applicable to state agencies proposing to "adopt, amend or repeal any administrative regulation." Gov. Code § 11346.3.

240. CARB is a state agency with a statutory duty to comply with the rulemaking laws and procedures set out in the APA.

241. The APA requires that CARB, "prior to submitting a proposal to adopt, amend, or repeal a regulation to the office [of Administrative Law], shall consider the proposal's impact on business, with consideration of industries affected including the ability of California businesses to compete with businesses in other states. For purposes of evaluating the impact on the ability of California businesses to compete with businesses in other states, an agency shall consider, but not be limited to, information supplied by interested parties." Gov. Code § 11346.3(a) (2).

242. The APA further requires that "[a]n economic assessment prepared pursuant to this subdivision for a major regulation proposed on or after November 1, 2013, shall be prepared in accordance with subdivision (c), and shall be included in the initial statement of reasons as required by Section 11346.2." Gov. Code § 11346.3(a)(3).

243. CARB's new GHG Housing Measures will have an economic impact on California business enterprises and individuals in an amount exceeding fifty million dollars ($50,000,000) and therefore constitute a "major regulation" within the meaning of the APA and the California Department of Finance regulations incorporated therein. Gov. Code § 11346.3(c); 1 C.C.R. § 2000(g).

244. In adopting its 2017 Scoping Plan, CARB has failed to comply with these and other economic impact analysis requirements of the APA.

245. The 2017 Scoping Plan continues CARB's use of highly aggregated macroeconomic models that provide almost no useful information about potential costs and

impacts in industries and households. The LAO, an independent state agency, has consistently pointed out the flaws in CARB's approach since the first Scoping Plan was developed in 2008.

246. CARB's disregard of the APA's economic impact analysis requirements in issuing the 2017 Scoping Plan is only the latest example of a repeated flouting of the APA's requirements in pursuit of its pre-determined regulatory goals. The inadequacy of CARB's compliance with APA requirements has been documented in multiple LAO documents, including the following:

- In a November 17, 2008 letter to Assembly Member Roger Niello,[110] the LAO found that "ARB's economic analysis raises a number of questions relating to (1) how implementation of AB 32 was compared to doing BAU, (2) the incompleteness of the ARB analysis, (3) how specific GHG reduction measures are deemed to be cost-effective, (4) weak assumptions relating to the low-carbon fuel standard, (5) a lack of analytical rigor in the macroeconomic modeling, (6) the failure of the plan to lay out an investment pathway, and (7) the failure by ARB to use economic analysis to shape the choice of and reliance on GHG reduction measures."
- In a March 4, 2010 letter to State Senator Dave Cogdill,[111] the LAO stated that while large macroeconomic models used by CARB in updated Scoping Plan assessments can "capture some interactions among broad economic sectors, industries, consumer groupings, and labor markets," the ability of these models to "adequately capture behavioral responses of households and firms to policy changes is more limited. Additionally, because the data in such models are highly aggregated, they capture at best the behavioral responses of hypothetical "average" households and firms and do not score well in capturing and predicting the range of behavioral responses to policy changes that can occur for individual or subgroupings of households or firms. As a result, for example, the adverse jobs impacts—including job losses associated with those firms that are especially negatively impacted by the Scoping Plan—can

[110] LAO, http://www.lao.ca.gov/2008/rsrc/ab32/AB32_scoping_plan_112108.pdf.

[111] LAO, http://www.lao.ca.gov/reports/2010/rsrc/ab32_impact/ab32_impact_030410.aspx.

be hard to identify since they are obscured within the average outcome." The letter further noted multiple ways that the SP could affect jobs.

- Similarly, in a June 16, 2010 letter to Assembly Member Dan Logue,[112] the LAO found that CARB's revision to CARB's 2008 Scoping Plan analysis "still exhibits a number of significant problems and deficiencies that limit its reliability. These include shortcomings in a variety of areas including modeling techniques, identification of the relative marginal costs of different SP measures, sensitivity and scenario analyses, treatment of economic and emissions leakages, identification of the market failures used to justify the need for the regulations selected, analysis of specific individual regulations to implement certain Scoping Plan measures, and various data limitations." As a result, the LAO concluded that, contrary to CARB's statutory mandates, "The SP May Not Be Cost-Efficient." Given these and other issues, it is unclear whether the current mix and relative importance of different measures in the Scoping Plan will achieve AB 32's targeted emissions reductions in a cost-efficient manner as required."
- In a June 2017 presentation to the Joint Committee on Climate Change Policies, *Overview of California Climate Goals and Policies,*[113] and after the draft 2017 Scoping Plan had been released for public review, the LAO concluded that "To date, there have been no robust evaluations of the overall statewide effects—including on GHG reductions, costs, and co-pollutants—of most of the state's major climate policies and spending programs that have been implemented."

247. CARB's persistent failure to address the APA's economic analysis requirements, and its penchant for "jumping the gun" by taking actions without first complying with CEQA and other rulemaking requirements, also has drawn criticism from the courts.

[112] LAO, http://www.lao.ca.gov/reports/2010/rsrc/ab32_logue_061610/ab32_logue_061610.pdf.

[113] LAO, http://lao.ca.gov/handouts/resources/2017/Overview-California-Climate-Goals-Policies-061417.pdf.

248. In *Lawson v. State Air Resources Board* (2018) 20 Cal.App.5th 77, 98, 110-116 ("*Lawson*"), the Fifth District Court of Appeal, in upholding Judge Snauffer's judgment, found both that CARB "violated CEQA by approving a project too early" and that it also violated the APA. The Court explained the economic impact assessment requirements of the APA "granularly" to provide guidance to CARB for future actions and underscored that "an agency's decision to include non-APA compliant interpretations of legal principles in its regulations will not result in additional deference to the agency", because to give weight or deference to an improperly-adopted regulation "would permit an agency to flout the APA by penalizing those who were entitled to notice and opportunity to be heard but received neither." *Id.* at 113. Despite these recent warnings, CARB has chosen to proceed without complying with CEQA or the APA.

249. CARB's use of the improper "cumulative gap" methodology to determine the GHG reductions it claims are necessary for the 2017 Scoping Plan to meet the 2030 Target means that the inputs for the CARB FA were improper. The FA, which is supposed to inform policymakers and the public about the cost-effectiveness and equity of the Scoping Plan measures, is based on meeting the 621 $MMTCO_2e$ GHG "cumulative gap" reduction requirement invented by CARB.

250. In fact, the final FA adopted by CARB indicates that an earlier version was based on the asserted "need" to fill an even larger "cumulative gap" of 680 $MMTCO_2e$. This improper analysis renders the FA and the cost analysis required under the APA invalid.

G. The Blatantly Discriminatory Impacts of CARB's 2017 Scoping Plan

251. CARB has recognized that "[i]t is critical that communities of color, low-income communities, or both, receive the benefits of the cleaner economy growing in California, including its environmental and economic benefits." Scoping Plan, p. 15.

252. The GWSA specifically provides, at H&S Code § 38565, that: "The state board shall ensure that the greenhouse gas emission reduction rules, regulations, programs, mechanisms, and incentives under its jurisdiction, where applicable and to the extent feasible, direct public and private investment toward the most disadvantaged communities in California and provide an opportunity for small businesses, schools, affordable housing associations, and other community

institutions to participate in and benefit from statewide efforts to reduce greenhouse gas emissions."

253. CARB's standards, rules, and regulations also must, by statute, be consistent with the state goal of providing a decent home and suitable living environment for every Californian. H&S Code § 39601(c). This includes affordable housing near jobs for hard working, low-income minority families.

254. California produces less than one percent of global GHG emissions, and has lower per capita GHG emissions than any other large state except New York, which unlike California still has multiple operating nuclear power plants to reduce its GHG emissions.[114]

255. As Governor Brown and many others have recognized, California's climate change leadership depends not on further mass reductions of the one percent of global GHG emissions generated within California, but instead on having other states and nations persuaded to follow the example already set by California.

256. In any event, as recently demonstrated in a joint study completed by scholars from the University of California at Berkeley and regulators at the Bay Area Air Quality Management District ("BAAQMD")[115], high wealth households cause far more global GHG emissions than middle-class and poor households. The Scoping Plan ignores this undisputed scientific fact and unfairly, and unlawfully, seeks to burden California's minority and middle-class households in need of affordable housing with new regulatory costs and burdens that do not affect existing, wealthier homeowners who "already have theirs".

257. California has the nation's highest poverty rate, highest housing prices, greatest housing shortage, highest homeless population—and highest number of billionaires.[116] While it is

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[114] U.S. Energy Information Agency, State Carbon Dioxide Emissions Data, October 2017, https://www.eia.gov/environment/emissions/state/.

[115] BAAQMD and Cool Climate Network at UC Berkeley, Consumption Based GHG Emissions Inventory (2016), http://www.baaqmd.gov/research-and-data/emission-inventory/consumption-based-ghg-emissions-inventory.

[116] David Friedman, Jennifer Hernandez, California's Social Priorities, Holland & Knight, Chapman University Press (2015), https://perma.cc/XKB7-4YK4; Liana Fox, The Supplemental Poverty Measure: 2016, U.S. Census Bureau Report Number: P60-261, Table A-5 (Sept. 21, 2017), https://www.census.gov/library/publications/2017/demo/p60-261.html.

not the function of the courts to address economic inequalities, the federal and state Constitutions prohibit the State from enacting regulatory provisions that have the inevitable effect of unnecessarily and disproportionately disadvantaging minority groups by depriving them of access to affordable housing that would be available in greater quantity but for CARB's new GHG Housing Measures.

258. Members of hard working minority families, in contrast to wealthier white elites, currently are forced to "drive until they qualify" for housing they can afford to own, or even rent.[117] As a result, long-commute minority workers and their families then suffer a cascading series of adverse health, educational and financial consequences.[118]

259. It is well-documented and undisputed, in the record that the current housing shortage—which CARB's regulations would unnecessarily exacerbate—falls disproportionately on minorities. As stated in a United Way Study, "Struggling to Get By: The Real Cost Measure in California 2015" [119]: "Households led by people of color, particularly Latinos, disproportionately are likely to have inadequate incomes. Half (51%) of Latino households have incomes below the Real Cost Measure,[120] the highest among all racial groups. Two in five (40%) of African American households have insufficient incomes, followed by other races/ethnicities (35%), Asian Americans (28%) and white households (20%)." Put simply, approximately 80% of the poorest households in the State are non-white families.

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[117] Mike McPhate, *California Today: The Rise of the Super Commuter,* N.Y. Times (Aug. 21, 2017), https://www.nytimes.com/2017/08/21/us/california-today-super-commutes-stockon.html; Conor Dougherty, Andrew Burton, *A 2:15 Alarm, 2 Trains and a Bus Get Her to Work by 7 A.M.*, N.Y. Times (Aug. 17, 2017), https://www.nytimes.com/2017/08/17/business/economy/san-francisco-commute.html.

[118] Rebecca Smith, Here's the impact long commutes have on your health and productivity, *Business Insider* (May 22, 2017), http://www.businessinsider.com/long-commutes-have-an-impact-on-health-and-productivity-2017-5.

[119] Betsy Block et al, Struggling to Get By: The Real Cost Measure in California 2015 (2016), p. 10, https://www.norcalunitedway.org/sites/norcalunitedway.org/files/Struggling_to_Get_By_3.pdf.

[120] The United Way study uses the "Real Cost Measure" to take account of a family budget to meet basic needs, composed of "costs all families must address such as food, housing, transportation, child care, out-of-pocket health expenses, and taxes." *Id.*, p. 8.

260. As noted in the same report: "Housing costs can consume almost all of a struggling household's income. According to Census Bureau data, housing (rent, mortgage, gas/electric) makes up 41% of household expenses in California. . . . Households living above the Federal Poverty Level but below the Real Cost Measure spend almost half of their income on rent (and more in many areas), and households below the Federal Poverty Level, however, report spending 80% of their income on housing, a staggering amount that leaves precious little room for food, clothing and other basics of life." *Id.*, p. 65.[121]

261. As further documented in the United Way report presented to CARB: "Recognizing that households of all kinds throughout the state are struggling should not obscure one basic fact: race matters. Throughout Struggling to Get By, we observe that people of Latino or African American backgrounds (and to a lesser extent Asian American ones) are less likely to meet the Real Cost Measure than are white households, even when the families compared share levels of education, employment backgrounds, or family structures. While all families face challenges in making ends meet, these numbers indicate that families of color face more obstacles in attempting to achieve economic security."[122]

262. Against this background, CARB's new GHG Housing Measures, which disproportionately harm housing-deprived minorities while not materially advancing the cause of GHG reductions, cannot be justified. CARB's new GHG Housing Measures, facially and as applied to the housing sector in particular, are not supported by sound scientific analysis and are in fact counterproductive. CARB's new GHG Housing Measures establish presumptive legal standards under CEQA that currently impose, as a matter of law, costly new mitigation obligations that apply only to housing projects proposed now and in the future to meet

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[121] In addition, family wealth of homeowners has increased in relation to family wealth of renters over time and a homeowners' net worth is 36 times greater than a renters' net worth. Jesse Bricker, et al., Changes in US Family Finances from 2010 to 2013: Evidence from the Survey of Consumer Finances, 100 Fed. Reg. Bull. 4 (Sept. 2014), https://www.federalreserve.gov/pubs/bulletin/2014/articles/scf/scf.htm.

[122] *Id.* p. 75. Studies predict that the 2014-2016 dataset will show a wealth differential between homeowners and renters of 45 times. Lawrence Yun, *How Do Homeowners Accumulate Weath?*, Forbes (Oct. 14, 2015), https://www.forbes.com/sites/lawrenceyun/2015/10/14/how-do-homeowners-accumulate-wealth/#7eabbecd1e4b.

California's current shortfall of more than three million homes that experts and the Governor-elect agree are needed to meet current housing needs. Two specific examples are provided below.

263. By establishing a new "net zero" GHG CEQA significance threshold for all new projects, CARB has created a new legal obligation for such new projects to "mitigate" to a "less than significant" level all such GHG impacts. The California Air Pollution Control Officers Association ("CAPCOA"), which consists of the top executives of all of the local and regional air districts in California, has developed a well-established model for calculating GHG emissions from such new projects called The California Emissions Estimator Model ("CalEEMod").[123] This model is in widespread use throughout the state, and has been determined by the California Supreme Court to be a valid basis for estimating GHG emissions from residential projects for purposes of CEQA. *Newhall,* supra, 62 Cal.4th at 217-218.

264. CalEEMod calculates GHG emissions for 63 different types of development projects, including multiple types of residential projects. The scientific and legal framework of CalEEMod is the foundational assumption that all GHG project emissions are "new" and would not occur if the proposed project was not approved or built.

265. Within this overall framework, CalEEMod identifies GHG emissions that occur during construction (e.g., from construction vehicles and construction worker vehicular trips to and from the project site), and during ongoing project occupancy by new residents. GHG occupancy or "operational" emissions include GHG emissions from offsite electricity produced to serve the project, from onsite emissions of GHG from natural gas appliances, from on- and off-site GHG emissions associated with providing drinking water and sewage treatment services to the project, from vegetation removal and planting, and from vehicular use by project occupants on an ongoing basis. *See, e.g.*, Appendix A of CalEEMod[124]; South Coast Air Quality Management District User's Guide to CalEEMod[125].

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[123] Available at: http://www.caleemod.com/.

[124] CalEEMod Appendix A: Calculation Details for CalEEMOd, available at: http://www.aqmd.gov/docs/default-source/caleemod/caleemod-appendixa.pdf.

[125] CalEEMod User's Guide, available at: http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4.

266. Under the CalEEMod CEQA compliance framework, if the project does not occur then the GHG emissions do not occur—notwithstanding the practical and obvious fact that people who cannot live in new housing they can afford must still live somewhere, where they will still engage in basic activities like consuming electricity, drinking water, and driving cars.

267. Under CEQA, a "significant" environmental impact is required to be "mitigated" by measures that avoid or reduce the significance of that impact by all "feasible" means. Pub. Res. Code § 21102. The CEQA Guidelines define "feasible" as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal , social and technological factors." 14 C.C.R. § 15364.

268. The first of two examples of immediate and ongoing harm relates to the increased cost of housing caused by the "net zero" threshold. Before the 2017 Scoping Plan was approved, no agency or court had ever required a "net zero" GHG threshold. The only example of a residential project that met this target involved a voluntary commitment by the project applicant to a "net zero" project, in which 49% of the project's GHG emissions were "offset" by GHG reductions to be achieved elsewhere (e.g., funding the purchase of cleaner cook stoves in Africa) and paid for by higher project costs.

269. There is no dispute that funding these types of GHG reduction measures somewhere on Earth is "feasible" taking into account three of CEQA's five "feasibility" factors (environmental, social and technological). With housing costs already nearly three times higher in California than other states, home ownership rates far lower, and housing-induced poverty rates the highest in the nation, it remains possible – in theory – to demonstrate that in the context of a given housing project, adding $15,000-$30,000 more to the price of a home to fund the purchase of cleaner cook stoves in Africa, for example, would not be "legally" or "economically" feasible.

270. This theoretical possibility of demonstrating that any particular mitigation cost results in "economic infeasibility" has not succeeded, however, for any housing project in the nearly-50 year history of CEQA. A lead agency decision that a mitigation measure is infeasible must be supported by substantial evidence in the record—effectively the burden is placed on the project applicant to prove this latest "net zero" increment of mitigation costs is simply too

expensive and will make the project "infeasible." No court has found that a housing project has met this burden. *See, e.g.*, *Uphold our Heritage v. Town of Woodside* (2007) 147 Cal.App.4th 587. Further, this infeasibility evaluation applies to the applicant for the housing project, not prospective future residents—simply raising housing prices affordable only to wealthier buyers.

271. The CEQA mitigation criterion of legal infeasibility is likewise illusory when applied to the GHG mitigation measures required to achieve a "net zero" significance threshold. Although there is some judicial precedent recognizing that lead agencies cannot impose CEQA mitigation obligations outside their jurisdictional boundaries (e.g, in adjacent local jurisdictions), this precedent—like OPR's definitive regulatory conclusion that CEQA cannot be used to impose a "net zero" threshold even and specifically within the context of GHG—is directly challenged by the 2017 Scoping Plan, which cited with approval the one "net zero" GHG residential project that relied in part on offsite (off-continent) GHG reduction measures.

272. This "legal infeasibility" burden of proof also is extremely high under CEQA. For example, the California Supreme Court considered in *City of San Diego, et al. v. Board of Trustees of California State University* (2015) 61 Cal.4th 945, the University's "economic infeasibility" argument in relation to making very substantial transfer payments to local government to help fund local highway and transit infrastructure, which would be used in part by the growing student, faculty and staff for the San Diego campus. Although the Court acknowledged that the Trustees had expressly requested, and been denied, funding by the Legislature to help pay for these local transportation projects, the Court did not agree this was adequate to establish economic infeasibility under CEQA since the Trustees could have sought alumni donations or funding from other sources, or elected to stop accommodating new students in San Diego and instead grown other campuses with potentially lower costs. When CARB's "net zero" GHG measures are coupled with the "legal infeasibility" burden of proof, the result is a legal morass that frustrates the efforts of local governments to implement the Legislature's pro-housing laws and policies, to the detriment of under-housed minorities, including Petitioners.

273. The second example of immediate and ongoing harm is CARB's direct intervention in projects already in CEQA litigation by opining on the acceptable CEQA

mitigation for GHG emissions from fuel use, which typically create the majority of GHG emissions from new housing projects. In a long series of evolving regulations including most recently the 2018 adoption of new residential Building Code standards[126], and in compliance with the consumer protection and cost-effectiveness standards required for imposing new residential Building Code requirements established by the Legislature (Pub. Resources Code §§ 25402(b)(3), (c)(1); 25943(c)(5)(B)), California law requires new residences to be better insulated, use less electricity, install the most efficient appliances, use far less water (especially for outdoor irrigation), generate electricity (from rooftop solar or an acceptable alternative), and transition to future electric vehicles. These and similar measures have substantially reduced the GHG emissions from ongoing occupancy of new housing.

274. Under the CalEEMod methodology, however, gasoline and hybrid cars used by new residents are also counted as "new" GHG emissions attributed to that housing project – and these vehicular GHG emissions now account for the vast majority of a typical housing project's GHG emissions.[127]

275. In 2017, the Legislature expanded its landmark "Cap and Trade" program establishing a comprehensive approach for transitioning from fossil fuels to electric or other zero GHG emission technologies, which already includes a "wells to wheels" program for taxing oil and natural gas extraction, refinement, and ultimate consumer use.[128] CARB has explained that the Cap and Trade Program requires fuel suppliers to reduce GHG emissions by supplying low

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[126] See California Building Standards Commission, 2018 Triennial Code Adoption Cycle, available at: http://www.bsc.ca.gov/Rulemaking/adoptcycle/2018TriennialCodeAdoptionCycle.aspx. *See also* California Energy Code, California Code of Regulations, Title 24, Part 6; Building Energy Efficiency Standards (2019 update).

[127] In the Northlake project challenged in a comment letter citing noncompliance with the 2017 Scoping Plan discussed *supra* ¶ 42, for example, total project GHG emissions after mitigation were 56,722 metric tons, of which mobile sources from vehicles comprised 53,863 metric tons. Los Angeles County, Draft Supplemental EIR (May 2017), Table 5.7-3 (p. 5.7-26), available at https://scvhistory.com/scvhistory/files/northlakehills_deir_0517/northlakehills_deir_0517.pdf

[128] A.B. 398, 2017 (California Global Warming Solutions Act of 2006: market-based compliance mechanisms: fire prevention fees: sales and use tax manufacturing exemption).

carbon fuels or purchasing allowances to cover the GHG emissions produced when the conventional petroleum-based fuels they supply are burned.

276. Specifically, as part of the formal rulemaking process for the Cap and Trade Legislation, CARB staff explained in its *Initial Statement of Reasons for the Proposed Regulation to Implement the California Cap and Trade Program*, that:

> To cover the emissions from transportation fuel combustion and that of other fuels by residential, commercial, and small industrial sources, staff proposes to regulate fuel suppliers based on the quantifies of fuel consumed by their customers. … Fuel suppliers are responsible for the emissions resulting from the fuel they supply. In this way, a fuel supplier is acting on behalf of its customers who are emitting the GHGs … Suppliers of transportation fuels will have a compliance obligation for the combustion of emissions from fuel that they sell, distribute, or otherwise transfer for consumption in California. … [B]ecause transportation fuels and use of natural gas by residential and commercial users is a significant portion of California's overall GHG emissions, ***the emissions from these sources are covered indirectly through the inclusion of fuel distributers [in the Cap and Trade program]***."(emphasis added).[129]

277. CARB's express recognition of the fact that the Cap and Trade program "covers" emissions from the consumption of fossil fuels in the Cap and Trade regulatory approval process, in marked contrast with the challenged Housing Measures in the 2017 Scoping Plan, was subject to its own comprehensive environmental and economic analysis – which in no way disclosed, analyzed, or assessed the impacts of forcing residents of new housing to pay for GHG emission reductions from their fossil fuel uses at the pump (and in electricity bills) like their already-housed neighbors, and then paying *again – double-paying* – in the form extra GHG mitigation measures for the *same emissions*, resulting in higher housing costs.

278. The 2017 Scoping Plan likewise entirely omitted any analysis of the double-charging of residents of new homes for GHG emissions from the three million new homes the state needs to build to solve the housing crisis. Simply put, CARB should not now be permitted to use what purports to be only an "advisory" 2017 Scoping Plan to disavow and undermine its

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[129] CARB. October 2011. California's Cap-And-Trade Program Final Statement of Reasons, p. 2: https://www.arb.ca.gov/regact/2010/capandtrade10/fsor.pdf; (incorporating by reference CARB. October 28, 2010. Staff Report: *Initial Statement of Reasons for the Proposed Regulation to Implement the California Cap-and-Trade Program Part 1, Vol. 1,* pp. II-10, II-20, II-21, 11-53: https://www.arb.ca.gov/regact/2010/capandtrade10/capisor.pdf)

formal rulemaking statement for the Cap and Trade regulations, nor can CARB use this asserted "advisory" document to invent the new CEQA GHG mitigation mandates (and preclude use of Cap and Trade as CEQA mitigation) without going through a new regulatory process to amend its Cap and Trade program.

279. Whether compliance with Cap and Trade for fossil fuels used to generate electricity or power cars used by a particular project is an adequate mitigation measure for GHG under CEQA has been hotly contested in past and pending CEQA lawsuits. In *Newhall*, *supra*, 62 Cal.4th 204, one of the approved GHG compliance pathways for CEQA identified by the Court was compliance with applicable laws and regulations. That case was extensively briefed by numerous advocates (*see* Opening Brief on the Merits, *Center for Biological Diversity v. California Department of Fish and Game* (2015) 62 Cal.4th 204 (No. 5-S217763), and Consolidated Reply Brief, *Center for Biological Diversity v. California Department of Fish and Game*, (2015) 62 Cal.4th 204 (No. 9-S217763), which urged the Court to conclude as a matter of law that CEQA requires "additive" mitigation beyond what is otherwise required to comply with applicable environmental, health and safety laws.

280. Neither the appellate courts nor Supreme Court have imposed this novel interpretation of the GHG mandates imposed by CEQA as a newly discovered legal requirement lurking within this 1970 statute. As noted above, the Supreme Court declined to do so by expressly recognizing that compliance with law was one of several compliance "pathways" for addressing GHG impacts under CEQA. (*Newhall, supra,* 62 Cal.4th at 229). (*See also, Center for Biological Diversity et al. v. Department of Fish and Game* (2014) 224 Cal.App.4th 1105.)[130]

281. Consistent with this Supreme Court directive, and informed by both the Legislative history of the Cap and Trade program and by CARB's contemporaneous explanation that compliance with Cap and Trade is indeed the sole GHG mitigation required for fossil fuel use, several projects have mitigated GHG emissions from fossil fuel by relying on the legislated,

[130] This appellate court decision, which was reversed and remanded by the Supreme Court decision in the same case, is cited as evidence for the proposition that what constitutes adequate mitigation for GHG impacts under CEQA has been hotly contested in the courts.

and regulated, Cap and Trade program and similar legislative as well as regulatory mandates to reduce GHG emissions from fossil fuel. This has been accomplished through measures such as the Low Carbon Fuel Standards, which collectively and comprehensively mandate prescribed reductions in GHG emissions from fossil fuel use.

282. This approach has been expressly upheld by the Fifth District Court of Appeal in *Association of Irritated Residents v. Kern County Bd. of Supervisors* (2017) 17 Cal.App.5th 708 ("*AIR"*). Although the project at issue was a refinery source that was itself clearly included within the category of industrial operations directly regulated by the Cap and Trade Program, opponents challenged that project's reliance on the Cap and Trade program for non-refining GHG emissions such as GHG emissions produced offsite by the electricity producers that provided power to the consumer power grid, and by vehicles used by contractors and employees engaged in refinery construction and operational activities. *See, e.g*., Appellants' Opening Brief, *AIR*, *5th Dist. Case No. F073892 (December 9, 2016) at 29 (arguing that "[c]ap-and-trade does not apply to greenhouse gas emissions from trains, trucks, and building construction . . . .") and at 34-35 (arguing that participation in the cap and trade program is inadequate mitigation for project emissions). The CEQA lead agency and respondent project applicant argued that reliance on Cap and Trade as CEQA mitigation was lawful and sufficient under CEQA. *See* Joint Respondents' Brief, *AIR*, 5th Dist. Case No. F073892 (March 10, 2017), at 52-56 (arguing that "The EIR Properly Incorporated GHG Emission Reductions Resulting From Cap-and-Trade In The Environmental Analysis").

283. The Fifth District concluded that compliance with the Cap and Trade program for the challenged project were adequate CEQA GHG mitigation. That case was then unsuccessfully challenged, and unsuccessfully petitioned for depublication, by numerous advocates that continued to assert that CEQA imposes an "additive" GHG mitigation obligation that could not be met by paying the higher fuel costs imposed by the Cap and Trade program.[131]

[131] *See* Letter from CARB to City of Moreno Valley regarding Final Environmental Impact Report for World Logistics Center, available at: https://www.arb.ca.gov/toxics/ttdceqalist/logisticsfeir.pdf.

284. California already has the highest gasoline prices of any state other than Hawaii. CARB has consistently declined to disclose how much gasoline and diesel prices would increase under the 2017 Cap and Trade legislation. The non-partisan LAO completed an independent analysis of this question, and in 2017 concluded that under some scenarios, gasoline would increase by about 15¢ per gallon – and in others by about 73¢ per gallon. The LAO also noted that these estimated increases in gasoline prices "are an intentional design feature of the program."[132]

285. By using CEQA mitigation mandates created by the Scoping Plan to require only the disproportionately minority occupants of critically needed future housing to double-pay (both at the pump and in the form of higher housing costs imposed as a result of CEQA mitigation for the same fuel consumption), CARB has established a disparate new financial burden that is entirely avoided by those generally whiter, wealthier, and older Californians who have the good fortune of already occupying a home.

286. Both CARB and the Attorney General have acted in bad faith, and unlawfully, in their public description of and subsequent conduct regarding the immediate effectiveness and enforcement of the 2017 Scoping Plan.

287. First, in a written staff report distributed at the December 17, 2017 hearing at which the CARB Board approved the Scoping Plan, CARB staff misled the public and its Board by pretending that the challenged Housing Measures are simply not part of the Scoping Plan at all, and thus need not be considered as part of the environmental or economic study CARB was required to complete as part of the Scoping Plan approval process. This assertion flatly contradicted an earlier description of the immediately-implementing status of these Housing Measures made in a public presentation by a senior CARB executive.

288. Next, the Attorney General repeatedly advised this Court that the challenged Housing Measures were merely "advisory" and explained "the expectation that new measures proposed in the [Scoping] plan would be implemented through subsequent legislation or

[132] LAO, https://lao.ca.gov/letters/2017/fong-fuels-cap-and-trade.pdf.

regulations." (Memorandum of Points and Authorities in Support of Demurrer to Plaintiff's Verified Petition for Writ of Mandate, Case No. 18-CECG-01494 (August 31, 2018), p. 8:18-19 ("AG Memo")). The AG Memo argued that the disparate harms caused by such measures are not ripe because such subsequent implementing legislative or regulatory actions "have yet to be taken" (Reply Memorandum in Support of Defendants California Air Resources Board and Richard Corey's Demurrer to Plaintiffs' Verified Petition for Writ of Mandate *etc.*, Case No. 18-CECG-01494(October 16, 2018), p. 2:6-7 ("AG Reply Memo"), and that Petitioners' assertions that the challenged Housing Measures would result in litigation disputes aimed at stopping or increasing the cost of housing was "wildly speculative" (AG Memo, p. 10:7). Further the Attorney General argued that the 2017 Scoping Plan "cannot be reasonably viewed as providing a valid basis for filing suit under CEQA." (AG Memo, p. 14:15) The same arguments were advanced in this Court's hearing on October 26, 2018.

289. Meanwhile, however, and virtually simultaneously with making contrary assertions to this Court, both the Attorney General and CARB were filing comment letters (precedent to CEQA lawsuits), and the Attorney General filed an amicus brief in a CEQA lawsuit, to challenge the legality of a CEQA lead agency's mitigation measure (in one case) and proposed General Plan element approval (in another case) *based on alleged failure to comply with applicable Housing Measures in the Scoping Plan.*

290. CARB's (and the Attorney General's) claims that the 2017 Scoping Plan is merely "advisory" and that its future effects are merely "speculative" (as well as its express denial at the December 2017 hearing on the 2017 Scoping Plan that the four challenged GHG Housing Measures are even part of the Plan), have been belied by the actual use of the 2017 Scoping Plan by CARB and the Attorney General themselves, as well as by third party agencies and anti-housing project CEQA litigants. Among the recent examples of the use of the Scoping Plan are the following:

A. **CARB September 7, 2018 Comment Letter:** Before even completing its Demurrer briefing to this Court, on September 7, 2018, CARB filed a comment letter criticizing the revised Final Environmental Impact Report for the World

Logistics Center project. A copy of this letter can be found at https://www.arb.ca.gov/toxics/ttdceqalist/logisticsfeir.pdf. CARB's comment letter opines that as an absolute and unambiguous matter of law, compliance with the Cap and Trade program is not a permissible mitigation under CEQA. CARB's comment dismisses as "novel" the contention that compliance with laws and regulations requiring reductions in GHG can be, and is in fact, a permissible and legally sufficient mitigation measure under CEQA. Strikingly, CARB's letter simply ignores the *Newhall* decision. As for the Fifth District's on-point decision in *AIR*, CARB's letter states (at p. 11, note 23) that, "*[i]n CARB's view this case was wrongly decided as to the Cap-and-Trade issue* . . . ." Thus, CARB in its public comments is urging permitting agencies to *disregard* court decisions on GHG issues and instead to follow CARB's supposedly "advisory" Scoping Plan policies, which it cites extensively . This type of CEQA "expert agency" letter can be used by the agency itself, if it chooses to file a lawsuit against an agency approving a project in alleged noncompliance with CEQA, or it can be used for its evidentiary value (and expert agency opinions are presumptively entitled to greater deference) by any other third party filing a CEQA lawsuit against that project, or even in another lawsuit raising similar issues provided that the CARB comment letter is submitted in the agency proceeding that is targeted by such second and subsequent lawsuits.

B. **Attorney General's September 7, 2018 Comment Letter:** Also on September 7, 2018, the Attorney General ("AG") joined CARB in criticizing the World Logistics Project's GHG analysis in a comment letter that prominently featured the 2017 Scoping Plan. A copy of this letter can be found at https://oag.ca.gov/sites/all/files/agweb/pdfs/environment/comments-revised-sections-feir.pdf. Like CARB, the AG relied on the Scoping Plan to measure the adequacy of GHG measures under CEQA. Also like CARB, the AG sought to sidestep the Fifth District's *AIR* decision, but did so "[w]ithout commenting on

whether or not that case was rightly decided" in the AG's opinion (p. 6). The Attorney General's comment letter relies on the 2017 Scoping Plan in opining that "CEQA requires" the CEQA lead agency to "evaluate the consistency of the Project's substantial increases in GHG emissions with state and regional plans and policies calling for a dramatic reduction in GHG emissions" The AG goes on to conclude that the lead agency engaged in a "failure to properly mitigate" impacts as required by CEQA because the project's "increase in GHG emissions conflicts with the downward trajectory for GHG emissions necessary to achieve state climate goals." The AG again cites the 2017 Scoping Plan text in explaining that, unless they mandate CEQA GHG mitigation measures that go beyond compliance with applicable GHG reduction laws and regulations, "local governments would . . . not be doing their part to help the State reach its ambitious, yet necessary, climate goals." [AG letter at p. 7-11]

C. **Attorney General's November 8, 2018 Amicus Filing:** A third example is provided by the AG's November 8, 2018 filing of an "Ex Parte Application of People of the State of California for Leave to File Amicus Curiae Brief in Support of Petitioners" in *Sierra Club, et al. v. County of San Diego* (Nov. 8, 2018) No. 37-2018-00014081-CU-TT-CTL (San Diego Superior Court). A true copy of this Ex Parte Application and accompanying AG memorandum is attached hereto as **Exhibit 1**. A copy of the underlying Sierra Club petition, into which the AG has sought to inject the Scoping Plan, is attached hereto as **Exhibit 2**. In the amicus filing (Exhibit 1), the Attorney General asserts that he "has a special role in ensuring compliance with CEQA", and that he "has actively participated in CEQA matters raising issues of greenhouse gas ("GHG") emissions and climate change." (Application at 3:16, 24-25.) The challenged San Diego County Climate Action Plan actually includes and requires implementation of the 2017 Scoping Plan's "recommended" Net Zero GHG CEQA threshold for new projects, but was nevertheless challenged in this lawsuit the grounds that it did not also mandate a

reduction in Vehicle Miles Traveled because it allowed the County to approve new housing projects that fully mitigated ("Net Zero GHG") all GHG emissions but still resulted in an increase in VMT from residents living in this critically needed new housing. Petitioners in the consolidated proceedings in this case have claimed that based on the state's climate laws including the 2017 Scoping Plan, the County could not lawfully approve any amendment to its General Plan to accommodate any of the state's three million home shortfall unless such housing was higher density (e.g., apartments) and located inside or immediately adjacent to existing urban areas served by transit, because only that type of housing and location could result in the required reduction in VMT. Petitioners in these cases further identified the pending housing projects they believed could not be approved by the County. Petitioners sought (and obtained) injunctive relief to prevent such housing projects from relying on this "Net Zero" GHG Climate Action Plan as allowed by one of the CEQA compliance pathways identified by the Supreme Court in its *Newhall* decision, and identified by the Legislature itself in CEQA compliance provisions set forth in SB 375. In his amicus brief, the Attorney General repeatedly cites CARB's 2017 Scoping Plan as the legal basis for a new mandate that allegedly prohibits San Diego County (and all other counties) from meeting any part of the housing shortfall with more traditional homes (e.g., small "starter" homes and duplexes, which cost less than a third to build than higher density apartment units), or from locating these new homes anywhere other than an existing developed city or unincorporated community. The Attorney General also falsely argues that VMT reductions are mandated by other state laws; however, no law enacted by the California Legislature mandates any VMT reduction, and the Legislature has repeatedly rejected enacting such a mandate.[133]

[133] The Attorney General further argues that VMT reductions are required by SB 375, which is designed to reduce GHG (not VMT) with land use and transportation plans, even though SB 375 specifically directs CARB to develop compliance metrics and CARB has

291. CARB cannot have it both ways: it cannot coyly claim that the 2017 Scoping Plan is merely "advisory" and then fire into the end of a second round of CEQA documentation for a single project a new legal conclusion that upends the published judicial precedents of our courts. The AG similarly cannot assure this Court that it is "wildly speculative" for a CEQA lawsuit to be filed in reliance on the challenged measures in the 2017 Scoping Plan, and then six days later file an amicus in a CEQA lawsuit that does just that. If CARB wants to change Cap and Trade laws and regulations, and other GHG reduction laws and regulations applicable to fossil fuels, to make those not already fortunate enough to have housing pay both at the pump, and in their down-payment/mortgage and rent check, for "additive" GHG reductions above and beyond what their more fortunate, generally whiter, wealthier and older well-housed residents have to pay, then that is first and foremost a new mandate that can only be imposed by the Legislature given direct court precedent on this issue.

292. If such a mandate were proposed by the Legislature, a full and transparent debate about the disparate harms such a proposal would confirm that those most affected by the housing crisis, including disproportionately our minority communities, would suffer the equivalent of yet another gasoline tax on those least able to pay, and most in need of new housing. Petitioners are confident that the Legislature would not approve such a proposal.

293. Even these few examples of direct CARB and Attorney General implementation actions of the 2017 Scoping Plan to require more mitigation or block new housing demonstrate the immediate and ongoing harm of the 2017 Scoping Plan's challenged Housing Measures, which CARB and the Attorney General have opined impose higher CEQA "mitigation" costs on housing under a "net zero" GHG mitigation framework, and block otherwise lawful new housing altogether under the Scoping Plan's "VMT reduction" framework. The harms caused by these Housing Measures is not "wildly speculative"— they are already underway. They already disproportionately affect California minority communities not already blessed with wealth and

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itself repeatedly declined to require VMT reduction compliance metrics under SB 37 as late as December of 2017 and March of 2018.

homeownership, and they are already the subject of both administrative and judicial proceedings. They are properly and timely before this Court. The following paragraphs provide additional evidence of ripeness in the context of the three other challenged Housing Measures, beyond the "Net Zero" GHG threshold and corresponding mitigation mandates described above.

294. The 2017 Scoping Plan's new numeric thresholds for local climate action plans present similarly immediate and ongoing harms to Petitioner/Plaintiffs. In its *Newhall* decision, the California Supreme Court concluded that one of the "pathways" for CEQA compliance was designing projects that complied with a local Climate Action Plan ("CAP") having the then-applicable GHG statutory reduction mandate of reducing GHG emissions to 1990 levels by 2020.

295. Housing projects that complied with a local CAP had been duly approved by the same local governments responsible for planning and approving adequate housing for our minority communities. This provided a judicially streamlined pathway for GHG CEQA compliance for housing. Local CAPs include community-scale GHG reduction strategies such as pedestrian, bicycle and transit improvements that are beyond the ability of any single housing project to invent or fully fund, and thus CAP compliance is a known and legally-defensible CEQA GHG compliance pathway. The Scoping Plan destroyed that pathway, and accordingly caused and is causing immediate harm to new housing projects that could otherwise rely on the CAP compliance pathway for CEQA.

296. There is no statutory obligation for a city or county to adopt a CAP, nor are there any regulations prescribing the required contents of a CAP; instead, a CAP's primary legal relevance to proposed new housing projects occurs within the CEQA compliance context.

297. There has been a flurry of unresolved and ongoing CEQA interpretative issues with respect to CAPs that have been and remain pending in courtrooms throughout California. For example, in the City of San Diego and the County of Sonoma, multi-year lawsuits have resulted in two judicial decisions that make clear that any jurisdiction electing to voluntarily approve a CAP must assure that the CAP has clear, adequate and enforceable measures to achieve the GHG reduction metric included in the CAP. *See Sierra Club v. County of San Diego* (2014) 231 Cal.App.4th 1152; *California Riverwatch v. County of Sonoma* (July 20, 2017) Case No.

SCV-259242 (Superior Court for the County of Sonoma)[134]; *see also Mission Bay Alliance, et. al. v. Office of Community Investment and Infrastructure, et. al.* (2016) 6 Cal.App.5th 160 (upholding the adequacy of a CAP as CEQA compliance for a new professional sports facility).

298. The new numeric GHG per capita metric that the 2017 Scoping Plan prescribes as the presumptively correct GHG reduction target for CAPs places the entire burden of achieving the state's legislated 40% reduction target by 2030, and the unlegislated 80% reduction target by 2050, on local governments, with for example a numeric GHG reduction target of 2 tons per person per year by 2050. However, as the 2017 Scoping Plan itself makes clear, the vast majority of GHG emissions derive from electric power generation, transportation, manufacturing, and other sectors governed by legal standards, technologies, and economic drivers that fall well beyond the land use jurisdiction and control of any local government. The Scoping Plan does not even quantify the GHG reductions to be achieved by local governments, in their voluntary caps or otherwise: it seeks to define and achieve the state's GHG reduction mandates with measures aimed at specific GHG emission sectors.

299. The 2018 San Diego County CAP, adopted after the County lost its first CEQA lawsuit, adopts both CARB's numeric GHG targets—and the mandate that new housing projects entirely absorb the additional cost of fully offsetting GHG emissions in compliance with the "net zero" standard by paying money to fund GHG reduction projects somewhere on earth. The San Diego CAP both proves the immediacy of the disparate mitigation cost harms of the Scoping Plan's imposition of even higher costs to housing critically needed by California's minority communities, and provides a case study in the anti-housing legal morass created by the 2017 Scoping Plan's ambiguous—and unexamined from an equity, environmental, economic disclosure or public review process—new CEQA "net zero" threshold and CAP per capita numeric standards.

[134] The trial court order in *California Riverwatch v. County of Sonoma* is cited herein as evidence for the existence of CEQA litigation challenges to local climate action plans and not as legal precedent. The order is available at: http://transitionsonomavalley.org/wp-content/uploads/2017/07/Order-Granting-Writ-7-20-17.pdf.

300. San Diego County faces its third round of CAP litigation (with the prior two rounds still ongoing in various stages of judicial remand and review) in a lawsuit filed in 2018, in which the same group of petitioners allege that the County again failed to include sufficient mandatory measures to achieve the 2017 Scoping Plan per capita GHG reduction metric because it continued to allow new housing to be built if offsetting GHG reductions were funded by the housing project in or outside the County. A copy of one such lawsuit (consolidated with others) is attached for reference as Exhibit 2. This lawsuit seeks a blanket, County-wide writ of mandate that would block "processing of permits for development projects on unincorporated County lands" unless these new housing-blocking measures are included. (See Exhibit 2 at p. 17:3-7.) The petitioners in these consolidated cases against San Diego County have further made clear that their ongoing objections to the County's CAP were so severe that they had also been compelled to file CEQA lawsuits *against individual housing projects*, and in their lawsuit, they have included a list of nearly a dozen pending housing projects that in their judgment should not be allowed to proceed. As described above, the Attorney General filed a request for leave to file an amicus brief in this case, accompanied by an amicus brief. See Exhibit 1. Based on CARB's 2017 Scoping Plan, the AG has sought to bolster to the petitioners' anti-housing CEQA lawsuits, including their claims that designated housing projects in unincorporated San Diego County cannot lawfully be approved or built based on VMT impacts, even if all GHG impacts are mitigated to "net zero."

301. This CEQA morass of extraordinary GHG reduction costs imposed only on residents of newly constructed housing, with still pending and unresolved CEQA lawsuit challenges against the CAP and specific housing projects, for GHG reductions that are not even quantified, let alone critical to California's climate leadership, is itself an ample demonstration of the disparate harms of CARB's poorly-conceived and discriminatory GHG Housing Measures.

302. The Scoping Plan's VMT reduction measure is likewise causing immediate, ongoing, and disparate harm to California's minority communities who are forced to drive ever-greater distances to find housing they can afford to buy or rent. As in the case of local climate action plans, there is no statewide statutory or regulatory mandate for reducing VMT. The

Legislature considered and rejected imposing a VMT reduction mandate, and CARB considered and rejected imposing a VMT reduction mandate as part of the regional land use and transportation planning mandated under SB 375 (first postponing its decision in December of 2017, at the same hearing CARB approved the Scoping Plan – and then definitively rejecting it in March of 2018).

303. At these hearings, CARB was informed that VMT had increased in California while transit utilization had fallen dramatically notwithstanding billions of dollars in new transit system investments. VMT reduction thus could not appropriately be included as SB 375 compliance metrics and with increases in electric and high efficiency hybrid vehicles, the correlation between VMT and GHG emissions is increasingly weak.

304. Even more than CARB's other GHG Housing Measures, the VMT reduction mandate is uniquely targeted to discriminate against minority workers. The American Community Survey ("ACS") is a project of the U.S. Census Bureau and tracks a wide range of data over time—including the ethnicity, transportation mode, and times of California commuters. The ACS data demonstrate that in the 10 year period between 2007 and 2016, 1,117,273 *more* Latino workers drove to their jobs, 377,615 *more* Asian workers drove to their jobs, and 18,590 *more* African American workers drove to their jobs.[135] During the same period, 447,063 *fewer* white workers drove to their jobs. Transit utilization increased for white and Asian workers, but fell for Latino and African American workers. During the same period, commute times lengthened substantially as more people—again disproportionately minorities—were forced to commute longer distances to housing they could afford.

305. By 2016, about 445,000 people in the Bay Area were commuting more than an hour each direction—an increase of 75% over the 2006 count of long distance Bay Area commuters. Anyone driving between the Bay Area and Central Valley during commute times vividly experiences the gridlock conditions, adverse personal health (e.g., stress, high blood

[135] David Friedman, Jennifer Hernandez, California, Greenhouse Gas Regulation, and Climate Change, Holland & Knight, Chapman University Press (2018), Table 3.7, p. 84, https://www.chapman.edu/wilkinson/_files/ghg-fn.pdf.

pressure, back pain), and adverse family welfare (e.g., missed dinners, homework assistance, and exhaustion) consequences of these commutes.

306. CARB (and the Attorney General) also have no support for their argument disputing the fact that the challenged Housing Measures disproportionately affect minority community members. As early as 2014, CARB received a comprehensive report from NextGen, a firm closely aligned with the strongest supporters of California's climate leadership, urging CARB to restructure its electric car subsidy program, which was found to be disproportionately benefitting those in Marin County and other wealthier and whiter areas that could afford to purchase costly new electric vehicles. In "No Californian Left Behind," Next Gen noted the obvious: "the overwhelming majority of Californians still use cars to get to work," including 77% who commute alone and 12% who carpool. Further, "[i]n less densely developed and rural areas like California's San Joaquin Valley, commuters often have long distances to drive between home, school, work and shopping; as a result, car ownership is often not a choice, but a necessity." Even more specifically, the report found that in Fresno County, even for workers earning less than $25,000, fewer than 3 percent of commuters take public transportation to work; in Madera County, only 0.3% of low-income workers took transit, and the results were comparable in in the rest of the San Joaquin Valley. Next Generation, *No Californian Left Behind: Clean and Affordable Transportation Options for all through Vehicle Replacement*, *http://www.thenextgeneration.org/files/No_Californian_Left_Behind_1.pdf (February 27, 2014) at p. 9. NextGen advocated a restructured vehicle program designed to equitably retire and replace the oldest most polluting cars, and to shift subsidy and incentive programs to help those who are either low income or need rural transport to obtain cleaner, lower-GHG emitting cars. (*Id.* p. 5) NextGext noted:

> "California is already a leader in advanced and high tech transportation and transit solutions. It is time we also became a leader in pragmatic solutions for a population that is sometimes left behind in these discussions: non-urban, low-income, car-dependent households."

The VMT reduction mandate in the 2017 Scoping Plan was specifically identified as CARB was fully on notice of the disparate harms caused to minority communities by its approach. In a report submitted to CARB by the climate advocacy group NextGen in February 2014, CARB was informed that Central Valley Latinos drive longer distances than any other ethnic group in any other part of California—and live in communities and households with the highest poverty rates.

307. Notwithstanding CARB's express acknowledgement in March of 2018 (and preview in December of 2017) that even the regional transportation and housing plans required by SB 375 cannot attain a VMT reduction target, CARB and its fellow "Vibrant Communities Appendix" agencies, remain committed to using CEQA to require new projects—including housing that is affordable and critically needed for California's minority communities—to pay higher costs to fund VMT reductions through CEQA.

308. As with the "net zero" GHG mitigation mandate, the immediate and ongoing effect of this VMT reduction measure is to increase housing costs to even less affordable and attainable levels for California's minority communities.

309. Even before enactment of the 2017 Scoping Plan, OPR (the Vibrant Communities agency that has the responsibility for adopting regulatory updates to CEQA) had been proposing to regulate the act of driving a car (even an electric vehicle or carpool) one mile (one VMT) as a new CEQA "impact" requiring "mitigation"— independent of whether the mile that was driven actually caused any air quality, noise, GHG, safety, or other impacts to the physical environment.

310. This expansion of CEQA was prompted in 2013, when OPR was directed by the Legislature in SB 743 to adopt a metric other than congestion-related traffic delay in transit-served "infill" areas as the appropriate transportation impact required to be evaluated and mitigated under CEQA, since these neighborhoods were intentionally being planned for higher density, transit/bike/pedestrian rather than automobile-dependent, neighborhoods. Pub. Res. Code § 21099(b).

311. In SB 743, the Legislature authorized but did not require the state Office of Planning and Research (OPR) to use VMT as the replacement metric for transit-served areas, and authorized but did not require OPR to apply an alternate transportation impact metric outside

designated urban infill transit neighborhoods. OPR responded with three separate rounds of regulatory proposals, each of which proposed expanding CEQA by making VMT a new CEQA impact, and requiring new mitigation to the extent a VMT impact was "significant." OPR further proposed a series of VMT significance thresholds, analytical methodologies, and potential mitigation measures, which varied over time but included a "road diet" and measures to discourage reducing congestion, on the theory that such congestion could somehow "induce" transit use and VMT reductions.

312. Under all three sets of OPR proposals, projects would be required to do more mitigation to reduce significant VMT impacts—by reducing VMT (i.e., reducing GHG or other air pollutants is not a valid CEQA mitigation approach for a new VMT impact). OPR received scores of comments objecting to expanding CEQA by making driving a mile a new "impact" requiring "mitigation," particularly given the disparate impact such a metric has on minority communities and the many adverse impacts to the environment, and public health and welfare, caused by the housing crisis and the state's worst-in-the-nation commutes.

313. OPR, again and repeatedly citing to the asserted need to reduce VMT to meet California's GHG reduction and climate leadership commitments, held a recent round of workshops on VMT mitigation strategies, working in close coordination with CARB's earlier and since-abandoned proposal to include VMT reductions as a required SB 375 regional transportation plan compliance measures.

314. At these workshops, OPR and its outside experts from an Oregon university conceded that VMT could likely not be "mitigated" by reducing miles driven by the future residents of any particular housing project (e.g., by adding secure bike racks or charging extra for parking), since whether people drive a mile or call an Uber—or hop on a bike or bus—is a function of available, cost- and time-effective transportation modes as well as the incomes and planned destinations of future residents. Agency workshop participants expressly acknowledged that VMT had increased 6% over 2011 levels, even though California's primary climate statutes (including many programs designed to promote transit and higher density development, and many

billions of dollars in completed transit systems improvements) were in effect during this same period.

315. These experts also conceded that with the success of on-demand ride services like Uber and Lyft, including the increasing cost-effectiveness and popularity of voucher-based on-demand rides by transit agencies in lieu of operating fixed route buses with low and still-declining utilization levels, there was *no evidence* that VMT could be substantially reduced by a particular project in a particular location as part of the CEQA review process for that project.

316. Instead, the VMT mitigation proposals shared during the workshops required that new housing pay others to operate school buses, bikeshare, and make improvements to bike and pedestrian pathways to the extent these measures could be demonstrated to reduce VMT. The suggested VMT mitigation measures had in common the payment of substantial fees (with some options suggested requiring annual payments, in perpetuity, of $5000 per apartment or home).

317. A recent academic study of VMT mitigation under CEQA likewise concedes the difficulty of a particular project achieving VMT reductions, and endorses the concept of adding to housing and other project costs payments to VMT "banks" or "exchanges" to fund third party VMT reductions – VMT reductions that occur somewhere, by someone.

318. This OPR VMT saga, like CARB's ultimate decision not to require a VMT compliance metric under SB 375, further demonstrates that the 2017 Scoping Plan's VMT reduction mandate measure – which CARB's senior executive expressly acknowledged was intended to be "self-executing" - is a fundamentally flawed "throw-away" measure that was neither acknowledged nor given an equity, environmental, or economic evaluation before being included in CARB's 2017 Scoping Plan.

319. The last of the challenged GHG Housing Measures is the Vibrant Communities Appendix, in which eight state agencies (including OPR) join with CARB in committing to undertake a series of actions to implement the approved Scoping Plan. Some of these agencies already have begun implementing the Scoping Plan, to the immediate and ongoing harm of California minority communities who are already disproportionately suffering from the housing crisis.

320. The Vibrant Communities appendix is an "interagency vision for land use, **and** for discussion" (emphasis added) of "State-Level Strategies to Advance Sustainable, Equitable Communities and Reduce Vehicles Miles of Travel (VMT)." 2017 Scoping Plan Appendix C, p. 1.

321. **First,** all of disparate and unlawful current and ongoing harms described in connection with the Scoping Plan's VMT Reduction measure apply equally to the actions of other State agencies based on the Vibrant Communities appendix measures. None have a rational basis for claiming any actual success in reducing VMT through their respective direct regulatory activities.

322. **Second,** there is no constraint in the "Vibrant Communities Appendix" preventing any of the eight state agency signatories from taking immediate steps to directly enforce these "land use" policies, while claiming to "work together to achieve this shared vision and to encourage land use and transportation decisions that minimize GHG emissions." 2017 Scoping Plan Appendix C, p. 2.

323. OPR's VMT expansion of CEQA, discussed above, is an example of an agency action to reduce VMT and GHG that is at least subject to formal rulemaking procedures and is thus not yet being "implemented."

324. In contrast, in June of 2018, a combination of four Vibrant Communities Appendix implementing agencies joined by one other agency[136] announced that they would henceforth implement – without benefit of any further Legislative or regulatory action –the "December 2017 Scoping Plan directive". This announcement was made at the San Francisco Bay Area Regional Meeting announcing the "California's 2030 Natural and Working Lands Climate Change Implementation Plan." Consistent with the anti-housing bias built into CARB's GHG Housing Measures, these agencies collectively promised to avoid "conversion of land for development."

[136] The five agencies are: the California Environmental Protection Agency, the California Natural Resources Agency, CARB, the California Department of Food and Agriculture, and the Coastal Conservancy.

325. These five agencies made no exception for developing housing, even for housing that CARB has already concluded as part of the SB 375 regional plan process meets California's legislated GHG emission reduction requirements. These agencies likewise made no exception for transportation or other critical infrastructure, even if consistent with local and regional plans, even if approved by federal or state agencies other than this five-agency consortium, even if within an approved city limit, and even if approved by voters. *Simply put, these agencies – which have combinations of funding, permitting, planning and enforcement obligations – have signaled that they are not going to approve new development on land that is not already developed.*

326. The sole reed upon which this vast new legal prohibition rests is the 2017 Scoping Plan, and more specifically the Vibrant Communities Appendix. See SF Bay Area Regional Meeting, *California's 2020 Natural and Working Lands Climate Change Implementation Plan*, available at http://resources.ca.gov/wp-content/uploads/2018/08/SF-Bay-Area-NWL-meeting-presentation-6.18.pdf.

327. Less than 6% of California is urbanized, and each city and county is charged by state law with adopting a General Plan that must accommodate the housing, transportation, and infrastructure needs of its existing and planned future residents. Under SB 375, these local land use plans are effectively consolidated into regional transportation and land use plans that must accommodate future population and economic growth as well as meet CARB targets for reducing GHG from the land use sector. Every regional Sustainable Communities Strategy ("SCS") plan includes some combination of housing, infrastructure (including transportation improvements), schools and other land uses that are carefully and deliberatively sited within each jurisdiction's boundaries – and adopted only after each local government first complies with CEQA and completes an extensive public notice, comment, and hearing process before appointed and elected officials.

328. The decision of the California Department of Fish & Wildlife ("CDFW") to simply stop issuing permits for housing and related infrastructure projects that have already been approved by local elected officials, after community input, in compliance with all applicable laws—and have further already been approved by CARB, as part of the SB 375 regional plan

approval process—is a blatant example an announced harm being committed against housing by a state agency in furtherance of CARB's 2017 Scoping Plan.

329. **Third**, consistent with normal practice for lawsuits that include a claim that the respondent agency has failed to comply with CEQA, Petitioners elected to prepare the administrative record that is relevant to the disposition of this CEQA cause of action. The Legislature has specifically prescribed the content of the CEQA administrative record, which includes in part: "Any other written materials relevant to the respondent public agency's compliance with this division or to its decision on the merits of the project" and "all . . . internal agency communications, including staff notes and memoranda relating to the project." Pub. Res. Code § 21167.6(c)(10).

330. Petitioners timely sought the administrative record from CARB, and in another normal practice for CEQA lawsuits submitted requests filed under the California Public Records Act ("CPRA") to each of the Vibrant Communities Appendix agencies in relation to each agency's Scoping Plan and Vibrant Communities Appendix, and VMT or other Scoping Plan documents.

331. Many months later, only incomplete responses have been provided by CARB (which sought to limit the administrative record in this case to select excerpts from its Scoping Plan docket).

332. Several of the Vibrant Communities Appendix agencies, including CDFW, OPR, parent and affiliated agencies of each (Natural Resources Agency and Strategic Growth Council), and CalSTA, responded with minimal documents and instead asserted that the requested documents were exempt from disclosure under the CPRA because they could result in public "controversy."

333. One of these partially-responsive agencies admitted that the withheld documents involved the highest level of state government, and included legislative proposals. All of these partially-responsive agencies declined a second letter request to disclose the withheld documents, or provide a privilege log describing each withheld document and the reason for its concealment.

334. There is no centralized or otherwise public repository of Vibrant Communities Appendix agency documents that disclose to the public their current, planned, or future activities with respect to implementing the Scoping Plan. There is likewise no centralized or otherwise public repository of which implementing activities are being (or will be) directly undertaken, and which will not be undertaken without future rulemaking or authorizing legislation.

335. From just the "direct" implementation activities noted above—and in particular CARB's intervention in an ongoing CEQA project-level review to opine on GHG mitigation requirements in a manner that is contrary to published judicial opinions, and CDFW's announced intention to cease authorizing activities that would convert land to development with no exception for new housing or related infrastructure that is already included in approved General Plans, infrastructure plans, voter-approved bonds, or CARB-approved Sustainable Communities Strategies implementing SB 375, is ample evidence of the immediate and ongoing new costs and regulatory obstacles already being imposed by these agency Scoping Plan implementing actions.

336. CARB's GHG reduction compliance metric is arbitrary, not supported by science, has no rational basis, and is racially discriminatory. In California's GHG and climate leadership laws, the Legislature did not prescribe any specific measurement methodology or compliance metric for meeting California's GHG reduction goals. The methodology and metrics that CARB has chosen completely ignore massive GHG emissions that occur when California's forests burn, as has tragically occurred at a large scale for several of the past years, notwithstanding estimates that just one major forest fire wipes out an entire year of GHG reductions achieved by CARB's regulatory actions.[137]

337. Similarly, CARB does not count—or require reductions of—GHG emissions associated with imported foods or other goods, or with a multitude of other activities such as airplane trips. However, every time a California resident (or job) leaves California, CARB counts that as a GHG reduction—even though the top destinations for the hundreds of thousands of

[137] David Friedman, Jennifer Hernandez, California, Greenhouse Gas Regulation, and Climate Change, Holland & Knight, Chapman University Press (2017), p. 60-61, https://www.chapman.edu/wilkinson/_files/ghg-fn.pdf.

Californians who have migrated to lower cost states in recent years, notably including Texas, Arizona and Nevada—have per capita GHG emissions that are more than double the emissions those same individuals would have if they remained in California.

338. Climate change and GHG emissions are a global challenge, and nearly tripling the GHG emissions of a California family that needs to move to Texas or Nevada to find housing they can afford to rent or buy, increases global GHG.

339. It may be that there are other environmental priorities favored by CARB and its allies that justify policies that are in fact resulting in the displacement and relocation of California's minority communities, that reduce the state's population, and that eliminate higher energy production jobs like manufacturing that traditionally provided a middle class income (and home ownership) to a hard worker without a college degree. These discriminatory anti-minority policies cannot, however, be scientifically, politically, or legally justified in the name of global reductions of GHG.

340. CARB's International Policy Director on climate, former Obama administration senior climate team Lauren Sanchez, admitted that the GHG reduction metrics used by CARB – that simply and completely ignores the increased global GHG emissions from forcing Californians to live in high GHG states to find housing they can afford to buy with commute times that did not damage driver health, family welfare, and the environment - were "flawed" at the recent (October 2018) Environmental Law Conference in Yosemite. This admission rebuts the politically shocking and legally invalid assertion that it is constitutional for CARB to implement racially discriminatory measures (because CARB's discriminatory objective is merely to force minority Californians to either try to live in housing they cannot afford located nowhere near their job, or migrate to another state).

341. The 2017 Scoping Plan is required to reduce California's share of *global* GHG emissions, but it completely ignores massive emission sources that are controversial within the environmental community (e.g. managing California's massive wildfire risks which result in GHG emissions that dwarf CARB's regulatory GHG reductions, based on what the non-partisan

Little Hoover Commission reported in February 2018 as a century of forest mismanagement including clashes between environmental agencies). [138]

342. The 2017 Scoping Plan also completely ignores other massive GHG emissions attributed to the behavior of wealthier Californians (e.g., airplane rides, and consumption of costly imported consumer products).[139] Instead, as summarized a Chapman University Research Brief, CARB has administered California's climate laws with actions such as the 2017 Scoping Plan that drive up the fundamental costs of living for ordinary Californians—housing, electricity, transportation—and thereby drive more people (and disproportionately minorities) into poverty, and out of the state.[140]

343. The 2017 Scoping Plan fails even the most rudimentary "rational basis" constitutional test, and it is being implemented today by organizations and agencies including CARB that are driving up housing costs and blocking housing projects today. To cause this much pain and hardship to this many people, and to place the greatest burdens on those already disparately harmed by the housing crisis, is unconscionable. It is also ongoing, illegal, and unambiguously intentional, for CARB to impose these "flawed" GHG reduction metrics that cause disparate harms to racial minorities living in California.

344. The foregoing paragraphs describe agency actions that are exacerbating the State's extreme poverty, homelessness and housing crisis while *increasing* global GHG emissions by driving Californians to higher per capita GHG states.[141]

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[138] Little Hoover Commission, *Fire on the Mountain: Rethinking Forest Management in the Sierra Nevada* (February 2018), available at https://lhc.ca.gov/report/fire-mountain-rethinking-forest-management-sierra-nevada.

[139] Bay Area Air Quality Management District and Cool Climate Network at UC Berkeley, *Consumption-Based GHG Emissions Inventory: Prioritizing Climate Action for Different Locations* (December 15, 2015), available at https://escholarship.org/uc/item/2sn7m83z

[140] Friedman, Id., Summary at p. 7-9.

[141] Philip Reese, *California Exports Its Poor to Texas, Other States, While Wealthier People Move In*, The Sacramento Bee (Mar. 5, 2017), available at http://www.sacbee.com/news/state/california/article136478098.html; Drew Lynch, *Californians Consider Moving Due to Rising Housing Costs, Poll Finds*, Cal Watchdog (Sept. 21, 2017), available at https://calwatchdog.com/2017/09/21/californians-consider-moving-due-rising-

345. CARB's new GHG Housing Measures, individually and collectively, on their face and as applied, deprive Petitioners, including but not limited to RODRIGUEZ, MURILLO and PEREZ, and other historically-disadvantaged minorities, of the fundamental right to live in communities that are free from arbitrary, government-imposed standards whose inevitable effect is to perpetuate their exclusion from participation in the housing markets in or near the communities in which they work. CARB's new GHG Housing Measures, individually and collectively, on their face and as applied, have a disparate adverse impact on Petitioners, including but not limited to RODRIGUEZ, MURILLO and PEREZ, and other historically-disadvantaged minorities, as compared to similarly-situated non-minorities who currently enjoy affordable access to housing near their workplaces.

346. CARB's new GHG Housing Measures, on their face and as applied to the sorely-needed development of new, affordable housing, are arbitrary and not rationally related to the furtherance of their purported regulatory goal of reducing overall GHG emissions.

H. CARB'S GHG Housing Measures Are "Underground Regulations" and Ultra Vires

347. A regulation is defined as "every rule, regulation, order, or standard of general application or the amendment, supplement, or revision of any rule, regulation, order, or standard adopted by any state agency to implement, interpret, or make specific the law enforced or administered by it, or to govern its procedure." Gov. Code § 11342.600.

348. State agencies are required to adopt regulations following the procedures established in the APA and are prohibited from issuing and enforcing underground regulations. Gov. Code § 11340.5. Under the APA, an underground regulation is void.

349. Each of CARB's new GHG Housing Measures are being implemented by CARB, and other state and local agencies, without further rulemaking or compliance with the APA. The GHG Housing Measures are underground regulations requiring APA compliance, and cannot be

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housing-costs-poll-finds/; U.S. Energy Information Agency, State Carbon Dioxide Emissions Data, October 2017, available at https://www.eia.gov/environment/emissions/state/.

lawfully implemented absent authorizing Legislation or formal rulemaking (inclusive of environmental and economic review as required by the APA).

350. CARB's new GHG Housing Measures infringe on areas reserved for other State agencies in two ways:

A. Senate Bill ("SB") 97 directs OPR to develop CEQA significance thresholds via the CEQA Guidelines. OPR's update does not include the Scoping Plan's presumptive CEQA GHG threshold. CARB was expressly allowed by the Legislature in SB 97 to adopt a CEQA significance threshold only in the context of updates to the CEQA Guidelines, which must undergo a rigorous rulemaking process. CARB has acted *ultra vires* and contrary to the express command of the Legislature in adopting its recommended CEQA significance threshold in the Scoping Plan.

B. California has adopted new building standards, which are designed to assure that new building code requirements are cost effective (with payback to the consumer). "Net zero" new home building standards were not included. CARB has no Legislative authority to bypass and frustrate this consumer protection law by using CEQA as a workaround to require "net zero".[142]

351. In articulating and publishing its new GHG Housing Measures, CARB has not complied with the APA's rulemaking procedures and requirements. As a consequence, CARB's new GHG Housing Measures are unlawful underground regulations, and should be held to be void and of no effect.

FIRST CAUSE OF ACTION

(Fair Employment and Housing Act, Gov. Code § 12955 *et seq.*)

352. Petitioners hereby re-allege and incorporate herein by reference the allegations contained in paragraphs 1-351 above, as well as in paragraphs 358-458.

[142] See generally California Department of Housing and Community Development, State Housing Law Program Laws and Regulations, http://www.hcd.ca.gov/building-standards/state-housing-law/state-housing-laws-regulations.shtml.

353. The Fair Employment and Housing Act (Gov. Code , § 12955 *et seq.*) ("FEHA") provides, *inter alia*, that: "It shall be unlawful . . . (l) To discriminate through public or private land use practices, decisions, and authorizations, because of race, color, . . national origin, source of income or ancestry."

354. CARB's new GHG Housing Measures, on their face and as applied, constitute public land use practices decisions and/or policies subject to the FEHA.

355. CARB's new GHG Housing Measures actually and predictably have a disparate negative impact on minority communities and are discriminatory against minority communities and their members, including but not limited to Petitioners RODRIGUEZ, MURILLO, and PEREZ.

356. CARB's new GHG Housing Measures and their discriminatory effect have no legally sufficient justification. They are not necessary to achieve (nor do they actually tend to achieve) any substantial, legitimate, nondiscriminatory interest of the State, and in any event such interests can be served by other, properly-enacted standards and regulations having a less discriminatory effect.

357. Because of their unjustified disparate negative impact on members of minority communities, including Petitioners, CARB's new GHG Housing Measures violate the FEHA, and should be declared unlawful and enjoined.

SECOND CAUSE OF ACTION

(Federal Housing Act and HUD Regulations, 42 U.S.C. § 3601 *et seq.*; 24 C.F.R. Part 100)

358. Petitioners hereby re-allege and incorporate herein by reference the allegations contained in paragraphs 1-357 above, as well as paragraphs 368-458.

359. The Federal Housing Act (42 U.S.C. § 3601 *et seq.*) ("FHA") was enacted in 1968 to combat and prevent segregation and discrimination in housing. The FHA's language prohibiting discrimination in housing is broad and inclusive, and the purpose of its reach is to replace segregated neighborhoods with truly integrated and balanced living patterns.

360. In formal adjudications of charges of discrimination under the FHA over the past 20-25 years, the U.S. Department of Housing and Urban Development ("HUD") has consistently

concluded that the FHA is violated by facially neutral practices that have an unjustified discriminatory effect on the basis of a protected characteristic, regardless of intent.

361. Pursuant to its authority under the FHA, HUD has duly promulgated and published nationally-applicable federal regulations implementing the FHA's Discriminatory Effects Standard at 24 C.F.R. Part 100 (*see* 78 Fed.Reg. 11460-01 (February 15, 2013)) ("HUD Regulations"). These HUD Regulations continue to apply, and have the force and effect of law.

362. HUD Regulations provide, *inter alia*, that liability under the FHA may be established "based on a practice's discriminatory effect . . . even if the practice was not motivated by a discriminatory intent." 24 C.F.R. § 100.500.

363. HUD Regulations further provide that: "A practice has a discriminatory effect where it actually or predictably results in a disparate impact on a group of persons or perpetuates segregated housing patterns because of race, color, . . . or national origin."

364. CARB's GHG Housing Measures actually and predictably result in a disparate impact on members of minority communities, including but not limited to Petitioners, and perpetuates segregated housing patterns because of race, color, and/or national origin within the meaning of the FHA and HUD Regulations.

365. Because of the discriminatory effect of CARB's GHG Housing Measures, CARB has the burden of proving that these GHG Housing Measures do not violate the FHA as interpreted and implemented through the HUD Regulations.

366. CARB has not met, and cannot meet, its burden of trying to justify the discriminatory effect of its challenged GHG Housing Measures, which are not necessary to achieve the stated goals, which could and should be pursued through other measures having a less discriminatory effect.

367. Because CARB's GHG Housing Measures have an unjustified discriminatory effect on members of minority communities, including Petitioners, they violate the FHA as implemented though HUD Regulations. Consequently, CARB's GHG Housing Measures should be declared unlawful and enjoined, and Petitioners are entitled to other and further relief pursuant to 42 U.S.C. § 1983.

THIRD CAUSE OF ACTION

(Denial of Due Process, Cal. Const. Art. I, § 7; U.S. Const. Amd. 14, § 1)

368. Petitioners hereby re-allege and incorporate herein by reference the allegations contained in paragraphs 1-367 above, as well as paragraphs 373-448.

369. Petitioners have a right to be free of arbitrary State regulations that are imposed without having first been presented to the public through duly-authorized rulemaking processes by Legislatively-authorized State agencies.

370. CARB's new GHG Housing Measures, individually and collectively, will inevitably cause serious harm to the ability of Petitioners and other members of disadvantaged minority communities to gain access to affordable housing, and have a disproportionate adverse impact on them.

371. CARB's new GHG Housing Measures are not rationally calculated to further the State's legitimate interest in reducing GHG emissions, on their face or as applied to housing projects in California. Instead, CARB's new GHG Housing Measures are both arbitrary and counterproductive in terms of actually achieving their purported goals of GHG emission reductions.

372. For these reasons, CARB's GHG Housing Measures have been issued in violation of, and constitute substantive violations of, the Due Process Clauses of the California and United States Constitutions. (Cal. Const. Art. 1, § 7; U.S. Const. Amd. 14, § 1,)

FOURTH CAUSE OF ACTION

(Denial of Equal Protection, Cal. Const. Art. I, § 7, Art. IV § 16; U.S. Const. Amd. 14, § 1)

373. Petitioners hereby re-allege and incorporate herein by reference the allegations contained in paragraphs 1-372 above, as well as 382-458.

374. Non-discriminatory access to housing is a fundamental interest for purposes of evaluating regulations under the equal protection provisions of the California Constitution. Art. I, § 7 and Art. IV, § 16.

375. Non-discriminatory access to housing is a fundamental interest for purposes of evaluating regulations under the equal protection clause of the United States Constitution. U.S. Const. Amd. 14, § 1.

376. CARB's GHG Housing Measures disproportionately affect members of minority communities, including Petitioners RODRIGUEZ, MURILLO and PEREZ, by making affordable housing unavailable to them, as compared with non-minority homeowners unaffected by the new GHG regulations, while imposing arbitrary, counter-productive State regulations and standards.

377. Race and ethnicity are suspect classes for purposes of evaluating regulations under the equal protection provisions of the California Constitution. Art. I, § 7 and Art. IV, § 16.

378. Race and ethnicity are suspect classes for purposes of evaluating regulations under the equal protection clause of the United States Constitution. U.S. Const. Amd. 14, § 1.

379. Petitioners warned CARB about the racially discriminatory aspects of the Scoping Plan prior to CARB's finalizing and issuing the Scoping Plan. Despite Petitioners' warning, CARB disregarded these impacts and issued the Scoping Plan without changes. On information and belief, CARB did so with the intent to disproportionately cause harm to racial minorities, including minority communities of which Petitioners are members.

380. CARB's GHG Housing Measures violate the equal protection provisions of the California Constitution because they make access to new, affordable housing a function of race.

381. CARB's GHG Housing Measures violate the equal protection clause of the United States Constitution because they make access to new, affordable housing a function of race.

FIFTH CAUSE OF ACTION

(Violations of CEQA, Pub. Res. Code § 21000 *et seq.* and CEQA Guidelines, 14 C.C.R. § 15000 *et seq.*)

382. Petitioners hereby re-allege and incorporate herein by reference the allegations contained in paragraphs 1-381 above, as well as paragraphs 395-458.

383. CARB violated CEQA by approving the 2017 Scoping Plan in violation of the Act's requirements and by certifying a legally deficient environmental analysis.

384. CARB did not write its Final EA in plain language so that members of the public could readily understand the document.

385. CARB did not assess the "whole of the project" as required by CEQA. The GHG Housing Measures are included in the 2017 Scoping Plan and thus the "project" for CEQA purposes should have included potential direct and indirect impacts on the environment from the four GHG Housing Measures. CARB did not include an analysis of the four GHG Housing Measures in the EA.

386. CARB did not base its Final EA on an accurate, stable, and finite project description. The EA did not include the four GHG Housing Measures in its project description. For this reason CARB applied an unreasonable and unlawful "project" definition and undermined CEQA's informational and decision-making purposes. The project description was misleading, incomplete, and impermissibly vague.

387. CARB did not properly identify the Project objectives in its EA.

388. CARB's unlawful use of the "cumulative gap" methodology created multiple legal deficiencies in the EA, including in the project description, project objectives, and impact analysis. Had CARB used the appropriate project objective—reducing GHG 40% below the 1990 California GHG inventory by 2030—the estimated 1% of GHG reductions (1.79 tons per year) achieved by the GHG Housing Measures would have been entirely unnecessary, and all disparate and unlawful adverse civil rights, environmental, housing, homelessness, poverty, and transportation consequences of the GHG Housing Measures could have been avoided.

389. At most, CARB could have clearly identified its "cumulative gap" methodology as an alternative to the project that would have further reduced GHG emissions beyond the SB 32 statutory mandate, to further inform the public and decisionmakers of the comparative impacts and consequences of SB 32's legislated GHG reduction mandate, and the more substantial GHG reductions sought by CARB staff. CARB's failure to use the SB 32 statutory mandate of achieving 40% GHG reduction from 1990 levels as of 2030 is a fatal legal flaw.

390. CARB also failed to adequately evaluate the direct, indirect, and cumulative environmental impacts of the 2017 Scoping Plan in its Final EA, even after commenters identified

numerous review gaps in their comments on the Draft EA. As discussed above, CARB was fully on notice of the scale and nature of the impacts associated with the GHG Housing Measures based on CARB's review and approval of more than a dozen regional plans to intensify housing densities near transit, and improve public transit, from all of California's most significant population centers; each of these regional plans identified multiple unavoidable significant adverse environmental impacts from implementation of current plans. The deficiencies in the Final EA include but are not limited to the following:

- Aesthetic impacts such as changes to public or private views and character of existing communities based on increased building intensities and population densities;
- Air quality impacts from increases in GHG, criteria pollutants, and toxic air contaminant emissions due to longer commutes and forced congestion that will occur from the implementation of the VMT limits in the 2017 Scoping Plan;
- Biological impacts from increased usage intensities in urban parks from substantial infill population increases;
- Cultural impacts including adverse changes to historic buildings and districts from increased building and population densities, and changes to culturally and religiously significant resources within urbanized areas from increased building and population densities;
- Urban agriculture impacts from the conversion of low intensity urban agricultural uses to high intensity, higher density uses from increasing populations in urban areas, including increasing the urban heat island GHG effect;
- Geology/soils impacts from building more structures and exposing more people to earthquake fault lines and other geologic/soils hazards by intensifying land use in urban areas;
- Hazards and hazardous materials impacts by locating more intense/dense housing and other sensitive uses such as schools and senior care facilities near freeways, ports, and stationary sources in urbanized areas;

- Hydrology and water quality impacts from increasing volumes and pollutant loads from stormwater runoff from higher density/intensity uses in transit-served areas as allowed by current stormwater standards;
- Noise impacts from substantial ongoing increases in construction noise from increasing density and intensity of development in existing communities and ongoing operational noise from more intensive uses of community amenities such as extended nighttime hours for parks and fields;
- Population and housing impacts from substantially increasing both the population and housing units in existing communities;
- Recreation and park impacts from increasing the population using natural preserve and open space areas as well as recreational parks;
- Transportation/traffic impacts from substantial total increases in VMT in higher density communities, increased VMT from rideshare/carshare services and future predicted VMT increases from automated vehicles, notwithstanding predicted future decrease in private car ownership;
- Traffic-gridlock related impacts and multi-modal congestion impacts including noise increases and adverse transportation safety hazards in areas of dense multi-modal activities;
- Public safety impacts due to impacts on first responders such as fire, police, and paramedic services from congested and gridlocked urban streets; and
- Public utility and public service impacts from substantial increases in population and housing/employment uses and demands on existing water, wastewater, electricity, natural gas, emergency services, libraries and schools.

391. As stated above, although the Scoping Plan's CEQA threshold is not binding on a lead agency, it nevertheless has immediate evidentiary weight as the expert conclusion of the state's expert GHG agency. Thus, the Scoping Plan's CEQA threshold is appropriately justiciable, and should be vacated for the reasons set forth herein.

392. As a result of these defects in the Final EA, CARB prejudicially abused its discretion by certifying an EIR that does not comply with CEQA and by failing to proceed in the manner required by law.

393. Petitioners objected to CARB's approvals of the GHG Housing Measures prior to the close of the final public hearings on CARB's 2017 Scoping Plan and raised each of the legal deficiencies asserted in this Petition.

394. Petitioners have performed all conditions precedent to the filing of this Petition, including complying with the requirements of Pub. Res. Code section 21167.5 by serving notice of the commencement of this action prior to filing it with this Court.

SIXTH CAUSE OF ACTION

(Violations of APA, Gov. Code § 11346 *et seq.*)

395. Petitioners hereby re-allege and re-incorporate herein by reference the allegations of paragraphs 1-394 above, as well as paragraphs 405-458.

396. Under the APA and other applicable law, CARB is required to comply with regulations issued by the Department of Finance ("DOF") before issuing a "major regulation." Specifically, the APA (Gov. Code § 11346.3(c)) requires that CARB prepare a standardized regulatory impact assessment ("SRIA") in a form, and with content, that meets requirements set by the DOF in its separate regulations (1 C.C.R. § 2000 *et seq.*).

397. CARB's GHG Housing Measures constitute a major regulation subject to the APA's requirement that such regulations be promulgated in compliance with DOF regulations.

398. Section 2003 of DOF regulations (1 C.C.R. § 2003(a)) ("Methodology for Making Estimates") provides that, "[i]n conducting the SRIA required by Section 11346.3", CARB "shall use an economic impact method and approach that has all of the following capabilities:

(1) Can estimate the total economic effects of changes due to regulatory policies over a multi-year time period.

(2) Can generate California economic variable estimates such as personal income, employment by economic sector, exports and imports, and gross state product, based on inter-

industry relationships that are equivalent in structure to the Regional Industry Modeling System published by the Bureau of Economic Analysis.

(3) Can produce (to the extent possible) quantitative estimates of economic variables that address or facilitate the quantitative or qualitative estimation of the following.

(A) The creation or elimination of jobs within the state;

(B) The creation of new businesses or the elimination of existing businesses within the state;

(C) The competitive advantages or disadvantages for businesses currently doing business within the state;

(D) The increase or decrease of investment in the state;

(E) The incentives for innovation in products, materials, or processes; and

(F) The benefits of the regulations, including but not limited to benefits to the health, safety, and welfare of California residents, worker safety, and the state's environment and quality of life, among any other benefits identified by the agency."

399. DOF regulations require that DOF's "most current publicly available economic and demographic projections, which may be found on the department's website, shall be used unless the department approves the agency's written request to use a different projection for a specific proposed major regulation." 1 C.C.R. § 2003(b).

400. DOF regulations also provide that: "An analysis of estimated changes in behavior by businesses and/or individuals in response to the proposed major regulation shall be conducted and, if feasible, an estimate made of the extent to which costs or benefits are retained within the business and/or by individuals or passed on to others, including customers, employees, suppliers and owners." 1 C.C.R. § 2003(f).

401. In grafting its new GHG Housing Measures onto the 2017 Scoping Plan, CARB has failed to comply with the APA, including DOF regulations applicable to CARB.

402. More significantly, and consistent with the LAO's repeated findings that the CARB analysis methodology fails to provide sufficiently detailed information about impacts to individuals, households and businesses, CARB's 2017 Scoping Plan completely ignores the fact

that California has the greatest inequality in the United States, and that energy costs, loss of energy-intensive jobs and housing costs related to Scoping Plan policies play a major role in that unwanted outcome. To fulfill its statutory mandates, CARB must start by recognizing that, as meticulously documented in a United Way Study, more than 30% of all California households lack sufficient means to meet the real cost of living in the state.

403. In addition, as described above, by using the unlawful "cumulative gap" methodology to calculate the GHG reductions it claims are needed in the 2017 Scoping Plan, CARB improperly created inputs for the FA that render the entire document invalid.

404. In its present form, the Scoping Plan embodies multiple violations of the APA and should be set aside as unlawful and void.

SEVENTH CAUSE OF ACTION

(Violations of the California Global Warming Solutions Act, Health & Safety Code § 38500 *et seq.*)

405. Petitioners hereby re-allege and incorporate herein by reference the allegations contained in paragraphs 1-404 above, as well as paragraphs 413-458.

406. The GWSA provides in pertinent part that, in promulgating GHG regulations, CARB "shall do all of the following:

(1) Design the regulations, including distribution of emissions allowances where appropriate, in a manner that is equitable, seeks to minimize costs and maximize the total benefits to California, and encourages early action to reduce greenhouse gas emissions.

(2) Ensure that activities undertaken to comply with the regulations do not disproportionately impact low-income communities.

(3) Ensure that entities that have voluntarily reduced their greenhouse gas emissions prior to the implementation of this section receive appropriate credit for early voluntary reductions.

(4) Ensure that activities undertaken pursuant to the regulations complement, and do not interfere with, efforts to achieve and maintain federal and state ambient air quality standards and to reduce toxic air contaminant emissions.

(5) Consider cost-effectiveness of these regulations.

(6) Consider overall societal benefits, including reductions in other air pollutants, diversification of energy sources, and other benefits to the economy, environment, and public health."

407. In responses to Petitioners' comments on the 2017 Scoping Plan, CARB has acknowledged that Chapter 5 of the Scoping Plan (which sets out the new GHG Housing Measures) was not part of what it analyzed in issuing the Scoping Plan. In CARB's words, "These recommendations in the 'Enabling Local Action' subchapter of the Scoping Plan are not part of the proposed 'project' for purposes of CEQA review."[143] Thus, CARB admits that it did not even pretend to analyze the consequences of the provisions of Chapter 5 of the Scoping Plan.

408. CARB's assertion that the new GHG Housing Measures set out in Chapter 5 of the Scoping Plan do not constitute "major regulations" is belied by their content and the legal and regulatory setting in which they were issued, as described above.

409. Each scoping plan update must also identify for each emissions reduction measure, the range of projected GHG emission reductions that result from the measure, the range of projected air pollution reductions that result from the measure, and the cost-effectiveness, including avoided social costs, of the measure. H&S Code § 38562.7.

410. The 2017 Scoping Plan contains no such analysis for CARB's new GHG Housing Measures. The Plan lists potential emission reductions from the "Mobile Source Strategy" which includes the VMT reduction requirements, but does not analyze proposed emission reductions, projected air pollution reductions, or cost-effectiveness of the other measures.

411. CARB's new GHG Housing Measures, as set out in its 2017 Scoping Plan, were issued in violation of some or all of the specific statutory requirements set out in the GWSA, as described above.

[143] Supplemental Responses to Comments on the Environmental Analysis Prepared for the Proposed Strategy for Achieving California's 2030 Greenhouse Gas Target (Dec. 14, 2017), p. 14-16, https://www.arb.ca.gov/cc/scopingplan/final-supplemental-rtc.pdf.

412. As a consequence, CARB's new GHG Housing Measures were adopted in a manner that is contrary to law, and should be set aside.

EIGHTH CAUSE OF ACTION

(Violations of the Health & Safety Code, § 39000 *et seq.*, including the California Clean Air Act, Stats. 1988, ch. 1568 (AB 2595))

413. Petitioners hereby re-allege and incorporate herein by reference the allegations contained in paragraphs 1-412 above, as well as paragraphs 437-458.

414. California has ambient air quality standards ("CAAQS") which set the maximum amount of a pollutant (averaged over a specified period of time) that can be present in outdoor air without any harmful effects on people or the environment.

415. CAAQS are established for particulate matter ("PM"), ozone, nitrogen dioxide ("NO_2"), sulfate, carbon monoxide ("CO"), sulfur dioxide ("SO_2"), visibility-reducing particles, lead, hydrogen sulfide ("H_2S"), and vinyl chloride.

416. In California, local and regional authorities have the primary responsibility for control of air pollution from all sources other than motor vehicles. H&S Code § 39002.

417. Under the California Clean Air Act ("CCAA"), air districts must endeavor to achieve and maintain the CAAQS for ozone, carbon monoxide, sulfur dioxide, and nitrogen dioxide by the earliest practicable date. H&S Code § 40910. Air districts must develop attainment plans and regulations to achieve this objective. *Id.*; H&S Code § 40911.

418. Each plan must be designed to achieve a reduction in districtwide emissions of five percent or more per year for each nonattainment pollutant or its precursors. H&S Code § 40914(a). CARB reviews and approves district plans to attain the CAAQS (H&S Code § 40923; 41503) and must ensure that every reasonable action is taken to achieve the CAAQS at the earliest practicable date (H&S Code § 41503.5).

419. If a local district is not effectively working to achieve the CAAQS, CARB may establish a program or rules or regulations to enable the district to achieve and maintain the CAAQS. H&S Code § 41504. CARB may also exercise all the powers of a district if it finds the

district is not taking reasonable efforts to achieve and maintain ambient air quality standards. H&S Code § 41505.

420. Fresno County is part of the San Joaquin Valley Air Pollution Control District ("SJVAPCD"). The SJVAPCD is currently nonattainment/severe for the CAAQS for ozone and nonattainment for PM.

421. The vast majority of California is designated nonattainment for the CAAQS for ozone and PM.

422. Nitrogen oxides, including NO_2, CO, and volatile organic compounds ("VOCs") are precursor pollutants for ozone, meaning they react in the atmosphere in the presence of sunlight to form ozone.

423. PM is a complex mixture of extremely small particles and liquid droplets found in the air which can cause serious health effects when inhaled, including asthma and other lung issues and heart problems. Some particles are large enough to see while others are so small that they can get into the bloodstream. PM is made up of PM_{10} (inhalable particles with diameters 10 micrometers and smaller) and $PM_{2.5}$ (fine inhalable particles with diameters 2.5 micrometers and smaller).

424. PM emissions in California and in the SJVAPCD increased in 2016 as compared to prior years.

425. As detailed above, the VMT reduction requirements in the 2017 Scoping Plan will result in increased congestion in California.

426. Increasing congestion increases emissions of multiple pollutants including NO_x, CO, and PM. This would increase ozone and inhibit California's ability to meet the CAAQS for ozone, NO_2, and PM, among others.

427. Because CARB intends to achieve the VMT reduction standard by intentionally increasing congestion, which will increase emissions of criteria pollutants such as NO_2 and PM, CARB is violating its statutory duty to ensure that every reasonable action is taken to expeditiously achieve attainment of the CAAQS.

428. In addition to a responsibility under the CCAA to meet the CAAQS, CARB has a statutory duty under the Health & Safety Code to ensure that California meets the National Ambient Air Quality Standards ("NAAQS") set by the EPA.

429. Like the CAAQS, the NAAQS are limits on criteria pollutant emissions which each air district must attain and maintain. EPA has set NAAQS for CO, lead, NO_2, ozone, PM, and SO_2.

430. CARB is designated the air pollution control agency for all purposes set forth in federal law. H&S Code § 39602. CARB is responsible for preparation of the state implementation plan ("SIP") required by the federal Clean Air Act ("CAA") to show how California will attain the NAAQS. CARB approves SIPs and sends them to EPA for approval under the CAA. H&S Code § 40923.

431. While the local air districts have primary authority over nonmobile sources of air emissions, adopt rules and regulations to achieve emissions reductions, and develop the SIPs to attain the NAAQS (H&S Code § 39602.5), CARB is charged with coordinating efforts to attain and maintain ambient air quality standards (H&S Code § 39003) and to comply with the CAA (H&S Code § 39602).

432. CARB also must adopt rules and regulations to achieve the NAAQS required by the CAA by the applicable attainment date and maintain the standards thereafter. H&S Code § 39602.5. CARB is thus responsible for ensuring that California meets the NAAQS.

433. SJVAPCD is nonattainment/extreme for the ozone NAAQS and nonattainment for $PM_{2.5.}$

434. The vast majority of California is nonattainment for the ozone NAAQS and much of California is nonattainment for PM_{10}.

435. It is unlawful for CARB to intentionally undermine California's efforts to attain and maintain the NAAQS by adopting measures in the 2017 Scoping Plan that will increase NOx and PM by intentionally increasing congestion in an attempt to lower VMT to purportedly achieve GHG emission reductions.

436. In adopting the VMT reduction requirements in the 2017 Scoping Plan, CARB is violating its statutorily mandated duty in the Health & Safety Code to attain and maintain the NAAQS, and preventing the local air districts from adequately discharging their duties under law to do everything possible to attain and maintain the NAAQS.

NINTH CAUSE OF ACTION

(Violations of the APA - Underground Regulations, Gov. Code § 11340 – 11365)

437. Petitioners hereby re-allege and incorporate herein by reference the allegations contained in paragraphs 1-436 above, as well as paragraphs 442-458.

438. As explained above, the GHG Housing Measures are standards of general application for state agencies and standards to implement and interpret the 2017 Scoping Plan and the reductions in GHG emissions it is designed to achieve.

439. The four GHG Housing Measures in CARB's 2017 Scoping Plan are underground regulations in violation of APA standards requiring formal rulemaking.

440. As to the CEQA net zero GHG threshold specifically, the Legislature directed OPR to adopt CEQA guidelines as regulations and CEQA itself requires that public agencies that adopt thresholds of significance for general use must do so through ordinance, resolution, rule, or regulations developed through a public review process. CEQA Guidelines § 15064.7(b). Thus, any state agency that purports to adopt CEQA guidelines must do so via regulations, following the full formal rulemaking process in the APA.[144]

441. CARB has not adopted the GHG Housing Measures through a public review process and thus it violates the APA.

[144] *California Building Industry Ass'n v. Bay Area Air Quality Mgmt. Dist.* (2016) 2 Cal.App. 5th 1067 (stating that air district adoption of CEQA guidelines, including GHG thresholds of significance, must be adopted as regulations, including with public notice and comment, and are not mere advisory expert agency opinion).

TENTH CAUSE OF ACTION

(Ultra Vires Agency Action, Code of Civil Proc. §1085)

442. Petitioners hereby re-allege and incorporate herein by reference the allegations contained in paragraphs 1-441 above.

443. In adopting the 2017 Scoping Plan, including the GHG Housing Measures, CARB has acted beyond its statutorily delegated authority and contrary to law.

CEQA Net Zero GHG Threshold

444. The 2017 Scoping Plan would apply a CEQA net zero GHG emissions threshold to all CEQA projects. CEQA applies to the "whole of a project", which includes construction activities, operation of new buildings, offsite electricity generation, waste management, transportation fuel use, and a myriad of other activities.

445. This threshold is unlawful under *Newhall, supra,* 62 Cal.4th 204, and other current California precedent affirming that compliance with law is generally an acceptable CEQA standard. This includes, but is not limited to, using compliance with the cap-and-trade program as appropriate CEQA mitigation for GHG and transportation impacts. *Association of Irritated Residents v. Kern County Bd. of Supervisors* (2017) 17 Cal.App.5th 708.

446. This threshold is also unlawful under OPR's GHG CEQA rulemaking package which stated that there was not a CEQA threshold requiring no net increase in GHG emissions (i.e., no one molecule rule). *See* "Final Statement of Reasons for Regulatory Action", Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB 97, Dec. 2009, p. 25 ([n]otably, section 15064.4(b)(1) is not intended to imply a zero net emissions threshold of significance. As case law makes clear, there is no "one molecule rule" in CEQA. (CBE, *supra,* 103 Cal.App.4th 120)").

Regulating In An Attempt to Achieve the 2050 GHG Emission Reduction Goal

447. CARB also acted ultra vires by attempting to mandate GHG Housing Measures that purportedly would help California achieve the 2050 GHG reduction goal in Executive Order S-3-05.

448. CARB has no Legislative authority to regulate towards achieving the 2050 goal, a GHG emission reduction target which has not been codified and which the Legislature has repeatedly refused to adopt. Mandating actions in an attempt to reach the 2050 goal is outside CARB's statutory authority under the GWSA which only contains GHG emission reduction standards for 2020 and 2030.

449. The Legislative Analyst's Office has stated that, based on discussions with Legislative Counsel, it is unlikely that CARB has authority to adopt and enforce regulations to achieve more stringent GHG targets. LAO report, p. 7.

VMT Reduction Requirements

450. In addition, the VMT reduction standards mandated in the Scoping Plan are ultra vires and beyond CARB's statutory authority.

451. The Legislature rejected legislation as recently as 2017 requiring VMT reductions/standards.

452. The only agency authorized to consider VMT under CEQA is OPR under SB 743. OPR's proposed SB 743 regulations are going through a formal rulemaking process now and CARB cannot jump the gun and, with zero statutory authority, adopt VMT regulations in the 2017 Scoping Plan.

SB 97 and OPR Promulgation of CEQA Guidelines

453. Similarly, the only method by which the Legislature authorized OPR (with CARB's permissive but not mandatory cooperation) to adopt new CEQA significance thresholds is via updates to the CEQA Guidelines.

454. OPR has not included CARB's new GHG Housing Measures in its proposed new Guidelines, and CARB has no authority to make an "end run" around the rulemaking process established by the Legislature.

New Building Code Requirements

455. The Legislature has enacted new consumer protection requirements, including new building standards, designed to assure that new building code requirements are cost effective.

CARB's "net zero" new home building standard was not included in these new building standards.

456. CARB has no Legislative authority to impose new "net zero" building standards.

457. CARB's new "net zero" building standards are contrary to, and will substantially frustrate, the Legislature's purpose in adopting new building code requirements.

458. CARB's decision to adopt the 2017 Scoping Plan and the GHG Housing Measures within it was also fraught with procedural defects, including violations of the APA, CEQA, and GWSA, as explained above. These procedural defects are further actions that are *ultra vires* and were taken contrary to law.

PRAYER FOR RELIEF

WHEREFORE Petitioners THE TWO HUNDRED, including LETICIA RODRIGUEZ, TERESA MURILLO and EUGENIA PEREZ, request relief from this Court as follows:

A. For a declaration, pursuant to Code of Civil Procedure § 1060, that the following GHG regulations and standards, as set out in CARB's Scoping Plan, are unlawful, void, and of no force or effect:

- The Vehicle Miles Traveled ("VMT") mandate.
- The Net Zero CEQA threshold
- The CO2 per capita targets for local climate action plans for 2030 and 2050

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- The "Vibrant Communities" policies in Appendix C.

B. For a writ of mandate or peremptory writ issued under the seal of this Court pursuant to Code of Civil Procedure § 1094.5 or in the alternative § 1085, directing Respondents to set aside the foregoing provisions of the Scoping Plan and to refrain from issuing any further GHG standards or regulations that address the issues described in subsection A. above until such time as CARB has complied with the requirements of the APA, CEQA, and the requirements of the Due Process and Equal Protection clauses of the California and United States Constitutions;

C. For permanent injunctions restraining Respondents from issuing any further GHG standards or regulations that address the issues described in subsection A. above until such time as CARB has complied with the requirements of the APA, CEQA, and the requirements of the Due Process and Equal Protection clauses of the California and United States Constitutions;

D. For an award of their fees and costs, including reasonably attorneys' fees and expert costs, as authorized by Code of Civil Procedure § 1021.5, and 42 U.S. Code section 1988.

E. That this Court retain continuing jurisdiction over this matter until such time as the Court has determined that CARB has fully and properly complied with its Orders.

F. For such other and further relief as may be just and appropriate.

Dated November 21, 2018

Respectfully submitted,

HOLLAND & KNIGHT LLP

By: _____

Jennifer L. Hernandez
Charles L. Coleman III
Marne S. Sussman
David I. Holtzman

Attorneys for Plaintiffs/Petitioners
THE TWO HUNDRED, LETICIA RODRIGUEZ, TERESA MURILLO, GINA PEREZ, *et al.*

VERIFICATION

I, Jennifer L. Hernandez, am one of the attorneys for, and am a member of, THE TWO HUNDRED, an unincorporated association, Plaintiffs/Petitioners in this action. I am authorized to make this verification on behalf of THE TWO HUNDRED and its members named herein. I have read the foregoing FIRST AMENDED VERIFIED PETITION FOR WRIT OF MANDATE; COMPLAINT FOR DECLARATORY AND INJUNCTIVE RELIEF and know the contents thereof. I am informed and believe and on that ground allege that the matters stated therein are true. I verify the foregoing Petition and Complaint for the reason that Plaintiffs/Petitioners named in the Petition/Complaint are not present in the county where my office is located.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed this 21st day of November, 2018, at San Francisco, California.

JENNIFER L. HERNANDEZ

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December 3, 2018

CHAIRWOMEN INMAN AND NICHOLS, AND MEMBERS OF THE CALIFORNIA TRANSPORTATION COMMISSION AND CALIFORNIA AIR RESOURCES BOARD

Re: CARB 2018 Progress Report on California's Sustainable Communities and Climate Protection Act

Dear Chairwomen and Members:

We are honored to represent The 200, a distinguished group of California's civil rights leaders who have spent their entire careers – with some careers spanning more than 50 years – fighting racial discrimination by public agencies blind to the disparate harm to minority communities caused by the policy preferences advanced by the political elite of their day.

The 200 formed to respond to California's extreme poverty, homelessness, and housing crisis with a simple objective: homeownership must be attainable for California's minority workers and families. Homeownership has been recognized as the most effective means of entering and remaining in the middle class, but for decades minority communities were "redlined" – by discriminatory lending, insurance, zoning, and other government-imposed or sanctioned barriers – and denied access to the better health, education, economic security, and welfare benefits that derive from home ownership.

The California Air Resources Board (CARB) is the latest in a long line of public agencies to use purportedly race-neutral goals to unlawfully discriminate against California's minority communities. The 200 has filed a civil rights lawsuit against four anti-housing measures in CARB's 2017 Scoping Plan, including its expansion of CEQA, its mandated reduction in vehicle miles travelled (VMT), and its "Vibrant Communities Appendix C" which includes multiple new barriers to building housing that California's minority workers can actually afford to buy. A copy of that lawsuit, which includes a detailed description of CARB's discriminatory conduct, is included as Attachment A to this letter. That lawsuit seeks to compel CARB to rescind the four challenged housing measures, and to halt implementation of any Scoping Plan action not expressly required by legislation or existing regulations until a comprehensive environmental and economic assessment is completing that documents the cost and environmental consequences of Scoping Plan measures on existing Californians.

The 200 filed a second lawsuit against several of the other state agencies that comprise the "Vibrant Communities" implementing agencies (referenced in Footnote 9 of the above-referenced CARB report) declined to disclose documents responsive to our Public Records Act request, claiming that such documents would be too "controversial" and should thus be concealed under the deliberative process privilege, to compel disclosure of the withheld documents. A copy of this lawsuit is included as Attachment B to this letter.

CARB has distorted and mismanaged California's climate mandates into a regressive regime that has and will continue to worsen the state's poverty, homelessness, and housing crises. More than 1,000,000 Californians have moved out of California because of high housing costs, and most of them – our children, our grandchildren, and our treasured teachers and valued craftsmen – move to states like Texas, Nevada and Arizona, all of which have much higher per capita greenhouse gas emissions than California. With its unique brand of math and metrics, CARB has managed to achieve the twin objectives of harming our young minority workforce while actually increasing global GHG emissions. A one-page summary of the GHG "math" behind CARB's proposed agenda to engage in still more study of how and where to build critically needed housing and mandate reductions in VMT is included as Attachment C, and a detailed study of California's GHG reduction programs in relation to the GHG reduction progress made by other countries and states, as well as a focused examination on the disparate racial and regional impacts of CARB's GHG reduction programs, is included as Attachment D.

Because this is a joint meeting of the California Transportation Commission and the California Air Resources Board, we address our comments to each agency below:

California Transportation Commission.

We first take this opportunity to commend the staff of the California Transportation Commission, which timely and completely responded to our California Public Records Act (CPRA) request. We have not named CTC as a party to our CPRA lawsuit, but regret to report that CalSTA is a party based on that agency's decision to conceal responsive documents, including the fact that these issues were considered at the highest level of state government and consideration of potential legislation. Neither of these reasons is a lawful basis for concealing public records.

We next want to commend CTC for its work in managing California's complex transportation systems in compliance with your agency's statutory obligations, including support for voter-approved transportation projects and funding priorities, and for your tradition of working collaboratively with and respecting the legal obligations of the state's regional transportation authorities, as well as cities and counties.

California Air Resources Board.

First, CARB's 2018 Progress Report is a wish list of power over local land use generally, and mandating reductions in VMT in particular, that CARB sought, but did not receive, from the Legislature.

Second, the Report also demonstrates CARB's ongoing and intentional discrimination against California's minority communities.

The detailed reasons for both of these conclusions are set forth in the attachments to this letter, such as The 200's lawsuit against CARB, and are not repeated here.

Four points warrant highlighting for the combined attention of CTC/CARB.

1. CARB Has Zero Legal Authority to Mandate Reductions In Vehicle Miles Travelled (VMT), and Its Efforts to Do So Are Both Unlawful and Discriminatory

CARB and its environmental (open space and species protection, and more recently climate) allies have long sought legislative authority to mandate reductions in VMT. There is zero evidence, available anywhere in the world and anywhere in history, that a growing population with more jobs can ever be accommodated while reducing VMT. On the contrary, there is ample evidence, including in reports submitted to CARB by climate advocacy organizations like NextGen, that for lower income and rural workers – who are disproportionately minorities – public transit is not a practicable option, and cleaner automobiles – electric and fuel efficient cars, and equitable replacement of the state's oldest and most polluting cars – is the "right" climate solution for California's majority-minority workforce.

In sharp contrast to CARB's invented VMT reduction mandate "metric" dominating this SB 150 report, the Legislature has repeatedly, and expressly, rejected imposing a VMT mandate on California communities:

- The earliest versions of SB 375 included a VMT reduction mandate, which was quickly deleted in subsequent versions of that bill. SB 375 requires GHG reductions, not VMT reductions.

- The first versions of SB 743 also included a VMT reduction mandate, which was likewise deleted. Through the CEQA Guidelines, a different state agency was directed to develop a metric other than traffic delay in high quality transit-served areas – and one such possible metric was VMT. The CEQA Guidelines have in fact not been amended, and the Legislature did not direct that separate agency to adopt a VMT at all, or any alternative metric, outside such transit-served areas.

- The first version of SB 150, the Legislation directing CARB to develop this report, likewise started with a mandated VMT reduction that was separate and apart from CARB's GHG reduction mandate. VMT was again rejected in the enacted version of SB 150.

- In fact, SB 1014 is only Legislation requiring consideration of VMT, and it establishes a framework for evaluating GHG per VMT (with electric and more fuel-efficient cars having lower GHG per VMT), for app-based ride companies like Uber and Lyft. Neither this bill, nor any other, authorizes any California agency to mandate reductions in VMT.

- Similarly, the Legislature has repeatedly rebuffed "Vibrant Communities" top-down state land use mandates like imposing statewide urban growth boundaries, or directing one or more state agencies (other than the Coastal Commission) to assume responsibility for permitting local land use and transportation plans statewide. CARB does have an assigned role in reviewing regional Sustainable Communities Strategies under SB 375, and has as part of that statutory role itself declined to impose a VMT reduction target that is independent of a GHG reduction target just a few months ago, in March of 2018 – four months after approving the 2017 Scoping Plan CARB now cites as the basis for requiring a VMT reduction mandate. The SB 375 Target Update process included extensive and collaborative studies that showed, among other conclusions, why VMT was not a reliable or necessary metric for achieving GHG reduction targets. The SB 375 Target Update also included numerous studies, and scores of comments from stakeholders, explaining why VMT reductions were not feasible with a growing population and jobs base. (The 200 spoke in support of the updated GHG reduction SB 375 targets at the CARB meeting approving these standards, in March of 2018.)

It is not surprising that the Legislature has declined to mandate VMT reductions, or otherwise enshrine CARB or any other state agency as a new statewide Coastal Commission in charge of local land use and transportation approvals in California's complex and diverse communities.

Simply put, those who drive the farthest are priced out of more proximate homes, and are disproportionately minorities. Many live in poverty or near-poverty, and have – as NextGen reported to CARB – no option to driving to their jobs. NextGen urged CARB to reorient its electric car incentives that had disproportionately favored wealthy Tessla buyers in Marin and other coastal enclaves, who live closer to work – and in any event are wealthy enough to have food delivered and children shuttled by drivers who aren't part of their household. NextGen advocated incentives for getting more electric cars and infrastructure into lower income areas, and for accelerating equitable retirement/replacement of the oldest and most polluting vehicles on the road. CARB has made some progress toward achieving these goals, but is insisting on ever-escalating VMT reductions in a concealed math exercise that defies common sense given our emphasis on electric vehicle fleets. This "CARB Math" is discussed further in Part 4 below.

2. CARB's Transportation Vision is Infeasible, and Discriminatory

CARB's fixation on reducing VMT makes the act of being in a car for a mile – even in an electric car or a carpool – an assault on California's climate leadership. CARB wants to achieve its VMT reduction mandate by making people walk or bike, or ride a bus (or for a tiny fraction of California commuters, ride a ferry or rail).

CARB's Report shows that transit ridership is generally down in California regions, and transportation mode shifts continue to rapidly evolve. Electric scooters and bikes have become a viable business model in some of California's densest communities, while app-based and on-demand carpooling, rideshare, and driver options have emerged as a popular and effective (for at least some trips, some of the time) transportation option. None of these transportation options existed or had been deployed at scale when SB 375 was enacted and therein decreed that quality transit service meant four buses, operating at 15 minute intervals, on fixed routes during peak hours (with similar prescriptive mandates for weekend bus service).

Deployment of partially and eventually more fully automated vehicles, technology improvements that lower costs and increase ranges for electric vehicles, public private partnerships between transit agencies and hundreds of new transportation service and technology companies, and other evolutions in transportation, continue at a remarkable pace. Hostile to all VMT, however, CARB is attempting to lock in land use and transportation patterns for the next century with technology that existed two centuries ago – fixed-route buses, trains and boats.

Fixed route bus lines – especially the four-bus (and typically six or more bus driver shifts) routes required to provide the required SB 375 frequency of bus ridership – cost transit agencies (and taxpayers) millions of dollars to maintain. On-demand ride services, including carpool and other multi-passenger systems, provide more nimble, fast, and far less costly transportation options for those who cannot "walk or bike" between home and work. Transit agencies have begun using these evolving transportation services, including both agency-run services and public-private partnership voucher-based systems, with often excellent, effective, and equitable transportation service results; however, this actual and cost-effective transportation mode does not equate to a VMT reduction and has been openly and repeatedly scorned by CARB staff.

Rail (light and heavy) and ferry service have also expanded, but California's notoriously burdensome procedural requirements have typically resulted in a 20-year delay (and hundreds of millions of cost increases) in actually delivering substantial new transportation infrastructure. CARB's Report enthusiastically endorses yet another "study" of the daily transportation catastrophe suffered by our increasingly (and disproportionately minority) number of "supercommuters," while doing absolutely nothing to expedite the time or reduce the cost in delivering effective transportation solutions to today's suffering workers.

California's existing land use patterns, with or without evolving into greater density, also make fixed route transit systems exceptionally burdensome and impractical. Again as CARB well

knows, several studies have confirmed that riding transit takes nearly twice as long as a point-to-point car trip (single occupancy, carpool, or app-based car service). This is not to deny the critical role buses, and fixed rail and ferry service, play as effective transit solutions for some jobs for some residents some of the time. However, 6,000 times more jobs are accessible in a 30-minute commute by car than bus in the LA region, and that existing land use dispersal is a reality, and in a region with a growing population and jobs base that means more VMT.

CARB is a state air quality agency: it is not responsible for making transportation, housing, or employment solutions work for any people anywhere in California. CARB is clearly blind to the needs of working Californians in minority communities, although it periodically gives a nod to the poor and homeless with offers of modest direct funding for limited programs.

CARB ignores, however, the role that the automobile plays for working Californians. As noted by the University of Southern California's most experienced land use law professor, George Lefcoe, "Automobiles are the survival mechanism for low-income people." Numerous other studies, including poverty and housing segregation studies completed by the Obama administration and non-partisan think tanks like the Brookings Institute, confirm that families with a car have a much better future: cars make it easier to hold a job that pays for housing and other needs, cars make it easier to keep kids in school and get medical attention, and this housing, employment, health and educational security means a level of financial stability that families without cars simply cannot match – not in California, and not nationally.

If the Legislature wants to mandate VMT reductions, then it can sort through scores of racial, class, job type, regional, and transportation alternative considerations. Nearly 40% of our economy is linked to Port-related trade and transportation: is this sector slashed even if electric trucks become viable? A Stanford study confirmed that construction workers spend the highest percentage of their incomes on transportation: driving trucks to and from construction job sites, to and from locations and during work hours and with equipment that is simply not consistent with fixed route public transit – so are construction workers uniquely harmed, or do they get a total pass, from CARB's VMT reduction mandate? For urgently needed housing projects, CARB and other agencies have suggested imposing substantial and in-perpetuity new "VMT mitigation" fees – thousands of dollars per unit of housing, to be paid by new renters or homeowners every year, to help subsidize school buses and bike path construction as new CEQA mitigation mandates. Those without housing – disproportionately minorities – will pay even more for housing along with these remarkable new annual, in perpetuity new housing fees – conferring yet another fiscal windfall for the state's generally whiter, wealthier and older homeowners and piling on more housing fees for housing on top of the country club initiation equivalent of $150,000 per new housing unit already charged by some California agencies. Imposing extortionate fees and regulatory obstacles on housing is a proven winner for those seeking to block housing based on class or race: is inventing new VMT fees to impose on California's 3 million missing homes a policy choice made by our elected officials (or voters)?

CARB cannot, based on undisclosed math, impose a VMT reduction – or a disguised VMT reduction in the form of a VMT fee as noted in the Vibrant Communities Appendix - on any California agency, project or person based on any statutory authority granted to CARB by the Legislature. CARB's repeated attempts to do so, with failed legislation and its own abandoned effort to impose a VMT reduction mandate in the SB 375 Target Updates finally approved without that mandate in March of 2018, are unlawful and discriminatory.

3. CARB's Housing Vision is Infeasible, and Discriminatory

The Report also notes that most regions have fallen behind in housing production, and is particularly critical of the continued construction of single family homes – anywhere. However, just as CARB pretends that its VMT reduction mandate is based on non-existent legal authority, CARB pretends its housing vision is based on a high density housing economic fantasy.

As one of CARB's own advisors have documented, and has been well documented in numerous other studies, high density housing units cost 300-500% more to build than small-lot single family, duplex, quadplex and townhome housing units. California's new high density transit-oriented housing units cost far in excess of what middle income families can afford to rent or buy. Even 100% affordable housing units, built in the less costly mid-density (4-6 stories) rather than most costly high density (above 6 stories) range, cost in excess of $500,000 per unit in Los Angeles, and $700,000 per unit in San Francisco. As experts from the non-partisan Legislative Analyst Office and others have repeatedly noted, there is no way that public funding will pay for a 3 million home shortage where 40% of Californians need to make a monthly choice between paying for food and medicine. There is no option – none – to reducing the cost of housing to levels that are actually affordable to middle income families if California is serious about solving our housing crisis.

CARB also knows from its own experts that lower density housing – smaller single family homes, duplexes/quadplexes and townhomes – is the only available type of housing that has the level of substantially lower production costs that make this housing affordable.

In the most comprehensive examination of what it would take to build just under 2 million new homes entirely within existing urban areas that are actually affordable (e.g., small single family/duplex/quad/townhomes) to those earning normal salaries, scholars at UC Berkeley (one of whom was on the Report's advisory group) concluded that "tens if not hundreds of thousands" of single family homes would need to be demolished. Given our current shortfall of 3 million homes, CARB's infill-only, transit vision of California's climate future will require razing thousands of single family homes.

CARB's demand for the most costly form of urban housing - high density transit oriented housing units - isn't just infeasible for California's aspiring minority homeowners (and renters). Other studies have demonstrated that these high cost, dense new housing projects can displace low and middle income families (especially renters) who actually use transit but are forced to

relocate to more distant locations with less costly housing, where public transit is not as viable as it was from their more centrally-located original neighborhoods. Simply put, new residents of chic new high density housing urban projects near transit, who are able to afford $1 million condos or pay $5000 per month in rent, don't take the bus. In the Bay Area, and as documented in yet another comprehensive new study, the housing crisis has resulted in a racial diaspora, as African American and Latino populations have shrunk – substantially – in the region's wealthiest five counties closest to jobs, while these minority populations have grown substantially in the Central Valley and more distant East Bay counties. About 190,000 daily commuters enter the Bay Area from outside the 9-county region, and over 210,000 commute from the East Bay to Silicon Valley or San Francisco. CARB's prescription – to require even higher densities in costly urbanized areas, and prohibit lower density small "starter" homes and townhomes – could not be more perfectly tailored to worsen the housing options for our hard working minority families.

There is not a single Legislator who voted to approve CARB's new land use vision, or the related proposal in "Vibrant Communities" to impose a new "ecosystem services" tax on urban residents to pay for the open space lands they do not use or inhabit.

There is not a single Legislator who has proposed or voted to spend at least $500,000 per apartment to build 40% of the needed 3 million new housing units for the lower income Californians that United Way describes as unable to meet normal monthly expenses (1,200,000 new homes at $500,000 per home is $600,000,000,000 – that's billion.

There is not a single Legislator who has proposed or voted to end home ownership as a pathway to the middle class for Californians who work hard to earn median and above-median incomes.

Instead, the Legislature enacted SB 375 to ask each region to reduce GHG from the land use and transportation sectors – and directed CARB to establish GHG (not VMT) reduction targets. Regions, informed by cities and counties, have in turn spent tens of millions of dollars doing two (mostly completed) rounds of SB 375 plans, which CARB has in turn reviewed and approved.

Under SB 375, each regional transportation agency has carefully weighed density and transportation choices, and disclosed the substantial environmental impact tradeoffs between density and to make lower density and more financially feasible housing within the footprint of existing communities our only housing solution. Each Sustainable Communities Strategy, prepared by each region and approved by CARB, endorses far more transit and supports more density – but also documents scores of significant unavoidable impacts to the existing environment in affected communities that has created political and voter backlash against new housing. If CARB wants to pronounce SB 375 a failure, as indicated in the Report, then it's time to rethink practical housing and transportation solutions for actual Californians – but as a state air quality agency, CARB has not been charged – and is clearly not qualified – to lead this complex undertaking.

Instead, CARB's proposed solution to today's urgent poverty, homeless and housing crisis can only be invented by bureaucrats with secure employment, and special interest advocates paid to participate in endless "process" instead of actual "progress." The Report's prescription is to develop yet another "plan" – even though CARB the latest round of SB 375 targets in March of 2018!

CARB completely ignores the simple and ongoing, but politically inconvenient truths, of what experts from around the state agreed would be required to make SB 375 successful:

- More public funding would be needed, especially for housing and infrastructure. Instead, Governor Brown eliminated redevelopment, which was by far the most effective financing tool then in existence – and itself not sufficient – to make SB 375 work. CARB proposes no financing solutions.

- CEQA reform would be needed, especially for existing communities where the vast majority of CEQA lawsuits are filed and threatened. The top target statewide of CEQA lawsuits is high density infill housing, and abuse for non-environmental objectives – sometimes for openly racist NIMBY "redlining" of the type long ago recognized as illegal and immoral – is likewise ignored by CARB, which has instead decided to impose even higher housing costs with its recommended expansions of CEQA. Governor Brown took office championing CEQA reform, only to throw in the towel a few years later because "unions use CEQA to leverage project labor agreements." Even housing that complies with every single local, regional, and state law, ordinance, and mandate, can get stalled out for years by CEQA studies prepared in defense of threatened lawsuits – and then held up for even longer by CEQA lawsuits.

- Land use reform would be needed, to reduce the time and cost required to get new projects approved and contain runaway fees that in some communities have now hit $150,000 per single unit of housing (even a small apartment!). Here Governor Brown made a try with "by right" housing requiring only ministerial (non-CEQA) approvals, which failed to be endorsed by a single Legislator. The "housing package" approved in 2017 was important in recognizing and making incremental improvements, but all Legislators and the Governor conceded that far more was necessary to solve the housing crisis – and 2018 was effectively a time-out for the election. CARB in its Report at least acknowledges this problem, but its clear preference is a state agency takeover of land use approvals – a statewide equivalent of the Coastal Commission – with a leading role by, of course, CARB itself.

CARB's report demonstrates its total amnesia about what it would take for SB 375 to succeed, and its call for yet another "plan" with still more jargon about "action items" for future consideration, along with an ever-expanding mission creep of other policy preferences dear to some of CARB's allies (e.g., avoiding urban conversion of agricultural lands even within existing city limits, notwithstanding estimates that more than 500,000 acres of agricultural land

must be taken out of production to meet groundwater sustainability mandates), is yet another demonstration of the fundamental mismatch between an air agency and its environmentalist allies, and the housing and transportation needs of California's minority communities.

CARB did not, and should not, get legal authorization to forward its proposed "MAP" plan. This is an unlawful distraction from the urgent housing and transportation needs of the state, and the state's minority communities in particular.

4. CARB Climate Math

In these highly partisan times, too often those challenging anything CARB proposes have been pilloried as climate denier – or worse, Trumpites! However, enforcing hard-won civil rights protections, including equal access to housing and homeownership, have nothing to do with denying climate change – or criticizing California's commitment to climate leadership. But like other powerful bureaucrats in other times, CARB and its allies are advancing their own version of climate policies which are blind to the needs of our communities, while intentionally concealing its own inconvenient truths.

For example, one of CARB's most vexing habits is its refusal to "show its work" on math. Even third graders are trained that getting the answer right isn't enough: in math, you must show your work.

Scores of commenters have – for many years, and in many different proceedings - asked CARB, "How much GHG reduction do you need to get from VMT reductions to meet the AB 32 (and now SB 32) GHG reduction target?" CARB has adamantly and repeatedly declined to answer this question, and instead insisted that high density housing and reliance on public transit is absolutely necessary for California to meet its GHG reduction target. Even the most basic examination of CARB's math demonstrates that this is patently false, and a land use power grab that harms those most hurt by California's housing and poverty crisis.

From the earliest days of AB 32, CARB's own scientists questioned how much GHG reduction could be achieved from the land use sector, given how established land uses and transit modes established patterns that would take decades to change – if they could be changed at all. Lowering fossil fuel emissions from power plants and other manufacturing/refining facilities, increasing renewable power production, and reducing emissions from vehicles, were clear GHG "big" reduction opportunities. When pressed, CARB's scientists – and the Legislature – agreed that retrofitting older buildings with energy and water conservation features (e.g., LED lighting, insulation, more efficient HVAC systems, modern appliances, etc.) would result in the biggest GHG reductions from this sector. Ignoring science and the Legislature, CARB has never prioritized or committed meaningful funding levels needed to retrofit the vast majority of California's built environment – preferring instead to weigh in on sexier decisions about where new housing should be located that already must meet the most GHG efficient standards in the United States.

The revolution in transportation technology and services has also not been allowed to interfere with CARB's anti-VMT agenda, even as huge strides are made with electric and other clean transportation modes like electric bikes and scooters, and even with the advent of carshare and app-based ride services that reduce reliance on owned – and mostly parked – private cars. CARB does not even have an established methodology for calculating how many trips (or how much VMT) does not occur based on the exploding use of these new transportation technologies or services. These types of trips are not even counted in CARB-approved models – yet CARB remains adamant that VMT reductions are required.

Why does CARB refuse to convert its VMT reduction demand into GHG? Simply put, CARB refuses to accept that there very likely are far less intrusive, far less costly, and far less damaging to minority communities, ways to reduce GHG than mandating reductions in VMT.

CARB knows very well how to "rank" potential emission reduction strategies, and this transparent approach has a remarkably successful track record in the Clean Air Act. If CARB needs to get 10 tons, or 10,000 tons, of GHG reductions from VMT reductions, then other potential GHG reduction sources can be evaluated on the basis of relative environmental, equity, and economic consequences. As the Obama administration documented, tailpipe emissions from 1960's-era cars were reduced by nearly 99% as of 2016 – a remarkable regulatory success under the Clean Air Act that required a careful combination of technology-forcing regulations, accompanied by technical and economic analyses, that preserved the functionality and affordability of cars with technological advances in engines and fuels that were not conceivable when this regulatory effort began in the early 1970's.

CARB is clearly no fan of this Clean Air Act regulatory model, or the transparency and accountability that comes with "showing its math." In fact, there is not a single location, in either the Report or in the 2017 Scoping Plan, where CARB "shows its math" by explaining how much GHG this desired new VMT reduction mandate will achieve.

Attachment 3 to this letter "shows the math" – which, shockingly – shows that building even two-thirds of the needed housing units will require the demolition of "tens if not hundreds of thousands" of single family homes, must be done in far less dense housing types (e.g., duplexes/quadplexes) than the high densities demanded by CARB because of the exceptionally high cost of high density housing, will mean that average new housing units will be about 800 square feet instead of about 2100 square feet (and will of course have no private back yard), and then – ready the drumroll – GHG from VMT will be reduced by less than 2 million metric tons per year, which is itself less than 1% of CARB's Scoping Plan target of reducing GHG by 260 tons per year by 2030. Since CARB agrees that the California economy produces about 1% of the world's GHG, CARB's VMT reduction/high density housing agenda will result in reducing GHG by less than 1% of what CARB believes is needed - which will have statistically zero effect in reducing the GHG emissions worldwide for this global pollutant.

To worsen California's housing and poverty crisis, and disparately harm California's minority communities, chasing 1% of 1% of global GHG is quite simply an outrageous regulatory abuse of the sincere support that Californians have for leading the world on climate change.

There are a myriad suite of options to get 1% - less than 2 MMT - of GHG out of the California GHG inventory. CARB can do what its scientists and the Legislature told it to do and retrofit existing buildings (and save struggling residents money on power and water bills), or it can reduce what the Little Hoover Commission called "catastrophic" conditions in the 33% of California that is forested to avoid even a single forest fire, and generate stable levels of electricity from dead forest vegetation when it is dark and not windy (England's base load replacement for coal as a carbon neutral power production source), or it can equitably retire the oldest and dirtiest cars that have the highest GHG and other emissions in California's vehicle (which are most often owned and absolutely relied on by low income workers and their families), or it can choose to "lead the world" in developing and deploying new production methods that produce consumer products with less GHG and avoid GHG emissions from ocean-crossing exporters (and provide middle income job opportunities to Californians). These are all "win-win" strategies that reduce GHG and achieve other very important goals for California, and actually help rather than harm California's minority communities. Instead, CARB and its Vibrant Community state agency allies appear intent on using climate to make California look like and be as expensive and exclusive as Manhattan in NYC.

We urge CTC and all other California agencies and stakeholders to demand "math transparency" by CARB.

Stop CARB's Voter Disenfranchisement

Finally, we note that CARB missed its statutory deadline of September 2018 for publishing this report – thereby conveniently avoiding accountability to the majority of California voters who dutifully supported the state leaders by rejecting Measure 6 and paying higher fuel taxes to repair and maintain existing roadway infrastructure, while directing substantial future spending on transit instead of road expansions. CARB, now free of voter oversight or accountability, attacks our transportation agencies for spending money on road maintenance – by far the biggest existing transportation system infrastructure – even while voters have decided that the vast majority of new transportation projects funded by the gasoline tax will be transit and pedestrian/bicycle projects. CARB's conflation of maintenance funding with new project funding intentionally distorts California's commitment to direct most new money away from roads, and is another example of "CARB math."

CARB also provided less than 7 days, inclusive of a weekend and right after the Thanksgiving holiday, and with zero advance notice, for review and comment on this remarkable new Report. If there was a more effective way to suppress input from other state, regional and local agencies – and virtually every other California person and enterprise since all of us are dependent on

either housing or transportation – we would need to travel to a totalitarian country or dictatorship rather than a democracy to find it. This is, however, typical of CARB: for example, its "Vibrant Communities" appendix was released after the Legislative session without notice and with only a few days for comments, and the resulting hailstorm of criticism was entirely ignored by CARB and its aligned agencies. It is also the case that CARB will intone that its desired next step – it's "MAP Plan" for taking over housing and transportation decisionmaking – assuming the CARB Board allows staff to further squander taxpayer dollars and obstruct progress in solving the housing crisis or spending voter-approved housing and transportation dollars in the current housing emergency, was merely the inevitable outcome of this Report – which was, after all, the subject of a public notice and comment, and Board hearing, process.

CARB is an air agency, and it has been directed to reduce GHG. It should do so based on the tried and true transparency requirements of the Clean Air Act. There is no question that the CARB Board, and a properly managed staff, can find other opportunities achieving 1% of California's SB 32 GHG reduction goal.

In conclusion, we strongly oppose CARB's continued planning and work to mandate VMT reductions unaffordable-by-design high density housing. Global climate change creates no excuse for violating the civil rights of Californians.

Sincerely yours,

HOLLAND & KNIGHT LLP

Jennifer L. Hernandez
Equity Partner

JLH:mlm

Community Development
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February 22, 2019

via email: 2020PEIR@scag.ca.gov

Mr. Roland Ok
Senior Regional Planner
Southern California Association of Governments
900 Wilshire Boulevard, Suite 1700
Los Angeles, California 90017

Subject: **Comments on the Notice of Preparation of a Program Environmental Impact Report for Connect SoCal (Southern California Association of Governments 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy)**

Dear Mr. Ok:

The City of Irvine appreciates the opportunity to provide comments on the Notice of Preparation (NOP) of a Program Environmental Impact Report (PEIR) for Connect SoCal, the Southern California Association of Governments' 2020 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS).

The City of Irvine respectfully requests the following clarifications and considerations during the preparation of the PEIR.

1. Alternative Planning Strategy: Page 5 of the NOP identifies the year 2020 and year 2035 regional greenhouse gas emission reductions targets that the SCAG Sustainable Communities Strategy (SCS) must achieve through a combination of land use, housing, and transportation strategies. The NOP further states that if the SCS is not capable of meeting the regional targets, SCAG must then prepare a separate "Alternative Planning Strategy" (APS) that is capable of meeting the regional greenhouse gas emission reduction targets.

   The City of Irvine recommends language in the PEIR that clearly identifies that an Alternative Planning Strategy, if developed, is statutorily not subject to CEQA provisions (as clarified by SCAG staff at the January 17, 2019 SCAG Technical Working Group meeting), and would therefore not be addressed or analyzed in the Connect SoCal Program EIR.

2. Comparative Analysis of the Connect SoCal Preferred Plan and the PEIR Alternatives: To enable the reader to clearly understand the distinct differences in strategy and policy between the Preferred Plan and the PEIR Alternatives, the City of Irvine recommends that the PEIR include a comparative table matrix that highlights the key similarities and differences between the components of the Preferred Plan and PEIR Alternatives. The matrix should also include the amount of greenhouse gas emission reductions achieved by the Preferred Plan and the PEIR Alternatives. Examples of the comparative components could include:

    - Land Use
    - Growth Scenario
    - Open Space Conservation
    - Transportation Network
    - Public Transit
    - Non-Motorized Transportation
    - Local/Regional Pricing
    - Transportation Demand Management
    - Vehicle Technology/Innovation
    - Greenhouse Gas Emission Reduction (automobiles and light-duty trucks)

    Within the land use component, the PEIR matrix (as recommended above) should specify if the Preferred Plan and each of the PEIR Alternatives:
    - Does or does not maintain each jurisdiction's control totals for population, housing, and employment;
    - Does or does not maintain individual county control totals for population, housing, and employment;
    - Does or does not maintain the regional control totals for population, housing, and employment.

3. Additional New PEIR Alternative: The NOP states on page 7 that the growth scenario included in the No Project Alternative and all the PEIR alternatives would include the same **regional** totals for population, housing, and employment. However, while regional totals for population, housing, and employment are maintained, there could be alternatives that redistribute growth in a manner where a jurisdictional total could be greater than the original input provided by the local jurisdictions.

    The City of Irvine recommends that an additional PEIR Alternative be developed and analyzed that maintains local jurisdictional control totals in

population, housing, and employment, but shifted in intensity or location within the jurisdiction. This new PEIR Alternative would provide local jurisdictions and stakeholders with an assessment of the degree to which local growth would need to be intensified or relocated within its jurisdiction to strive to achieve the State required regional greenhouse gas emissions reduction targets and allow local jurisdictions the opportunity to assess the degree to which such an alternative meets community goals and objectives. The addition of the proposed new PEIR Alternative would also allow for the PEIR to include an assessment of the environmental impacts of this Alternative, if the full range of impacts exceeds that of the Intensified Land Use Alternative.

4. Local Jurisdiction Review of TAZ-Level Population, Housing, and Employment Datasets: As all PEIR Alternatives are developed, there could be distinct differences in growth forecast numbers for population, housing, and employment at the local jurisdiction level and traffic analysis zone level, from that submitted by local jurisdictions as part of the Connect SoCal Local Input process.

   The City of Irvine recommends that any shifts in growth that differ from Local Input, are actively coordinated and communicated between SCAG and the applicable local jurisdictions, to ensure that any proposed redistribution of growth are, in fact, reasonable, achievable, and do not require any General Plan or zoning amendments.

Sincerely,

Pete Carmichael
Director of Community Development

cc: Timothy Gehrich, Deputy Director of Community Development
Kerwin Lau, Manager of Planning Services
Steve Holtz, Manager of Neighborhood Services
Bill Jacobs, Principal Planner
Melissa Dugan, Supervising Transportation Analyst
Marika Poynter, Senior Planner

City of Mission Viejo

Office of the City Manager

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Mayor

Brian Goodell
Mayor Pro Tem

Wendy Bucknum
Council Member

Trish Kelley
Council Member

Edward Sachs
Council Member

Electronic Transmittal: 2020PEIR@scag.ca.gov

February 20, 2019

Mr. Roland Ok
Senior Regional Planner
Southern California Association of Governments
900 Wilshire Boulevard, Suite 1700
Los Angeles, CA 90017

Subject: **City of Mission Viejo Comments: SCAG Notice of Preparation of a Program Environmental Impact Report for Connect SoCal (2020 – 2045 Regional Transportation Plan/Sustainable Communities Strategy)**

Dear Mr. Ok,

The City of Mission Viejo appreciates the opportunity to provide comments on the Notice of Preparation (NOP) of a Program Environmental Impact Report (PEIR) for SCAG's 2020 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), referred to as Connect SoCal, or the Plan.

The City of Mission Viejo respectfully requests the following clarifications and considerations, to enable the Connect SoCal PEIR to provide a clear and full consideration of environmental factors that have the potential to generate significant impacts.

The City of Mission Viejo comments are as follows:

1) Alternative Planning Strategy: Page 5 of the NOP identifies the Year 2020 and Year 2035 regional greenhouse gas emissions reduction targets that the SCAG Sustainable Communities Strategy (SCS) must achieve, through a combination of land use, housing and transportation strategies. The NOP further states that if the SCS is not capable of meeting the regional targets, that SCAG must then prepare a separate "Alternative Planning Strategy" that is capable of meeting the regional greenhouse gas emission reduction targets.

   The City of Mission Viejo recommends language in the PEIR that clearly identifies that an Alternative Planning Strategy, if developed, is statutorily not subject to CEQA provisions (as clarified by SCAG staff at the January 17, 2019 SCAG Technical Working Group meeting), and would therefore not be addressed nor analyzed in the Connect SoCal Program EIR.

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2) Comparative Analysis of the Connect SoCal Preferred Plan and the PEIR Alternatives: To enable the reader to clearly understand the distinct differences in strategy and policy between the Preferred Plan and the PEIR Alternatives, the City of Mission Viejo recommends that the PEIR include a comparative table matrix that highlights the key similarities and differences among the components of the Preferred Plan and PEIR Alternatives, and the amount of greenhouse gas emissions reductions that the Preferred Plan and each of the PEIR Alternatives would achieve. Examples of the comparative components could include:

- Land Use
- Growth Scenario
- Open Space Conservation
- Transportation Network
- Public Transit
- Non-Motorized Transportation
- Local/Regional Pricing
- TDM
- TSM
- Vehicle Technology/Innovation
- Greenhouse Gas Emissions Reduction (automobiles and light-duty trucks)

Within the land use component, the PEIR matrix (as recommended above) should specify if the Preferred Plan and each of the PEIR Alternatives:

- does or does not maintain each jurisdiction's control totals for population, housing and employment;
- does or does not maintain individual county control totals for population, housing and employment;
- does or does not maintains the regional control totals for population, housing and employment.

3. Additional New PEIR Alternative: The NOP (page 7) states that the growth scenario included in the No Project Alternative and all the PEIR alternatives, would include the same **regional** totals for population, housing and employment. However, while regional totals for population, housing and employment are maintained, there could be alternatives where the growth scenario re-distributes growth such that jurisdictional totals could be greater than the original input provided by the local jurisdictions.

The City of Mission Viejo recommends that an additional PEIR Alternative be developed -- above and beyond the No Project, Local Input, and Intensified Land Use Alternatives -- if the 2020 Local Input Alternative is quantified to not be capable of achieving the region's greenhouse gas emissions reduction target, and if the Preferred Plan and the PEIR Intensified Land Use Alternative both shift land use growth away from county unincorporated areas and instead re-directs some of the unincorporated county growth into individual local jurisdiction growth priority areas, and through such shifts, causes an

increase in growth above and beyond the jurisdictional totals in population, housing and employment and correspondingly reduces unincorporated county totals in population, housing and employment, in order to maintain countywide control totals.

The proposed new PEIR Alternative would analyze the degree to which local jurisdictional control totals in population, housing and employment could be maintained, but be shifted in intensity or location within the jurisdiction. This new PEIR Alternative would provide local jurisdictions and stakeholders with an assessment of the degree to which local growth would need to be intensified or re-located, to strive to achieve regional greenhouse gas emissions reductions targets, and allow local jurisdictions the opportunity to assess the degree to which such an alternative meets community goals and objectives. The addition of the proposed new PEIR Alternative would also allow for the PEIR to include an assessment of the environmental impacts of this Alternative, if the full range of impacts exceeds that of the Intensified Land Use Alternative.

4. Local Jurisdiction Review of TAZ-Level Population, Housing and Employment Datasets: As all PEIR Alternatives are developed, there could be distinct differences in growth forecast numbers for population, housing and employment at the local jurisdiction level and traffic analysis zone level, from that submitted by local jurisdictions as part of the 2020 RTP/SCS Local Input process.

   The City of Mission Viejo recommends that any shifts in growth that differ from Local Input, are actively coordinated and communicated between SCAG and applicable local jurisdictions, to ensure that any proposed re-distributions of growth are, in fact, reasonable, achievable and do not require any General Plan or zoning amendments, to effect.

Respectfully,

DENNIS WILBERG
City Manager

c: City of Mission Viejo City Council
Keith Rattay, Assistant City Manager/Director of Public Services
Elaine Lister, Director of Community Development
Mark Chagnon, Director of Public Works
Larry Longenecker, Planning & Economic Development Manager
Rich Schlesinger, City Engineer
Philip Nitollama, Traffic/Transportation Engineer
Gail Shiomoto-Lohr, GSL Associates
Marnie O'Brien Primmer, OCCOG Executive Director
Marika Poynter, OCCOG TAC Chair

Anita Au

From: Claudia Manrique <claudiam@moval.org>
Sent: Friday, February 22, 2019 3:35 PM
To: 2020 RTP/SCS PEIR
Cc: Nevins, Patty
Subject: PEIR Comments

Roland:

Moreno Valley wishes to be placed on the notification list for the Connect SoCal Plan PEIR.

Thank you.

Sincerely,

Claudia Manrique
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Community Development
City of Moreno Valley
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STATE OF CALIFORNIA — Gavin Newsom, Governor

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February 12, 2019

Ping Chang
Southern California Association of Governments
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RE: SCH#2019011061 Connect SoCal (2020-2045 Regional Transportation Plan/Sustainable Communities Strategy), Ventura, Los Angeles, Orange, San Bernardino, Riverside and Imperial Counties.

Dear Mr. Chang:

The Native American Heritage Commission (NAHC) has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code §21000 et seq.), specifically Public Resources Code §21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource, is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, §15064.5 (b) (CEQA Guidelines §15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) shall be prepared. (Pub. Resources Code §21080 (d); Cal. Code Regs., tit. 14, § 5064 subd.(a)(1) (CEQA Guidelines §15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources within the area of potential effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code §21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code §21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code §21084.3 (a)). **AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements.** If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. §800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments.

Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.

AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:
   a. A brief description of the project.
   b. The lead agency contact information.
   c. Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code §21080.3.1 (d)).
   d. A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code §21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code §21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or Environmental Impact Report. (Pub. Resources Code §21080.3.1(b)).
   a. For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code §65352.4 (SB 18). (Pub. Resources Code §21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:
   a. Alternatives to the project.
   b. Recommended mitigation measures.
   c. Significant effects. (Pub. Resources Code §21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:
   a. Type of environmental review necessary.
   b. Significance of the tribal cultural resources.
   c. Significance of the project's impacts on tribal cultural resources.
   d. If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code §21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code §6254 (r) and §6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code §21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:
   a. Whether the proposed project has a significant impact on an identified tribal cultural resource.
   b. Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code §21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code §21082.3 (b)).

7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:
    a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or
    b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).

9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:
    a. Avoidance and preservation of the resources in place, including, but not limited to:
        i. Planning and construction to avoid the resources and protect the cultural and natural context.
        ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.
    b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
        i. Protecting the cultural character and integrity of the resource.
        ii. Protecting the traditional use of the resource.
        iii. Protecting the confidentiality of the resource.
    c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.
    d. Protecting the resource. (Pub. Resource Code §21084.3 (b)).
    e. Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).
    f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:
    a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.
    b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.
    c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code §65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code §65352.3 (a)(2)).
2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.
3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code §65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code §5097.9 and §5097.993 that are within the city's or county's jurisdiction. (Gov. Code §65352.3 (b)).
4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:
    a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
    b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (http://ohp.parks.ca.gov/?page_id=1068) for an archaeological records search. The records search will determine:
    a. If part or all of the APE has been previously surveyed for cultural resources.
    b. If any known cultural resources have already been recorded on or adjacent to the APE.
    c. If the probability is low, moderate, or high that cultural resources are located in the APE.
    d. If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
    a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
    b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:
    a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
    b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.
    a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, §15064.5(f) (CEQA Guidelines §15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
    b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
    c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code §7050.5, Public Resources Code §5097.98, and Cal. Code Regs., tit. 14, §15064.5, subdivisions (d) and (e) (CEQA Guidelines §15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions or need additional information, please contact me at my email address:

Steven.Quinn@nahc.ca.gov.

Sincerely,

for Steven Quinn
Associate Governmental Program Analyst

cc: State Clearinghouse

November 26, 2018

RE: CEQA Principles to Combat Lawsuit Abuses

On behalf of more than 180 business organizations that represent 400,000 employers with over 3.5 million employees in LA County we are commenorating our tenth anniversary with a mission to lift one million people out of poverty in the next decade. One of the many opportunities to lift and prevent poverty are providing solutions that end litigation abuse of the California Environmental Quality Act (CEQA).

These lawsuits drive up the costs of building new housing or transportation infrastructure exacerbating our housing crisis, where the production of new housing in the region has been significantly reduced. Coupling this reduction with the cost of litigation further drives up the cost of housing which prohibits public service and private sector occupations and professionals the ability to afford owning a home, which is essential for building generational wealth, incubating a stronger, vibrant and more resilient economy.

Since 2013, the Los Angeles region accounts for;

- 38% of all CEQA lawsuits statewide.
- 40% of these lawsuits dealt with residential development and transportation infrastructure.
- Over 70% these CEQA lawsuits are targeted at stopping infill, multi-family, transit-oriented housing the very housing needed according to CARB that we need to invest in to support our environmental goals
- Nearly 80% of these lawsuits are targeted in wealthier and healthier parts of the State,

BizFed solutions fall under four themes that create the necessary reforms needed to improve compliance with CEQA and streamline the process;
(1) Prohibit anonymous CEQA lawsuits allowing petitioners to conceal their identities and economic interests;
(2) Prohibit duplicative CEQA lawsuits allowing parties to repeatedly sue over the same plan, or projects implementing a plan, for which CEQA compliance has already been completed;
(3) E**stablish a "mend it, not end it" approach of directing corrections to any defici**ent environmental study rather than vacating project approvals; and
(4) Prohibit CEQA lawsuits against voter-approved infrastructure projects, and against projects receiving voter-approved approved funding (e.g., for homeless housing).

Abuse of CEQA for non-environmental purposes by business competitors, NIMBYs opposed to change, and certain construction trade unions, has been well documented, and includes both threatened and filed CEQA lawsuits. CEQA fundamentally is biased in favor of stopping changes to the status quo. CEQA's status quo preservation bias has a disparate effect on minority communities, as well as younger Californians such as millennials, who are most urgently in need of more housing and transportation, infrastructure.

These CEQA modifications are necessary to comply with law, and to address the housing and poverty crisis, and expedite completion of transportation and other critical infrastructure projects that have already had at least one completed round of CEQA compliance as well as voter and initial agency approvals. No state agency should hide within a silo of vague legalese to promote increased litigation risks and delays and do further harm to hard working minority and millennial families suffering from California's housing, poverty and transportation crises. In contrast, during the last session we witnessed bipartisan support for CEQA exemptions to construct new sports and entertainment facilities which are good projects to stimulating jobs creation by reducing lawsuit abuse, we believe such exemptions for development are consistent with the solutions we have provided in this letter.

Business is what makes our economy work and CEQA guidelines should reward instead of impede that progress to help our economy and our environment thrive. Litigation abuse is one of the unattended consequences that negatively affects our economy because it introduces uncertainty with CEQA instead of compliance.

Sincerely,
Tracy Hernandez, BizFed Los Angeles County, Founding CEO
Hilary Norton, BizFed Chair Fixing Angelenos Stuck in Traffic (FAST)
Lois Henry, Central Valley Business Federation
Associated Builders and Contractors, Central California Chapter
Building Owners and Managers Association
Building Industry Association of Southern California, LA/Ventrua Chapter
California Small Business Alliance
Construction Industry Air Quality Coaltion
Construction Industry Coalition on Water Quality
Foreign Trade Association
Harbor Association of Industry and Commerce
Harbor Trucking Associaiton
Hollywood Chamber of Commerce
NAIOP/Commercial Real Estate Association
National Association of Royalty Owners
Orange County Business Council
Redondo Beach Chamber of Commerce
South Bay Association of Chambers of Commerce
Torrance Area Chamber of Commerce

Los Angeles County Business Federation
Strengthening the Voice of Business Since 2008

February 22, 2019

Roland Ok
Southern California Association of Governments
900 Wilshire Blvd, Suite 1700
Los Angeles, CA 90017

SUBJECT: "Connect SoCal" Scoping Phase Comments

On behalf of BizFed, a grassroots alliance of more than 180 business organizations that represent 400,000 employers with over 3.5 million employees in LA County, we have strong concerns of CARB's statutory over reach by imposing flawed Vehicle Miles Travelled (VMT) reduction targets as a strategy for greenhouse gas (GHG) reduction. This would ignore the local input of many stakeholders in previous Regional Transportation Plan (RTP)/Sustainable Community Strategies (SCS) as we start the EIR for the 2020-2045 RTP/SCS.

CARB has no statutory authority to impose a VMT reduction target in an SCS and doing so violates the SB 375 requirement that an SCS must provide for a robust economy and growing population. In SCAG's two prior RTP/SCS in 2012 and 2016, SCAG met required GHG reduction targets based on local input for land use planning and full respect for voter-approved and funded transportation projects and transportation infrastructure required by longstanding laws requiring efficient transportation and goods movement.

These voter approved transportation projects are usually funded in the form of sales taxes which can be volatile to outside triggers such as an arbitrary GHG reduction target based on VMT reduction assumptions that cannot be delivered in the real world. If these assumptions are to be delivered, we may see a dramatic reduction in goods movement infrastructure critical to the state's economy. BizFed wants to ensure that sales tax revenues remain strong for the successful delivery of these voter supported and approved projects. This nexus is vital to the five of the six counties in the SCAG region who are delivering critical transportation infrastructure projects through sales taxes. Imposing GHG reductions through poor VMT metrics without prioritizing the value of certain trips to our economy could be devastating.

The most aggressive GHG reduction based on VMT reductions in the SCAG region called for a 10% decrease in overall regional VMT, which the region has not met and shows no indication of being able to meet. While we support California's climate leadership, the state emits less than 1% of global GHG. In contrast, California ranks top in the United States for poverty and homelessness – both of which are attributable directly to the housing supply shortage, high housing prices that are nearly three times above the national average and longer commutes where working families are "driving until they qualify" for housing that they can rent or buy.

Given the realities of the current economic conditions, we believe CARB staff's current target of reducing VMT by 19.5% is unattainable. SCAG should not continue to spend taxpayer dollars on infeasible plans, when there has been zero progress made in achieving key reforms that prior SCS plans identified as being necessary to even be able to achieve prior lower GHG reduction targets that the business community has been actively advocated for such as redevelopment funding and CEQA reforms against lawsuit abuses.

We very much respect and appreciate the major efforts of SCAG to assure that SB 375 can be implemented consistent with its statutory protections for a healthy economy and growing population.

We urge SCAG to reject CARB staff's decision to unilaterally reject its own Board vote, and the Legislature's repeated refusal to impose a VMT reduction target as part of its climate or air quality statutes or regulations.

Sincerely,

Steve Bullock
BizFed Chair
Cerrell Associates

David Fleming
BizFed Founding Chair

Tracy Hernandez
BizFed Founding CEO
IMPOWER, Inc.

BizFed Association Members

Action Apartment Association
AIA - Los Angeles
Alhambra Chamber
American Beverage Association
American Hotel & Lodging Association
Antelope Valley Board of Trade
Angeles Emeralds
Apartment Association, California Southern Cities
Apartment Association of Greater Los Angeles
Arcadia Association of Realtors
AREAA North Los Angeles SFV SCV
Asian Business Association
Association of Independent Commercial Producers
Azusa Chamber
Beverly Hills Bar Association
Beverly Hills Chamber
Beverly Hills / Greater LA Association of Realtors
BNI4SUCCESS
Burbank Association of Realtors
Building Industry Association, LA / Ventura Counties
Building Owners & Managers Association, Greater LA
Business & Industry Council for Emergency Planning & Preparedness
CalAsian Chamber
California Apartment Association, Los Angeles
California Asphalt Pavement Association
California Business Roundtable
California Cannabis Industry Association
California Construction Industry and Materials Association
California Contract Cities Association
California Fashion Association
California Gaming Association
California Grocers Association
California Hotel & Lodging Association
California Independent Oil Marketers
California Independent Petroleum Association
California Life Sciences Association
California Metals Coalition
California Restaurant Association
California Small Business Alliance
California Sportfishing League
California Trucking Association
CALInnovates
Carson Chamber of Commerce
Carson Dominguez Employers Alliance
CDC Small Business Finance
Central City Association
Century City Chamber of Commerce
Cerritos Chamber
Citrus Valley Association of Realtors
Commerce Industrial Council/Chamber of Commerce
Construction Industry Air and Water Quality Coalitions
Consumer Healthcare Products Association
Council on Trade and Investment for Filipino Americans
Covina Chamber of Commerce
Culver City Chamber of Commerce
Downey Association of Realtors
Downtown Long Beach Alliance
El Monte/South El Monte Chamber
Employers Group
Engineering Contractor's Association
F.A.S.T.-Fixing Angelenos Stuck in Traffic
FilmLA
Foreign Trade Association
FuturePorts
Gardena Valley Chamber of Commerce
Gateway to LA
Glendale Association of Realtors
Glendale Chamber
Glendora Chamber
Greater Antelope Valley AOR
Greater Lakewood Chamber
Greater Los Angeles African American Chamber
Greater Los Angeles New Car Dealers Association
Harbor Trucking Association
Historic Core Bid
Hollywood Chamber
Hong Kong Trade Development Council
Hospital Association of Southern California
Hotel Association of Los Angeles
Independent Cities Association
Industry Manufacturers Council
International Warehouse Logistics Association
Investing in Place
Irwindale Chamber
Japan Business Association of Southern California
La Canada Flintridge Chamber
LAX Coastal Area Chamber
League of California Cities
Long Beach Area Chamber
Los Angeles Area Chamber
Los Angeles Cleantech Incubator
Los Angeles County Bicycle Coalition
Los Angeles County Medical Association
Los Angeles County Waste Management Association
Los Angeles Gateway Chamber of Commerce
Los Angeles Gay & Lesbian Chamber of Commerce
Los Angeles Latino Chamber
Los Angeles Parking Association
Maple Business Council
Motion Picture Association of America
MoveLA
NAIOP Southern California Chapter
National Association of Royalty Owners
National Association of Tobacco Outlets
National Association of Women Business Owners
National Association of Women Business Owners, LA
National Hispanic Medical Association
National Latina Business Women's Association
Nederlands-America Foundation
Orange County Business Council
Pacific Merchant Shipping Association
Pacific Palisades Chamber
Panorama City Chamber
Paramount Chamber of Commerce
Pasadena Chamber
Pasadena-Foothills Association of Realtors
PhRMA
Planned Parenthood Southern California Affiliates
Pomona Chamber
Rancho Southeast Association of Realtors
Recording Industry Association of America
Regional Black Chamber - San Fernando Valley
Regional San Gabriel Valley Chamber
Rosemead Chamber
San Gabriel Chamber
San Gabriel Valley Civic Alliance
San Gabriel Valley Economic Partnership
Santa Clarita Valley Chamber
Santa Clarita Valley Economic Development Corp.
San Pedro Peninsula Chamber
Santa Monica Chamber
Santa Monica Junior Chamber
Sherman Oaks Chamber of Commerce
South Bay Association of Chambers
South Bay Association of Realtors
Southern California Contractors Association
Southern California Golf Association
Southern California Grantmakers
Southern California Minority Supplier Development Council Inc.
Southern California Water Coalition
Southland Regional Association of Realtors
The Young Professionals at the Petroleum Club
Torrance Area Chamber
Town Hall Los Angeles
Tri-Counties Association of Realtors
United Chambers San Fernando Valley
United States-Mexico Chamber
Unmanned Autonomous Vehicle Systems Association
US Resiliency Council
Valley Economic Alliance
Valley Economic Development Corp.
Valley Industry & Commerce Association
Vernon Chamber
Vietnamese American Chamber
Warner Center Association
West Hollywood Chamber
West Los Angeles Chamber
West San Gabriel Valley Association of Realtors
West Valley/Warner Center Chamber
Western Manufactured Housing Association
Western States Petroleum Association
Westside Council of Chambers
Westwood Village Rotary Club
Wilmington Chamber
World Trade Center
Young Professionals in Energy - LA Chapter

CALIFORNIA COASTAL COMMISSION
South Coast District Office
301 E. Ocean Blvd, Suite 300
Long Beach, CA, 90802
(562) 590-5071

February 21, 2019

Ping Chang
Southern California Association of Governments
900 Wilshire Boulevard, Suite 1700
Los Angeles, CA 90017

RE: Connect SoCal 2020-2045 Regional Transportation Plan/Sustainable Community Strategy Comments on Notice of Preparation of Environmental Impact Report (SCH # 2019011061)

Dear Mr. Chang:

The above referenced Notice of Preparation of an Environmental Impact Report (EIR) for a four year update to the Regional Transportation Plan and Sustainable Communities Strategy (Plan) for the Southern California Association of Governments planning area was received by Coastal Commission staff on via the State Clearinghouse on January 30, 2019. We appreciate the opportunity to comment on the environmental review process for the Regional Plan update. One of the primary tenets of the Coastal Act is to protect and enhance coastal resources and public access to the coast, which requires well-planned residential, commercial, and public infrastructure and an interconnected public transportation system. Several of the policy objective categories of the Plan, including Biological Resources and Open Space Preservation, Hydrology and Water Resources, Recreation, and Population and Housing, create an opportunity to enhance Southern California's transportation system, provide housing and jobs within urban areas well served by the transportation system, and protect coastal resources in a manner that is supportive of the Coastal Act. This update provides an opportunity to enhance those sections of the Plan, considering current infrastructure, planned future infrastructure, and environmental conditions including sea level rise. Given the Coastal Commission's mandate to protect coastal resources through planning and regulation of the use of land and water within the Coastal Zone, staff are providing the following comments and topics that should be analyzed in the EIR.

1) Coastal Transportation Corridor Improvements. Major transportation corridors within the Coastal Zone are Interstate 5 from the southern Orange County line to San Clemente, Pacific Coast Highway (SR 1) from San Clemente to Oxnard, and US 101 through Ventura County. These coastal transportation corridors bisect or are located directly adjacent to sensitive marine resources including coastal lagoon systems, maritime chaparral and coastal sage scrub, and the Pacific Ocean. Impacts to these resources are restricted by Coastal Act policies. Except for specific instances, fill of a wetland or other coastal waters is prohibited (Section 30233), and marine resources (Section 30230), water quality (Section 30231), and environmentally sensitive habitat areas (Section 3024) often associated with the coastal environment are protected. Many of these coastal systems and habitat areas have already significantly deteriorated due to historical transportation infrastructure and residential development. Future transportation improvements in the Coastal Zone (e.g. the regional projects list in the Plan) should seek to upgrade existing infrastructure and reduce impacts to the natural environment. Strategies include development of new highways and bridges with less fill of coastal waters and less coverage of natural habitat than current infrastructure, relocation of highways and other public infrastructure that are threatened by erosion and storm damage, and habitat restoration in areas which have previously been degraded by transportation

infrastructure (e.g. lagoon systems adjacent to Pacific Coast Highway). Please analyze the Plan scenarios for their capacity to avoid adverse impacts to coastal resources and restore and enhance the natural environment.

2) Sea Level Rise. Coastal Act Section 30253 requires that new development minimize risks to life and property from hazards and to assure stability and structural integrity without the use of a shoreline protective device. Thus, understanding the potential impacts of climate change and sea level rise is of critical importance when beginning long-range planning efforts so as to ensure that land use decisions and development projects are not designed in a way that will put investments at risk from coastal hazards. Given the proximity of significant portions of the County's key regional infrastructure to the coast (e.g. highways, airports, power plants), it is imperative that transportation and land use plans carefully anticipate the effects of sea level rise and associated hazards. Ensuring that new coastal infrastructure is designed to adapt to the effects of sea level rise throughout the expected life of the infrastructure is a principal concern of the Coastal Commission. Please review the Commission's Sea Level Rise Policy Guidance (https://www.coastal.ca.gov/climate/slrguidance.html), which was based on two reports – the Ocean Protection Council's April 2017 *Rising Seas in California: An Update of Sea-Level Rise Science* and its 2018 *State Sea-Level Rise Guidance*. The 2016 RTP/SCS references climate change and sea level rise (e.g. the 2012 National Research Council Report, *Sea Level Rise for the Coasts of California, Oregon, and Washington*), but 2016 RTP/SCS does not make clear that sea level rise conditions must be modeled for the entirety of the expected life of new infrastructure projects, which in the case of rail and highway bridges is considered to be 100 years. The updated Plan should include policies requiring regional sea level rise planning and coordination. The Plan should also include regional maps showing various sea level rise scenarios (including a severe scenario) and policies requiring new projects in the Coastal Zone undergo specific sea level rise analysis of tidal and fluvial hydraulics as applied to the local area and in the context of storm surge, wave run-up, erosion, and other variables.

If the Plan references key pieces of existing and planned infrastructure that may be temporarily flooded or perpetually inundated by water in the next 75 to 100 years, then the EIR should analyze potential adaptation measures that minimize adverse impacts to coastal resources and enhance public access to the coast. The EIR should analyze whether existing and planned infrastructure will need to be protected from coastal hazards, such as flooding and erosion. Such protection often includes seawalls and revetments, which adversely affect public access because they block access to the beach, accelerate erosion, and result in the loss of public recreational areas. The Plan should anticipate such impacts and prioritize projects which avoid the impacts (e.g. relocation or elevation of vulnerable segments of highways and rail). Additionally, the EIR should analyze options for relocation of vulnerable infrastructure away from hazardous conditions.

3) Public Access and Recreation. A fundamental pillar of the Coastal Act is the protection and provision of public access to and along the coast. Coastal Act sections 30210 and 30212 require that maximum opportunities for public access and recreation be provided in new development projects, consistent with public safety, private property rights, and natural resource protection. Additionally, Section 30252 dictates that new development should maintain and enhance public access through such actions as facilitating transit service, providing non-automobile options, and providing adequate parking.

Accordingly, the EIR should evaluate the Plan scenarios for consistency with the above-mentioned policies. In particular, there should be an analysis of how the Plan would maximize access to the coast (including beaches, parks, and open spaces), including options for public transit, non-motorized vehicles, and pedestrian routes throughout the region. This analysis should identify options to facilitate access to beaches and coastal areas from the inland portions of the region, as well as options for enhancing connections to public transit, the California Coastal Trail, and other visitor-serving recreational opportunities. Improvements to coastal access routes may be planned as coordinated projects which enhance vehicle flow and safety, increase bicycle capacity, increase pedestrian capacity, and restore the natural environment. One area where such a coordinated approach should be analyzed is along Pacific Coast Highway in Orange County and Los Angeles County – this corridor is already heavily utilized by coastal visitors and portions of the corridor are likely to be part of the California Coastal Trail. Bicycle and pedestrian facilities are particularly lacking along Pacific Coast Highway in Northern Los Angeles County, Malibu, and Southern Ventura County.

Importantly, the EIR should also analyze the potential negative impacts to public access and recreation that could arise from the various transportation and land use scenarios identified in the Plan. Scenarios that would lead to additional traffic along critical coastal highways should be analyzed for their potential impacts to public access and recreation, and potential impacts to the natural environment. A transportation capacity analysis of existing and planned transportation infrastructure should be performed for not only peak commuter periods (e.g. morning rush hour) but for peak recreational periods (e.g. a summer weekend with high demand by beach users). Transportation projects which increase capacity to reach the coast by modes other than private automobiles should be prioritized.

4) Concentration of Development. Coastal Act Section 30250 generally requires that new development within the Coastal Zone be located within, contiguous with, or in close proximity to existing developed areas. Coastal Act Section 30253 requires new development to be sited in a manner that will minimize energy consumption and vehicle miles travelled. In this way, the Coastal Act encourages smart growth patterns that recognize a strong urban-rural boundary to ensure protection of coastal resources. Accordingly, the EIR should analyze the extent to which various Plan scenarios, as well as the broader goals of the Sustainable Communities Strategy, would be consistent with Coastal Act goal to concentrate development and reduce vehicle miles travelled. Based on the summary in the scoping notice, the Intensified Land Use Alternative appears to be consistent with Coastal Act policies, to the extent that it prioritizes development in urban areas and around high quality transit corridors, rather than in rural and exurban areas which tends to adversely impact natural habitat and increase vehicle miles travelled.

Finally, the Plan's greenhouse gas emissions targets must be consistent with the Executive Order B-30-15 goal of reducing California's GHG emissions to 40 percent below 1990 levels by 2030 and the Executive Order S-3-05 goal of reducing California's GHG emissions to 80 percent below 1990 levels by 2050. While the 2016 RTP/SCS prioritized investment in transit and active transportation more than any previous RTP, it does not appear to have reduced vehicle miles traveled consistent with Coastal Act Section 30253. The EIR for the Plan update should include additional analysis of transportation and land use scenarios which are most protective of sensitive coastal and environmental resources while at the same time achieving the Plan objectives of improving the transportation system, increasing housing and allowing people to live closer to where they work and play. While there may be existing constraints that

make the Intensified Land Use scenario difficult to implement today, the RTP/SCS is a long-range planning document and there will likely be changes in policy and funding for transit and housing within its planning horizon – especially if SCAG advocates for such changes. As such, SCAG should place a greater emphasis on the prioritization of public transit and active transportation projects, with increased housing density around such high quality transit areas, and include analysis of such projects in the EIR.

Thank you for the opportunity to comment on the environmental review for the update to the Regional Transportation Plan and Sustainable Communities Strategy. We look forward to future collaboration on improvements to the transportation system and land use synchronization within Southern California, and appreciate the commitment within the current (2016) RTP/SCS to preserve and enhance coastal resources. Coastal Commission staff request notification of any future activity associated with this project or related projects. Please contact me at (562) 590-5071 with any questions.

Sincerely,

Zach Rehm
Senior Transportation Program Analysts

Cc: Tami Grove, Statewide Development and Transportation Program Manager
Steve Hudson, South Central Coast (Ventura County) and South Coast (LA County) District Director
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Making Conservation a California Way of Life.

February 22, 2019

Mr. Rowland Ok
Southern California Association of Governments
900 Wilshire Boulevard Suite 1700
Los Angeles, CA 90017

File: IGR/CEQA
SCH#: N/A
DOC#: 12-MULTIPLE-2019-00099

Dear Mr. Ok,

Thank you for including the California Department of Transportation (Caltrans) in the review of the Regional Transportation Plan (RTP) for the proposed Connect SoCal 2020 Regional Transportation Plan/Sustainable Communities Strategy (SCS) Update. The mission of Caltrans is to provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability.

Connect SoCal is Southern California's Association of Government's (SCAG) 2020 update to their long-range visioning plan. This long-range plan is a collective vision for the region's future needs with input from multiple stakeholders. This plan balances future mobility and housing needs with economic, environmental and equity goals. The long-range plan spans the Southern California region, including Ventura, Los Angeles, Orange, San Bernardino, Riverside, and Imperial Counties. Caltrans is a responsible agency and has the following comments:

Transportation Planning:

1. The RTP/SCS should draw from the California Transportation Plan (CTP) 2040 and be consistent with the goals set in the CTP as it provides safety, economic, accessibility, and environmental objectives for the California Transportation System. The CTP integrates a number of long-range transportation plans including the California Freight Mobility Plan, State Rail Plan, Transit Strategic Plan, etc. The CTP would be an important resource and framework for the RTP/SCS.

2. The criteria for project selection into the RTP/SCS should be consistent for all projects and agencies independent of funding status, in order to address the region's transportation needs and issues.

3. Climate change possesses an immediate concern and threat to the State's transportation network. California Senate Bill 379 requires all cities and counties to include climate adaptation and resiliency strategies to be included into their general plans. Multiple local and regional agencies have adopted Climate Action Plans (CAP) to address SB 379. Caltrans has conducted a Statewide Vulnerability Assessment in order to identify areas and communities of immediate concern. The RTP/SCS should review local and regional

CAPs and the Vulnerability Assessment for Orange County and coordinate with Caltrans to implement improvements against climate change.

4. Caltrans recognizes the drawbacks of an auto-centric transportation system and has pushed to support multimodal transportation. As such, Caltrans has implemented Complete Streets aspects in all appropriate Caltrans projects. Complete Streets incorporate design features that provide safe mobility for all users of the road including: pedestrians, bicyclists, transit users, freight, and motorists. Implementation of Complete Streets throughout the region would improve safety, air quality, and congestion reduction.

5. In commitment to a multimodal transportation system, Caltrans provides support to local agencies in their active transportation program from the early project planning and development phase through construction and maintenance. The RTP/SCS should include policies that coordinate with Caltrans and other partners to foster growth of bicycle networks and improvement of safety of pedestrians and bicyclists, such as Vision Zero.

6. Transportation needs are closely integrated to land use. Caltrans, in coordination with the US Environmental Protection Agency, the Governor's Office of Planning and Research (OPR), and the California Department of Housing and Community Development developed the Smart Mobility Framework in order to bridge transportation and land use. The framework provides guidance on how well plans, programs, and projects meet a definition of "smart mobility". It can be used by both Caltrans and partner agencies to transform transportation decisions.

7. The RTP should prioritize system and service improvements that serve places with good regional accessibility, higher densities of population and jobs, and mixed land uses, or improvements that support evolution of these characteristics. The RTP/SCS should advocate for the creation of secure funding sources for both transit capital improvements and operations in these areas, considering the extremely significant role of transit in the future, to increase the number of High-Quality Transportation Areas. This would coincide with the goals set by SB 743, which focuses on the creation of transit-oriented infill projects.

8. The California Air Resources Board's (ARB) SB 150 Report indicates that the RTP/SCS housing goals, particularly those for low income housing, are not being achieve. Developing and utilizing policies favorable to housing construction and coordination with local land-use authorities would work towards fixing the State's housing needs. The RTP/SCS should focus on a supply of housing and provide economic development in areas that allows people of all incomes and abilities to live within a reasonable distance of jobs, schools, shopping, and other important destinations, in order to reduce vehicle miles traveled (VMT).

9. California Natural Resources Agency recently adopted new CEQA Guidelines, which include SB 743. Caltrans will work with OPR, ARB, regional and local transportation entities and other interested parties to develop and implement the Department's method for implementing SB 743 in CEQA review of projects on the State Highway System. Under the directive of SB 743 Caltrans is moving forward to utilizing VMT as the primary metric to analyze traffic impacts, replacing LOS. The RTP/SCS should provide policies that include VMT reduction strategies. This would aid in meeting many of the State's air quality improvement and GHG reduction goals set by policies such as AB 32.

10. Caltrans District 12 have conducted multiple Managed Lanes studies as an option to mitigate future congestion and satisfy transportation needs. Please review and incorporate the Managed Lanes Feasibility Study and the Managed Lanes Network Study to the RTP/SCS update.

11. The RTP/SCS should also address how the SCAG region works to achieve an inter-regional network for longer-distance travel and freight movement. Connecting towns, cities, and regions to each other, business centers to major intermodal freight transfer points, and commuters to national and international destinations outside of the SCAG region in a sustainable and efficient manner, should be an important objective.

12. The RTP should discuss ease of access and possible improvements to municipal and regional airports as they are an integral part to the transportation network.

Please continue to keep us informed of this project and any future developments that could potentially impact State transportation facilities. If you have any questions or need to contact us, please do not hesitate to contact Scott Shelley at (657) 328-6164 or Scott.Shelley@dot.ca.gov.

Sincerely,

SCOTT SHELLEY
Branch Chief, Regional-IGR-Transit Planning
District 12

February 22, 2019

Sent via email and FedEx

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Re: Notice of Preparation of a Program Environmental Impact Report for Connect SoCal 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (State Clearing House Number 2019011061)

Dear Mr. Ok:

These comments are submitted on behalf of the Center for Biological Diversity (the "Center") regarding the Notice of Preparation ("NOP") of a Program Environmental Impact Report ("PEIR") for Connect SoCal 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy ("RTP/SCS"). The Center has reviewed the NOP closely and provides these comments for consideration by SCAG as it prepares the PEIR for the RTP/SCS.

As the NOP acknowledges, SCAG covers a large portion of the state and will impact approximately 49 percent of California's population. The RTP/SCS is intended to serve as a foundational document for land use planning across six counties (Imperial, Los Angeles, Orange, San Bernardino and Ventura) and impact approximately 20 million people. Additionally, Southern California is a biodiversity hotspot with many endemic species and unique habitats, and it is home to the most impacted mountain lion populations in California. The health of these populations and ecosystems are intertwined with human well-being. To truly "connect" SoCal and promote "sustainable" communities, land use policy needs to facilitate a more wholistic approach that addresses human transportation and development needs, the needs of wildlife and habitats that are fragmented by transportation infrastructure and development, and how we can make human and natural communities more resilient to climate change. Because of the broad scope and significant, long-range impact of the RTP/SCS, the Center urges SCAG to carefully and thoroughly consider the potential environmental impacts on the community and wildlife, including those raised in these comments, when preparing the PEIR and RTP/SCS.

The Center is a non-profit, public interest environmental organization dedicated to the protection of native species and their habitats through science, policy, and environmental law. The Center has over 1.4 million members and online activists throughout California and the

United States. The Center and its members have worked for many years to protect imperiled plants and wildlife, open space, air and water quality, and overall quality of life for people in Southern California.

I. SCAG Must Adopt an Ambitious, Aggressive RTP/SCS to Meet SB 375 GHG Emission Reduction Mandates and Reverse the Trend of Increasing Vehicle Travel

Over 10 years ago, the California Legislature adopted the Sustainable Communities and Climate Protection Action of 2008, known as SB 375, to integrate transportation, land use and housing decision-making to reduce overall greenhouse gas ("GHG") emissions. The California Air Resources Board (CARB) has repeatedly noted the important role SB 375 GHG emission reduction targets are to the state's overall strategy to meet its climate change targets. (See California Air Resources Board. November 2017. California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target at 101 ["CARB 2017 Scoping Plan"].) While Metropolitan Planning Organizations ("MPO") like SCAG have adopted RTP/SCS in the subsequent decade, it is clear that previous RTP/SCS have not gone far enough to adequately address California's GHG emission reduction targets.

In a November 2018 report, CARB completed an in-depth analysis showing California is not on track to meet the greenhouse gas reductions under SB 375. (CARB, 2018 Progress Report: California's Sustainable Communities and Climate Protection Act [November 2018] ["CARB 2018 Progress Report"].) This is largely because emissions from passenger vehicle travel per capita are *increasing* under the state's regional SCSs and RTPs, rather than decreasing as SB 375 intended. (*Id.* at 4, 22-28.) Therefore, greater reductions in the transportation sector are essential to meet California's climate goals. ***The key takeaway from CARB's report is that more needs to be done and the Center hopes SCAG follows that message when preparing its PEIR and RTP/SCS.*** (*Id.* at 3-5.)

A. Climate Change is a Catastrophic and Pressing Threat to California

A strong, international scientific consensus has established that human-caused climate change is causing widespread harms to human society and natural systems, and climate change threats are becoming increasingly dangerous. In a 2018 *Special Report on Global Warming of 1.5°C* from the Intergovernmental Panel on Climate Change (IPCC), the leading international scientific body for the assessment of climate change describes the devastating harms that would occur at 2°C warming, highlighting the necessity of limiting warming to 1.5°C to avoid catastrophic impacts to people and life on Earth (IPCC 2018). The report provides overwhelming evidence that climate hazards are more urgent and more severe than previously thought, and that aggressive reductions in emissions within the next decade are essential to avoid the most devastating climate change harms.

The impacts of climate change will be felt by humans and wildlife. In addition to warming, many other aspects of global climate are changing, primarily in response to human activities. Thousands of studies conducted by researchers around the world have documented

changes in surface, atmospheric, and oceanic temperatures; melting glaciers; diminishing snow cover; shrinking sea ice; rising sea levels; ocean acidification; and increasing atmospheric water vapor (USGCRP 2017). In California, climate change will transform our climate, resulting in such impacts as increased temperatures and wildfires, and a reduction in snowpack and precipitation levels and water availability.

In response to inadequate action on the national level, California has taken steps through legislation and regulation to fight climate change and reduce statewide GHG emissions. Enforcement and compliance with these steps is essential to help stabilize the climate and avoid catastrophic impacts to our environment. California has a mandate under AB 32 to reach 1990 levels of GHG emissions by the year 2020, equivalent to approximately a 15 percent reduction from a business-as-usual projection. (Health & Saf. Code § 38550.) Based on the warning of the Intergovernmental panel on Climate Change and leading climate scientists, Governor Brown issued an executive order in April 2015 requiring GHG emission reduction 40 percent below 1990 levels by 2030. (Executive Order B-30-15 (2015).) The Executive Order is in line with a previous Executive Order mandating the state reduce emission levels to 80 percent below 1990 levels by 2050 in order to minimize significant climate change impacts. (Executive Order S-3-05 (2005).) That Executive Order's goal has now been incorporated into California's 2017 Scoping Plan update—its plan to achieve greenhouse gas emissions reductions. Thus, the 2017 Scoping Plan update set out strategies for putting the State on a path to toward the 2050 climate goal to reduce GHG emissions by 80 percent below 1990 levels. (See CARB 2017 Scoping Plan.) More recently, Governor Brown signed a new executive order to put California on the track to go carbon neutral by 2045. (Executive Order B-55-18 (2018).) The Legislature also passed S.B. 100 which requires renewables to account for 60 percent of electricity sales in 2030.

B. CARB's 2018 Progress Report Lays Out Clear Deficiencies in Previous RTP/SCS and Provides a Path Forward

As the NOP acknowledges, SCAG's RTP/SCS will provide detailed land use, housing and transportation strategies for the region. Those strategies can significant impacts on the community, as CARB noted in its 2018 Progress Report:

> *growth patterns have a profound impact on both the health of individuals and the environment. Where jobs are located and homes are built, and what roads, bike lanes, and transit connect them, create the fabric of life. How regions grow impacts where people can afford to live, how long it takes to get to work, how people travel, who has easy access to well-paying jobs and educational opportunities, the air people breathe, whether it is easy to spend time outdoors and with friends, social cohesion and civic engagement, and ultimately, how long people live.*

(CARB Progress Report 2018 at 6.) In the report, CARB goes on to note that "to meet the potential of SB 375 will require state, regional, and local agency staff and elected officials to make more significant changes across multiple systems that address the interconnected

relationship of land use, housing, economic and workforce development, transportation investments, and travel choices." (*Id*.) While SCAG, like other MPOs, has failed to meet this potential previous RTP/SCS, it has the opportunity to do so now. The Center urges SCAG to do all it can to review and adopt the best practices suggested by CARB when drafting its PEIR and RTP/SCS. This includes the following general principles:

- Providing viable travel alternatives to individual passenger vehicles
- Providing housing choices for all income levels in neighborhoods with access to sustainable transportation choices and economic opportunities
- Building self-sustaining neighborhood that are accessible to and near daily needs

C. SCAG Should Mandate A Robust Range of Mitigation Measures to Meet SB 375 GHG Emissions Reduction Targets

SCAG has made clear that it intends to use the PEIR as a first-tier CEQA document and provide "program wide mitigation measures" that adequately address and reduce GHG emissions from passenger vehicles resulting from land use, housing and transportation planning in the region. (NOP at 2, 7 [*citing* CEQA Guidelines Sec. 15168; SB 375 (2008)].) Therefore the PEIR and associated RTP/SCS must fully comply with CEQA's strict mandates for mitigation.

Mitigation of a project's environmental impacts is one of the "most important" functions of CEQA and it is the "policy of the state that public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures which will avoid or substantially lessen the significant environmental effects of such projects." (*Sierra Club v. Gilroy City Council* (1990) 222 Cal.App.3d 30, 41; Pub. Res. Code § 21002.) As the California Attorney General has noted, programmatic plans to reduce GHG emissions pursuant to CEQA Guidelines section 15183.5 must "[i]dentify a set of specific, enforceable measures that, collectively, will achieve the emissions targets…." (California Attorney General's Office). Therefore, SCAG must include a robust range of mitigation measures that are concrete and fully enforceable as required by CEQA to address the likely significant GHG emissions that will result from the RTP/SCS. (*Lincoln Place Tenants Assn. v. City of Los Angeles* (2007) 155 Cal.App.4th 425, 445 ["A 'mitigation measure' is a suggestion or change that would reduce or minimize significant adverse impacts on the environment caused by the project as proposed."]); *Preserve Wild Santee v. City of Santee* (2012) 210 CA 4th 260, 281 [mitigation measures that are so undefined that their effectiveness is impossible to determine are legally inadequate].)

When feasible, SCAG should mandate adoption of on-site mitigation measures or avoid GHG emissions through changes in project design, as suggested by (Office of Planning and Research, Discussion Draft: CEQA and Climate Change (2018) at 16.) Only if on-site mitigation measures are infeasible, should SCAG consider local and regional mitigation measures. (*Id.* at 17.) Potential mitigation measures for SCAG to consider include but are not limited to:

- Electric vehicle charging facilities;
- Projects to facilitate and increase use of carpooling, vanpooling and ridesharing;

- Measures to increase use of public transit, increase public transit route and times of operation;
- Use of energy efficient lighting technology;
- Funding for purchase of alternative fuel buses;
- Use of less GHG-intensive construction materials than cement and asphalt;
- Measures to reduce idling time;
- Use of alternative fuel vehicles;
- Road dust reduction strategies;
- Availability for transit vouchers;
- Investment in bike path construction, improvement and storage facilities;

The Center hopes SCAG will, at a minimum, adopt these and other mitigation measures to meet its GHG emission reduction targets. However, just encouraging more zero-emission vehicles or taking small measures to encourage more public transit will not be enough. "CARB's 2030 Scoping Plan Update identifies additional VMT reduction beyond that included in the SB 375 targets as necessary to achieve a statewide target of 40 percent below 1990 level emissions by 2030. Even greater reductions will be needed to achieve the new carbon neutrality goal by 2045." (CARB 2018 Progress Report at 27, citing CARB 2017 Scoping Plan and Executive Order B-55-18. September 2018.) What is more, CARB points out that "[e]ven if the share of new car sales that are ZEVs grows nearly 10-fold from today, California would still need to reduce VMT per capita 25 percent to achieve the necessary reductions for 2030." (*Id*. at 28.)

Put simply, California will not achieve the necessary greenhouse gas emissions reductions to meet mandates for 2030 and beyond without significant changes to how communities and transportation systems are planned, funded and built. (CARB Progress Report 2018 at 27.) Instead fundamental changes in land use planning by local and regional land use agencies must occur. RTP/SCS by MPO's like SCAG have the potential to guide these fundamental changes in land use and transportation planning. Specifically, CARB discouraged the approval of large, exurban developments with limited public transit, jobs and commercial centers. As noted above, ***SCAG's RTP/SCS must prioritize infill, transit-oriented development while discouraging sprawl or greenfield development far from existing population and employment centers.*** The Center hopes will seize this opportunity when drafting its RTP/SCS to take one of the largest regions of California on a different, more sustainable path that truly addresses the climate crisis facing our state.

II. The Goals of the RTP/SCS Should Include Maintaining and Enhancing Wildlife Movement and Habitat Connectivity

In planning SCAG's long-range vision to balance future mobility and housing needs with economic, environmental, and public health goals, it is essential to consider the impacts of transportation infrastructure and development on the region's natural landscapes. While Southern California is a popular area for people to live and work, it is also a biodiversity hotspot with many endemic species and unique habitats, and it is home to the most impacted mountain lion populations in California. To truly forge sustainable communities resilient to climate change,

wildlife movement and habitat connectivity should be an integral factor in land use planning and policy. Impacts to these resources should be adequately assessed in the PEIR.

A. Avoidance and Minimization of Impacts to Wildlife Movement and Habitat Connectivity Must be Prioritized.

The PEIR should prioritize avoiding and minimizing impacts of the RTP/SCS on wildlife movement and habitat connectivity. Roads and traffic create barriers that lead to habitat loss and fragmentation, which harms wildlife and people. As barriers to wildlife movement and the cause of injuries and mortalities due to wildlife vehicle collisions, roads and traffic can affect an animal's behavior, movement patterns, reproductive success, and physiological state, which can lead to significant impacts on individual wildlife, populations, communities, and landscapes (Mitsch and Wilson 1996; Trombulak and Frissell 2000; van der Ree et al. 2011; Haddad et al. 2015; Marsh and Jaeger 2015; Ceia-Hasse et al. 2018). For example, habitat fragmentation from roads and traffic has been shown to cause mortalities and harmful genetic isolation in mountain lions in southern California (Riley et al. 2006, 2014, Vickers et al. 2015), increase local extinction risk in amphibians and reptiles (Cushman 2006; Brehme et al. 2018), cause high levels of avoidance behavior and mortality in birds and insects (Benítez-López et al. 2010; Loss et al. 2014; Kantola et al. 2019), and alter pollinator behavior and degrade habitats (Trombulak and Frissell 2000; Goverde et al. 2002; Aguilar et al. 2008). In addition, wildlife vehicle collisions pose a major public safety and economic threat. Over the last three years (2015-2017) it is estimated that 7,000 to 23,000 wildlife vehicle collisions (with large mammals) have occurred annually on California roads (Shilling et al. 2017; Shilling et al. 2018, State Farm Insurance Company 2016, 2018). These crashes result in human loss of life, injuries, emotional trauma, and property damages that can add up to $300-600 million per year. Thus, avoiding and minimizing impacts of transportation projects and development on wildlife movement and habitat connectivity would help preserve biodiversity and ecosystem health while protecting human health and safety.

B. The PEIR Should Adequately Assess the Impacts of the RTP/SCS on Functional Connectivity.

The PEIR should ensure that effective, functional wildlife corridors that support multiple species movement are preserved. These should include continuous, intact habitats (not fragmented by roads or other anthropogenic features) that are wide enough to overcome edge effects, dominated by native vegetation, and have equal or higher habitat quality than core habitat patches (Bennett et al. 1994; Brooker et al. 1999; Forman 1995; Tilman et al 1997; Hilty et al 2006). Negative edge effects from human activity, traffic, lighting, noise, domestic pets, pollutants, invasive weeds, and increased fire frequency have been found to be biologically significant up to 300 meters (~1000 feet) away from development in terrestrial systems (Environmental Law Institute 2003).

C. The RTP/SCS Should Consider the Impacts of Climate Change and Should Incorporate Climate Adaptation Strategies for Wildlife Movement and Habitat Connectivity

The PEIR should consider the impacts of climate change on wildlife movement and habitat connectivity in the design and implementation of projects and any mitigation. Climate change is increasing stress on species and ecosystems, causing changes in distribution, phenology, physiology, vital rates, genetics, ecosystem structure and processes, and increasing species extinction risk (Warren et al. 2011). A 2016 analysis found that climate-related local extinctions are already widespread and have occurred in hundreds of species, including almost half of the 976 species surveyed (Wiens 2016). A separate study estimated that nearly half of terrestrial non-flying threatened mammals and nearly one-quarter of threatened birds may have already been negatively impacted by climate change in at least part of their distribution (Pacifici et al. 2017). A 2016 meta-analysis reported that climate change is already impacting 82 percent of key ecological processes that form the foundation of healthy ecosystems and on which humans depend for basic needs (Scheffers et al. 2016). Genes are changing, species' physiology and physical features such as body size are changing, species are moving to try to keep pace with suitable climate space, species are shifting their timing of breeding and migration, and entire ecosystems are under stress (Parmesan and Yohe 2003; Root et al. 2003; Parmesan 2006; Chen et al. 2011; Maclean and Wilson 2011; Warren et al. 2011; Cahill et al. 2012).

As SCAG is aware, state agencies must take climate change into account in their planning and investment decisions, see Public Resources Code §§ 71150-55 (Climate Change and Climate Adaptation). The law specifically mandates that all state agencies "take into account the current and future impacts of climate change when planning, designing, building, operating, maintaining and investing in state infrastructure." Public Res. Code § 71155. Thus, the RTP/SCS must also climate change and adaptation into account. There are many tools available for incorporating climate adaptation in planning. In 2018, the California Natural Resources Agency updated the Climate Adaptation Strategy[1] which recognizes the critical role infrastructure and mitigation planning have in meeting climate adaptation goals. Indeed, several of the key principles relate directly to infrastructure planning and emphasize the need for coordination (California Natural Resources Agency 2018):

> −Principle 5: Prioritize natural infrastructure solutions build climate preparedness, reduce greenhouse gas emissions, and produce other multiple benefits.
> − Principle 6: Promote collaborative adaptation processes with federal, local and regional government partners.
> − Principle 7: Increase investment in climate change vulnerability assessments of critical built infrastructure systems.

[1]Information available at http://resources.ca.gov/climate/safeguarding/ and http://cal-adapt.org/

D. The PEIR Should Ensure the RTP/SCS Promotes Wildlife Corridor Redundancy to Improve Functional and Resilient Connectivity.

To minimize project impacts to wildlife connectivity, the RTP/SCS should incorporate wildlife corridor redundancy (*i.e*. the availability of alternative pathways for movement) in project plans and mitigation. Corridor redundancy is important in regional connectivity plans because it allows for improved functional connectivity and resilience. Compared to a single pathway, multiple connections between habitat patches increase the probability of movement across landscapes by a wider variety of species, and they provide more habitat for low-mobility species while still allowing for their dispersal (Olson and Burnett 2008; Pinto and Keitt 2008; Mcrae et al. 2012). In addition, corridor redundancy provides resilience to uncertainty, impacts of climate change, and extreme events, like flooding or wildfires, by providing alternate escape routes or refugia for animals seeking safety (Mcrae et al. 2008; Olson and Burnett 2008; Pinto and Keitt 2008; Mcrae et al. 2012; Cushman et al. 2013).

E. The PEIR Should Ensure Adequate Mitigation Measures for Impacts to Wildlife Movement and Habitat Connectivity.

If impacts to wildlife movement and habitat connectivity are unavoidable, the PEIR should ensure that impacts are mitigated using the best available science to maintain and/or enhance wildlife connectivity. When appropriately implemented, wildlife crossing infrastructure has been shown to improve wildlife permeability and reduce wildlife vehicle collisions (Dodd Jr et al. 2004; Bissonette and Rosa 2012; Dodd et al. 2012; Sawyer et al. 2012; Sawaya et al. 2014; Kintsch et al. 2018). Wildlife crossing infrastructure design and implementation should be prepared and conducted in consultation with the California Department of Fish and Wildlife (CDFW) and other stakeholders, including federal and state agencies, academic institutions, non-governmental agencies, local experts and the public. Local and regional wildlife movement, habitat connectivity, and wildlife vehicle collision data should be collected and analyzed in the project area before projects are approved and budgets are set (Lesbarrères and Fahrig 2012; Shilling et al. 2018). New and renovated roads and developments should be designed with wildlife connectivity in mind – it is easier to plan a new road to avoid or minimize impacts to wildlife connectivity than it is to retroactively build wildlife crossings.

To provide appropriate mitigation for habitat connectivity and wildlife movement, the effectiveness of wildlife crossing infrastructure planning, design, and strategies should be thoroughly and systematically evaluated to determine which strategies work better than others and how they can be improved. Any mitigation involving crossing infrastructure should include the long-term monitoring and maintenance of crossing infrastructure as well as the use of appropriate metrics that adequately reflect effectiveness, such as species passage rates and counts of wildlife vehicle collision occurrences. The data and evaluations should inform future mitigation strategies and be made available to the public.

Mitigation via conservation easements should be in-kind within the project area or as close as possible within an ecologically meaningful unit, such as a watershed. Easements should be established and appropriately funded in perpetuity.

III. The PEIR Should Adequately Assess the Impacts of the RTP/SCS on Public Health and the Economy

The PEIR should adequately assess how the RTP/SCS impacts public health and safety and the economy. According to Caltrans, Californians seek more opportunities for walking, biking, or using public transit (Caltrans 2016), yet most transportation infrastructure efforts are focused on building and expanding more roads to accommodate (and facilitate) more cars. According to a 2017 analysis by INRIX, Los Angeles is the most congested city in the US; residents spend over 100 hours a year stuck in traffic, which is estimated to cost the city's economy over $19 billion (Mccarthy 2018). Long commutes cause increased stress levels and leave little to no time to exercise or spend time with families or communities, which can lead to mental and physical health impacts, reduced quality of life, and shorter life spans (Ewing et al. 2003; Leyden 2003; Frumkin et al. 2004). In addition, emissions from road transportation contribute to poor air quality that can lead to serious health effects, including respiratory and cardiovascular disease, compromised birth outcomes, and premature death (Lin et al. 2002; Andersen et al. 2011; Caiazzo et al. 2013; Chen et al. 2017). A recent study found that emissions from road transportation cause 53,000 premature deaths annually in the US, and California has about 12,000 early deaths every year due to air pollution from road transportation and commercial/residential sources (Caiazzo et al. 2013). Thus, roads and other transportation infrastructure should be made safer for drivers and communities where there are roads. Major cities around the world are acknowledging the detrimental effects of roads and traffic on people, and they are shifting their land use design focus from cars to human health and well-being (Conniff 2018). By reducing the amount of new roads and promoting design oriented towards pedestrians, cyclists, and transit instead of cars, SCAG has the opportunity to facilitate the implementation of transportation infrastructure that improves public health and safety and preserves wildlife connectivity.

IV. The PEIR Should Use the Best Available Science to Identify Wildfire Risk and Impacts of More Frequent Fires Due to Human Activities and Land Use

The Center is encouraged to see that SCAG has added wildfire as an environmental factor within the scope of the environmental analysis to be considered in the PEIR. The PEIR should adequately assess the risk and impacts of increased wildfire ignitions on public health and safety as well as on biological resources. Wildfire is a natural and necessary part of California's ecosystems. Forests, shrublands, and grasslands are adapted to fire and need fire to rejuvenate, although different habitats rely on different fire frequencies. In addition, climate change is leading to hotter, drier conditions that make fires more likely to burn, and people are starting more fires in more places throughout the year. In Southern California, sprawl developments with low/intermediate densities extending into chaparral and sage scrub habitats that are prone to fire have led to more frequent wildfires caused by human ignitions, like arson, improperly disposed cigarette butts, debris burning, fireworks, campfires, or sparks from cars or equipment (Keeley et al. 1999; Keeley and Fotheringham 2003; Syphard et al. 2007; Syphard et al. 2012; Bistinas et al. 2013; Balch et al. 2017; Radeloff et al. 2018). Human-caused fires account for 97% of all fires in Mediterranean California, which includes the SCAG region (Balch et al. 2017), and homes filled with petroleum-based products, such as wood interiors, paint, and furniture, provide additional fuel for the fires to burn longer and spread farther.

Much of the SCAG region is dominated by chaparral and sage scrub, native California habitats that rely on wildfires to persist. These habitats are adapted to infrequent (every 30 to 150 years), large, high-intensity crown fire regimes (Keeley and Fotheringham 2001), and if these regimes are disrupted, the habitats become degraded (Keeley 2005; Keeley 2006; Syphard et al. 2018). When fires occur too frequently, type conversion occurs and the native shrublands are replaced by non-native grasses and forbs that burn more frequently and more easily, ultimately eliminating native habitats and biodiversity while increasing fire threat over time (Keeley 2005; Keeley 2006; Syphard et al. 2009; Safford and Van de Water 2014; Syphard et al. 2018). We can no longer dismiss California's natural fire regime and the direct relationship between urban sprawl, roads, and deadly wildfires. The devastating environmental, health, social, and economic costs of poorly-planned, leapfrog developments in high fire-prone areas cannot be sustained (see Yap 2018).

The Center urges SCAG to protect human lives, property, and native biodiversity, by reforming growth strategies to focus on avoiding the placement of developments and roads in high fire threat areas. After the deadly and destructive Camp and Woolsey Fires in 2018, retired Cal Fire Director Ken Pimlott recommended that home construction in high fire-prone areas should be banned, stating that "we owe it" to homeowners, firefighters, and communities to make better local land use planning decisions to keep people safe and make communities more resilient (Thompson 2018). Urban planning and design should focus on infill development in urban core areas, where wildfire threat is lower and people have access to jobs, public transit, and community.

Existing communities in fire-risk areas should be incentivized to complete retrofits with features that have been shown to reduce the risk of destruction due to wildfires, such as ember-resistant vents, fire-resistant roofs, 100 feet of surrounding defensible space, rain gutter guards, and external sprinklers with an independent water source (Quarles et al. 2010; Syphard et al. 2014; California Chaparral Institute 2018). However, although these fire-resistant structural features are important, fire safety education and enforcement for home and property owners are vital for these safety measures to be effective. Proper maintenance and upkeep of the structural fire-resistant features and the immediate surroundings (*e.g.*, removing leaf litter from gutters and roofing; removing flammable materials like wood fences, overhanging tree branches, or trash cans away from the home) are required to reduce the chances of the structures burning. In addition, education about how to prevent fire ignitions in existing communities in high fire-prone areas would further reduce fire risk.

V. Conclusion

Thank you for the opportunity to submit comments on the Notice of Preparation of a Program Environmental Impact Report for Connect SoCal (2020-2045 Regional Transportation Plan/Sustainable Communities Strategy). Please add the Center to your notice list for all future updates to the PEIR and RTP/SCS. We look forward to working with SCAG to foster land use policy and growth patterns that promote wildlife movement and habitat connectivity and move towards the State's climate change goals. Please do not hesitate to contact the Center with any questions at the number or email listed below.

Sincerely,

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February 22, 2019

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Subject: Comments on the Notice of Preparation of a Draft Programmatic Environmental Impact Report for the Connect SoCal Project; SCH# 2019011061; Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties

Dear Mr. Chang:

The California Department of Fish and Wildlife (CDFW) has reviewed the above-referenced Notice of Preparation (NOP) for the Connect SoCal Draft Programmatic Environmental Impact Report (DPEIR) prepared by the Southern California Association of Governments (SCAG) pursuant to the California Environmental Quality Act (CEQA; Pub. Resources Code, § 21000 et. seq.)

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code.

CDFW's Role

CDFW is California's Trustee Agency for fish and wildlife resources and holds those resources in trust by statute for all the people of the State [Fish & Game Code, §§ 711.7, subdivision (a) & 1802; Public Resources Code, § 21070; California Environmental Quality Act (CEQA) Guidelines, § 15386, subdivision (a)]. CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species (Id., § 1802). Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect state fish and wildlife resources.

CDFW is also submitting comments as a Responsible Agency under CEQA (Public Resources Code, § 21069; CEQA Guidelines, § 15381). CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code, including Lake and Streambed Alteration (LSA) regulatory authority (Fish & Game Code, § 1600 et seq.). Likewise, to the extent implementation of the Project as proposed may result in "take" (see Fish & Game Code, § 2050) of any species protected under the California Endangered Species Act (CESA; Fish & Game Code, § 2050 et seq.) or the Native Plant Protection Act (NPPA; Fish & Game Code,

§1900 et seq.), CDFW recommends the project proponent obtain appropriate authorization under the Fish and Game Code.

Project Location: The Project will cover a six-county region including the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura.

Project Description/Objective: The Connect SoCal Project is also known as the 2020 Regional Transportation Plan and Sustainable Communities Strategy (Plan). This Plan is a regional planning document that is updated every four years pursuant to federal and state planning requirements (2016 version is now being updated). A DPEIR will be prepared and focus on the region's goals and policies for meeting current and future mobility needs, that will allow a coordinated transportation system. The DPEIR will identify needs and issues, recommended actions, and a list of projects needed to implement Connect SoCal.

There are three alternatives being looked at under the DPEIR:

1) A no project alternative;

2) 2020 Local Input Alternative. This alternative incorporates general plans to produce growth estimates and only uses policies and strategies incorporated into local jurisdictional plans; and,

3) Intensified Land Use Alternative. This alternative would use aggressive land use development patterns to maximize growth around high quality transit areas.

COMMENTS AND RECOMMENDATIONS

CDFW offers the following comments and recommendations to assist SCAG (Lead Agency) in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct and indirect impacts on fish and wildlife (biological) resources.

CDFW also recommends that SCAG include in the DPEIR measures or revisions below in a science-based monitoring program that contains adaptive management strategies as part of the Project's CEQA mitigation, monitoring and reporting program (Public Resources Code, § 21081.6 and CEQA Guidelines, § 15097).

General Comments

1) Project Description and Alternatives: To enable CDFW to adequately review and comment on the proposed Project from the standpoint of the protection of plants, fish, and wildlife, we recommend the following information be included in the DPEIR:

   a) A complete discussion of the purpose and need for, and description of, the proposed Project, including all staging areas and access routes to the construction and staging areas; and,

   b) A range of feasible alternatives to Project component location and design features to ensure that alternatives to the proposed Project are fully considered and evaluated. The alternatives should avoid or otherwise minimize direct and indirect impacts to sensitive biological resources and wildlife movement areas.

2) LSA: As a Responsible Agency under CEQA, CDFW has authority over activities in streams and/or lakes that will divert or obstruct the natural flow; or change the bed, channel, or bank (including vegetation associated with the stream or lake) of a river or stream; or use material from a streambed. For any such activities, the project applicant (or "entity") must provide written notification to CDFW pursuant to section 1600 et seq. of the Fish and Game Code. Based on this notification and other information, CDFW determines whether a LSA Agreement (Agreement) with the applicant is required prior to conducting the proposed activities. CDFW's issuance of an Agreement for a project that is subject to CEQA will require related environmental compliance actions by CDFW as a Responsible Agency. As a Responsible Agency, CDFW may consider the CEQA document prepared by the local jurisdiction (Lead Agency) for the Project. To minimize additional requirements by CDFW pursuant to section 1600 *et seq.* and/or under CEQA, the DPEIR should fully identify the potential impacts to the stream or riparian resources and provide adequate avoidance, mitigation, monitoring and reporting commitments for issuance of the LSA.[1]

   a) The Project area supports aquatic, riparian, and wetland habitats; therefore, a preliminary jurisdictional delineation of the streams and their associated riparian habitats should be included in the DPEIR. The delineation should be conducted pursuant to the U. S. Fish and Wildlife Service (USFWS) wetland definition adopted by the CDFW.[2] Some wetland and riparian habitats subject to CDFW's authority may extend beyond the jurisdictional limits of the U.S. Army Corps of Engineers' section 404 permit and Regional Water Quality Control Board section 401 Certification.

   b) In areas of the Project site which may support ephemeral streams, herbaceous vegetation, woody vegetation, and woodlands also serve to protect the integrity of ephemeral channels and help maintain natural sedimentation processes; therefore, CDFW recommends effective setbacks be established to maintain appropriately-sized vegetated buffer areas adjoining ephemeral drainages.

   c) Project-related changes in drainage patterns, runoff, and sedimentation should be included and evaluated in the DPEIR.

3) Wetlands Resources: CDFW, as described in Fish & Game Code section 703(a), is guided by the Fish and Game Commission's policies. The Wetlands Resources policy (http://www.fgc.ca.gov/policy/) of the Fish and Game Commission "…seek[s] to provide for the protection, preservation, restoration, enhancement and expansion of wetland habitat in California. Further, it is the policy of the Fish and Game Commission to strongly discourage development in or conversion of wetlands. It opposes, consistent with its legal authority, any development or conversion that would result in a reduction of wetland acreage or wetland habitat values. To that end, the Commission opposes wetland development proposals unless, at a minimum, project mitigation assures there will be 'no net loss' of either wetland habitat values or acreage. The Commission strongly prefers mitigation which would achieve expansion of wetland acreage and enhancement of wetland habitat values."

   a) The Wetlands Resources policy provides a framework for maintaining wetland resources and establishes mitigation guidance. CDFW encourages avoidance of wetland resources

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[1] A notification package for a LSA may be obtained by accessing the CDFW's web site at www.wildlife.ca.gov/habcon/1600.

[2] Cowardin, Lewis M., et al. 1970. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Department of the Interior, Fish and Wildlife Service.

as a primary mitigation measure and discourages the development or type conversion of wetlands to uplands. CDFW encourages activities that would avoid the reduction of wetland acreage, function, or habitat values. Once avoidance and minimization measures have been exhausted, the Project must include mitigation measures to assure a "no net loss" of either wetland habitat values, or acreage, for unavoidable impacts to wetland resources. Conversions include, but are not limited to, conversion to subsurface drains, placement of fill or building of structures within the wetland, and channelization or removal of materials from the streambed. All wetlands and watercourses, whether ephemeral, intermittent, or perennial, should be retained and provided with substantial setbacks, which preserve the riparian and aquatic values and functions for the benefit to on-site and off-site wildlife populations. CDFW recommends mitigation measures to compensate for unavoidable impacts be included in the DPEIR and these measures should compensate for the loss of function and value.

b) The Fish and Game Commission's Water policy guides CDFW on the quantity and quality of the waters of this state that should be apportioned and maintained respectively so as to produce and sustain maximum numbers of fish and wildlife; to provide maximum protection and enhancement of fish and wildlife and their habitat; encourage and support programs to maintain or restore a high quality of the waters of this state; prevent the degradation thereof caused by pollution and contamination; and, endeavor to keep as much water as possible open and accessible to the public for the use and enjoyment of fish and wildlife. CDFW recommends avoidance of water practices and structures that use excessive amounts of water, and minimization of impacts that negatively affect water quality, to the extent feasible (Fish and G. Code, § 5650).

4) CESA: CDFW considers adverse impacts to a species protected by CESA to be significant without mitigation under CEQA. As to CESA, take of any endangered, threatened, candidate species, or State-listed rare plant species that results from the Project is prohibited, except as authorized by state law (Fish and Game Code, §§ 2080, 2085; Cal. Code Regs., tit. 14, §786.9). Consequently, if the Project, Project construction, or any Project-related activity during the life of the Project will result in take of a species designated as endangered or threatened, or a candidate for listing under CESA, CDFW recommends that the Project proponent seek appropriate take authorization under CESA prior to implementing the Project. Appropriate authorization from CDFW may include an Incidental Take Permit (ITP) or a consistency determination in certain circumstances, among other options [Fish and G. Code, §§ 2080.1, 2081, subds. (b) and (c)]. Early consultation is encouraged, as significant modification to a Project and mitigation measures may be required in order to obtain a CESA Permit. Revisions to the Fish and Game Code, effective January 1998, may require that CDFW issue a separate CEQA document for the issuance of an ITP unless the Project CEQA document addresses all Project impacts to CESA-listed species and specifies a mitigation monitoring and reporting program that will meet the requirements of an ITP. For these reasons, biological mitigation monitoring and reporting proposals should be of sufficient detail and resolution to satisfy the requirements for a CESA ITP.

5) Biological Baseline Assessment: To provide a complete assessment of the flora and fauna within and adjacent to the project area, with particular emphasis upon identifying endangered, threatened, sensitive, regionally and locally unique species, and sensitive habitats, the DPEIR should include the following information:

a) Information on the regional setting that is critical to an assessment of environmental impacts, with special emphasis on resources that are rare or unique to the region [CEQA Guidelines, § 15125(c)];

b) A thorough, recent, floristic-based assessment of special status plants and natural communities, following CDFW's *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (see http://www.dfg.ca.gov/habcon/plant/);

c) Floristic, alliance- and/or association-based mapping and vegetation impact assessments conducted at the Project site and within the neighboring vicinity. *The Manual of California Vegetation*, second edition, should also be used to inform this mapping and assessment[3]. Adjoining habitat areas should be included in this assessment where site activities could lead to direct or indirect impacts offsite. Habitat mapping at the alliance level will help establish baseline vegetation conditions;

d) A complete, recent, assessment of the biological resources associated with each habitat type on site and within adjacent areas that could also be affected by the project. CDFW's California Natural Diversity Data Base (CNDDB) in Sacramento should be contacted to obtain current information on any previously reported sensitive species and habitat. CDFW recommends that CNDDB Field Survey Forms be completed and submitted to CNDDB to document survey results. Online forms can be obtained and submitted at http://www.dfg.ca.gov/biogeodata/cnddb/submitting_data_to_cnddb.asp;

e) A complete, recent, assessment of rare, threatened, and endangered, and other sensitive species on site and within the area of potential effect, including California SSC and California Fully Protected Species (Fish and Game Code §§ 3511, 4700, 5050 and 5515). Species to be addressed should include all those which meet the CEQA definition of endangered, rare or threatened species (see CEQA Guidelines § 15380). Seasonal variations in use of the project area should also be addressed. Focused species-specific surveys, conducted at the appropriate time of year and time of day when the sensitive species are active or otherwise identifiable, are required. Acceptable species-specific survey procedures should be developed in consultation with CDFW and the USFWS; and,

f) A recent, wildlife and rare plant survey. CDFW generally considers biological field assessments for wildlife to be valid for a one-year period, and assessments for rare plants may be considered valid for a period of up to three years. Some aspects of the proposed project may warrant periodic updated surveys for certain sensitive taxa, particularly if build out could occur over a protracted time frame, or in phases.

6) Biological Direct, Indirect, and Cumulative Impacts: To provide a thorough discussion of direct, indirect, and cumulative impacts expected to adversely affect biological resources, with specific measures to offset such impacts, the following should be addressed in the DPEIR:

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[3]Sawyer, J. O., Keeler-Wolf, T., and Evens J.M. 2008. A manual of California Vegetation, 2nd ed. ISBN 978-0-943460-49-9.

a) A discussion of potential adverse impacts from lighting, noise, human activity, exotic species, and drainage. The latter subject should address Project-related changes on drainage patterns and downstream of the project site; the volume, velocity, and frequency of existing and post-Project surface flows; polluted runoff; soil erosion and/or sedimentation in streams and water bodies; and, post-Project fate of runoff from the project site. The discussion should also address the proximity of the extraction activities to the water table, whether dewatering would be necessary and the potential resulting impacts on the habitat (if any) supported by the groundwater. Mitigation measures proposed to alleviate such Project impacts should be included;

b) A discussion regarding indirect Project impacts on biological resources, including resources in nearby public lands, open space, adjacent natural habitats, riparian ecosystems, and any designated and/or proposed or existing reserve lands (e.g., preserve lands associated with a Natural Community Conservation Plan (NCCP, Fish and G .Code, § 2800 et. seq.). Impacts on, and maintenance of, wildlife corridor/movement areas, including access to undisturbed habitats in adjacent areas, should be fully evaluated in the DPEIR;

c) An analysis of impacts from land use designations and zoning located nearby or adjacent to natural areas that may inadvertently contribute to wildlife-human interactions. A discussion of possible conflicts and mitigation measures to reduce these conflicts should be included in the DPEIR; and,

d) A cumulative effects analysis, as described under CEQA Guidelines section 15130. General and specific plans, as well as past, present, and anticipated future projects, should be analyzed relative to their impacts on similar plant communities and wildlife habitats.

7) Avoidance, Minimization, and Mitigation for Sensitive Plants: The DPEIR should include measures to fully avoid and otherwise protect sensitive plant communities from Project-related direct and indirect impacts. CDFW considers these communities to be imperiled habitats having both local and regional significance. Plant communities, alliances, and associations with a statewide ranking of S-1, S-2, S-3 and S-4 should be considered sensitive and declining at the local and regional level. These ranks can be obtained by querying the CNDDB and are included in *The Manual of California Vegetation*.

8) Compensatory Mitigation: The DPEIR should include mitigation measures for adverse Project-related impacts to sensitive plants, animals, and habitats. Mitigation measures should emphasize avoidance and reduction of Project impacts. For unavoidable impacts, on-site habitat restoration or enhancement should be discussed in detail. If on-site mitigation is not feasible or would not be biologically viable and therefore not adequately mitigate the loss of biological functions and values, off-site mitigation through habitat creation and/or acquisition and preservation in perpetuity should be addressed. Areas proposed as mitigation lands should be protected in perpetuity with a conservation easement, financial assurance and dedicated to a qualified entity for long-term management and monitoring. Under Government Code section 65967, the lead agency must exercise due diligence in reviewing the qualifications of a governmental entity, special district, or nonprofit organization to effectively manage and steward land, water, or natural resources on mitigation lands it approves.

9) Long-term Management of Mitigation Lands: For proposed preservation and/or restoration, the DPEIR should include measures to protect the targeted habitat values from direct and indirect negative impacts in perpetuity. The objective should be to offset the Project-induced qualitative and quantitative losses of wildlife habitat values. Issues that should be addressed include (but are not limited to) restrictions on access, proposed land dedications, monitoring and management programs, control of illegal dumping, water pollution, and increased human intrusion. An appropriate non-wasting endowment should be set aside to provide for long-term management of mitigation lands.

10) Nesting Birds: CDFW recommends that measures be taken to avoid Project impacts to nesting birds. Migratory nongame native bird species are protected by international treaty under the Federal Migratory Bird Treaty Act (MBTA) of 1918 (Title 50, § 10.13, Code of Federal Regulations). Sections 3503, 3503.5, and 3513 of the California Fish and Game Code prohibit take of all birds and their active nests including raptors and other migratory nongame birds (as listed under the Federal MBTA). Proposed Project activities including (but not limited to) staging and disturbances to native and nonnative vegetation, structures, and substrates should occur outside of the avian breeding season which generally runs from February 1 through September 1 (as early as January 1 for some raptors) to avoid take of birds or their eggs. If avoidance of the avian breeding season is not feasible, CDFW recommends surveys by a qualified biologist with experience in conducting breeding bird surveys to detect protected native birds occurring in suitable nesting habitat that is to be disturbed and (as access to adjacent areas allows) any other such habitat within 300-feet of the disturbance area (within 500-feet for raptors). Project personnel, including all contractors working on site, should be instructed on the sensitivity of the area. Reductions in the nest buffer distance may be appropriate depending on the avian species involved, ambient levels of human activity, screening vegetation, or possibly other factors.

11) Translocation/Salvage of Plants and Animal Species: Translocation and transplantation is the process of moving an individual from the Project site and permanently moving it to a new location. CDFW generally does not support the use of, translocation or transplantation as the primary mitigation strategy for unavoidable impacts to rare, threatened, or endangered plant or animal species. Studies have shown that these efforts are experimental and the outcome unreliable. CDFW has found that permanent preservation and management of habitat capable of supporting these species is often a more effective long-term strategy for conserving sensitive plants and animals and their habitats.

12) Moving out of Harm's Way: The proposed Project is anticipated to result in clearing of natural habitats that support many species of indigenous wildlife. To avoid direct mortality, we recommend that a qualified biological monitor approved by CDFW be on-site prior to and during ground and habitat disturbing activities to move out of harm's way special status species or other wildlife of low mobility that would be injured or killed by grubbing or Project-related construction activities. It should be noted that the temporary relocation of on-site wildlife does not constitute effective mitigation for the purposes of offsetting project impacts associated with habitat loss. If the project requires species to be removed, disturbed, or otherwise handled, we recommend that the DPEIR clearly identify that the designated entity shall obtain all appropriate state and federal permits.

13) Wildlife Movement and Connectivity: The project area supports significant biological resources and is located adjacent to a regional wildlife movement corridor. The project area contains habitat connections and supports movement across the broader landscape, sustaining both transitory and permanent wildlife populations. On-site features that

contribute to habitat connectivity should be evaluated and maintained. Aspects of the Project that could create physical barriers to wildlife movement, including direct or indirect project-related activities, should be identified and addressed in the DPEIR. Indirect impacts from lighting, noise, dust, and increased human activity may displace wildlife in the general Project area.

14) Revegetation/Restoration Plan: Plans for restoration and re-vegetation should be prepared by persons with expertise in southern California ecosystems and native plant restoration techniques. Plans should identify the assumptions used to develop the proposed restoration strategy. Each plan should include, at a minimum: (a) the location of restoration sites and assessment of appropriate reference sites; (b) the plant species to be used, sources of local propagules, container sizes, and seeding rates; (c) a schematic depicting the mitigation area; (d) a local seed and cuttings and planting schedule; (e) a description of the irrigation methodology; (f) measures to control exotic vegetation on site; (g) specific success criteria; (h) a detailed monitoring program; (i) contingency measures should the success criteria not be met; and (j) identification of the party responsible for meeting the success criteria and providing for conservation of the mitigation site in perpetuity. Monitoring of restoration areas should extend across a sufficient time frame to ensure that the new habitat is established, self-sustaining, and capable of surviving drought.

    a) CDFW recommends that local on-site propagules from the Project area and nearby vicinity be collected and used for restoration purposes. On-site seed collection should be initiated in the near future to accumulate sufficient propagule material for subsequent use in future years. On-site vegetation mapping at the alliance and/or association level should be used to develop appropriate restoration goals and local plant palettes. Reference areas should be identified to help guide restoration efforts. Specific restoration plans should be developed for various Project components as appropriate.

    b) Restoration objectives should include providing special habitat elements where feasible to benefit key wildlife species. These physical and biological features can include (for example) retention of woody material, logs, snags, rocks and brush piles (see Mayer and Laudenslayer, 1988[4]).

CONCLUSION

CDFW appreciates the opportunity to comment on the NOP for the Connect SoCal DPEIR. If you have any questions or comments regarding this letter, please contact Kelly Schmoker-Stanphill, Senior Environmental Scientist (Specialist), at (626) 335-9092 or by email at Kelly.schmoker@wildlife.ca.gov.

Sincerely,

FOR Erinn Wilson
Environmental Program Manager I

[4]Mayer, K. E. and W. F. Laudenslayer, Jr. 1988. Editors: A guide to wildlife habitats of California. State California, The Resources Agency, Department of Forestry and Fire Protection, Sacramento, CA.

cc: CDFW
Victoria Tang – Los Alamitos
Andrew Valand – Los Alamitos
Kelly Schmoker – Glendora
Jeffrey Humble- Los Alamitos

Scott Morgan (State Clearinghouse)

Ping Chang, Southern California Association of Governments (chang@scag.ca.gov)

CALIFORNIA
NATIVE PLANT SOCIETY

February 22, 2019

Southern California Association of Governments
Attn: Roland Ok
900 Wilshire Blvd., Ste. 1700
Los Angeles, CA 90017
Submitted via email to: 2020PEIR@scag.ca.gov

RE: Response to the Notice of Preparation for Connect SoCal, the Southern California Association of Government's 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy

Dear Mr. Ok,

Thank you very much for the opportunity to provide scoping comments on the Southern California Association of Government's (SCAG) Programmatic Environmental Impact Report (PEIR) for Connect SoCal: the region's 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy.

The California Native Plant Society ("CNPS") is a non-profit environmental organization with 10,000 members in 35 Chapters across California and Baja California, Mexico. CNPS's mission is to protect California's native plant heritage and preserve it for future generations through the application of science, research, education, and conservation. CNPS works closely with decision-makers, scientists, and local planners to advocate for well-informed policies, regulations, and land management practices.

SCAG continues to play an important role in planning how and where development occurs in Southern California. SCAG is mandated by federal and state laws to produce an RTP/SCS, which dictates how the "region will address its transportation and land use challenges and opportunities in order to achieve its regional emissions standards and Greenhouse Gas (GHG) reduction targets."

At the scoping meetings on February 13, 2019, SCAG staff stated multiple times that the organization has no authority over the permitting/evaluation of individual projects, as this is under the purview of cities and counties. In this context, SCAG essentially claims to play no role in the implementation of a whole host of projects that are both damaging to the environment and local communities. We challenge

SCAG to be a little more creative, and not to downplay its role in guiding where future housing is built in Southern California. The multi-agency body that advises SCAG is intended to inform, advise, and otherwise assist in regional land use. The collective voice of these entities does in fact and by default empower SCAG in decision making. Local decision makers do ultimately have the final authority over projects under their jurisdiction. Nonetheless, many large development projects would not be possible without the building of new roads or the expansion of existing infrastructure. New highway construction, for example, often requires federal funding, and projects cannot receive this funding unless they appear on the project list in an RTP.

Likewise, as detailed in a recent report by the Air Resources Board[1], it will be challenging for California to meet its ambitious greenhouse gas (GHG) emission goals going forward. This is mostly because all of the low hanging fruit for GHG reduction has already been picked. In the coming decades, the state will fail to meet its goals if it does not curb the emissions that result from personal vehicle travel. Organizations like SCAG must exercise their authority and leadership to guide future growth in ways that do not obscure goals that are mandated by state laws including SB-32, AB-32, and SB-375.

As an organization, CNPS is not opposed to the construction of new housing. We favor policies and decisions that support the construction of new, affordable housing that is located close to mass transportation infrastructure, is respectful of existing communities, close to jobs, and that does not endanger precious and irreplaceable ecosystems.

With these thoughts in mind, we provide the following scoping comments to the forthcoming Connect SoCal PEIR:

1. The analysis of the Connect SoCal's impacts to biological resources should include all current data on sensitive biological resources. These data include, but are not limited to, the California Natural Diversity Database[2], CNPS Inventory of Rare, Threatened, or Endangered Plants[3], and the California Department of Fish and Wildlife's Sensitive Natural Communities List[4].

2. There are many areas that have been set aside for the conservation of plants, animals and habitats in Southern California. In many cases, these areas represent a significant investment public of the public's limited resources. In most cases, the conserved lands are intended to preserve and improve Southern California's natural heritage in perpetuity. These protected areas, and the public investment they represent, are not available as sites for transportation corridors, transportation infrastructure, and new development. The avoidance of impacts to these conservation lands should underlie all growth forecasts

[1] CARB, 2018 Status Report, November 2018
[2] CNDDB
[3] CNPS Inventory
[4] CDFW Natural Communities

and projects that are highlighted in Connect SoCal. Among other critical ecosystem services, they provide the watersheds and carbon sequestration lands that southern California requires to meet the challenges of the 21st Century.

All set aside lands must be subject to perpetual covenant of conservation easements that have funded monitoring and land management requirements. The holder of each easement must be an organization or agency, in long standing with the conservation community and capacity to effectively manage the property over decades.

3. Connect SoCal should be consistent with existing and ongoing plans that endeavor to balance development with conservation. These plans include, but are not limited to:

- Natural Community Conservation Plans[5]
- Habitat Conservation Plans[6]
- Region Conservation Investment Strategies[7] (e.g. Antelope Valley, San Bernardino County)
- Regional Conservation Assessments

4. CNPS is creating a statewide map of Important Plant Areas (IPAs)[8]. This data-driven effort identifies areas in California that should be prioritized for conservation actions. In Southern California, we have held workshops in the Mojave/Sonoran Desert and will be holding workshops covering the remainder of the region in the coming year. The data collected in these workshops will be incorporated into a model that will be used to delineate IPAs. Given that Connect SoCal will be produced in the same timeframe as our IPA map for the region we encourage SCAG to incorporate IPAs into the PEIR.

5. SCAG should reevaluate the assumptions underlying the growth models used in Connect SoCal, and confirm that these assumptions are reasonable. Based on this assessment changes should be incorporated into the growth models. Not doing this risks SCAG ending up a situation similar to conundrum that is being faced currently by the San Diego Association of Governments (SANDAG). SANDAG's director[9] recently had to admit that the organization cannot meet state GHG reduction goals given its current transportation plans. Consequently, SANDAG will have to scrap its current RTP/SCS and start over from scratch. This will delay the release of their RTP/SCS until 2022 or possibly later.

6. The baseline GHG reduction analysis should include a detailed accounting of carbon sequestration in natural habitats. The SCAG region both emits and sequesters greenhouse gases. The sequestration of carbon by existing vegetation is critical to the region's GHG reduction goals. Most of this carbon is

[5] NCCP
[6] CDFW Habitat Conservation Planning
[7] CDFW Regional Conservation Planning
[8] CNPS IPA Program
[9] Voice of San Diego, Climate Change and Transportation, February 14, 2019

sequestered in woody vegetation, particularly in montane forests. However, a not insignificant amount of carbon is also sequestered by other habitats including chaparral, desert scrub, grasslands, coastal sage scrub, riparian and wetland ecosystems, naturally-occurring water bodies, and soils. At the same time, carbon sequestration in these habitats may be eliminated by conversion to development and when vegetation is burned during wildfires. Much of the vegetation in the region has been mapped and quantified using Lidar. The PEIR should analyze how much carbon is currently stored in standing vegetation in the plan area. Additionally, the amount of carbon that is sequestered annually should be analyzed alongside the amount that will be lost to development under Connect SoCal's growth models.

All projects should incorporate green building standards, with associated environmental review analyzing GHG emissions potential for proposed construction, buildings, impervious surfaces prior to approval. Climate science indicates that 47-49% of carbon emissions is generated by the built environment and associated heating or cooling functions.

7. The PEIR should analyze assumptions about the water that will be available for future development to ensure that growth projections are in sync with water supplies. We are especially concerned about the potential impacts of the anticipated rationing of water from the Colorado River[10]. It is becoming increasingly likely that a drought emergency will be declared on this water supply in 2019 or 2020. The pending water rationing in Nevada and Arizona will undoubtedly affect the water supply in Southern California due to ongoing negotiations. This tenuous water supply will likely be relied upon by future development projects. Growth forecasts such as the ones used in SCAG models generally assume ample water will be available, as is often the case with "business as usual" models. The above example from the Colorado River illustrates that population growth forecasts should also prepare for a future in which water supplies are scarce.

8. The projects' mitigation funds should be pooled and used to purchase privately owned lands that have good natural values, and/or to help restore already-preserved lands. An example is Orange County's Measure M2. This Freeway Environmental Mitigation Program allocates funds to acquire land and fund habitat restoration projects in exchange for streamlined project approvals for 13 freeway improvement projects. Acquired properties are purchased and permanently preserved as open space. Funded restoration projects restore preserved open space lands to their native habitat and include the removal of invasive plant species[11].

9. Transportation corridors and similar infrastructure should be landscaped with plants native to Southern California. . Use of these commercially available materials host long-term benefits of water savings, lowered maintenance costs, no need for chemical inputs of fertilization and pest control, serve

[10] Voice of San Diego, Colorado River, January 14, 2019
[11] M2 Mitigation Program

as best source pollinators, and provide biotic continuity in the Wildland-Urban Interface. Since native plants are adapted to Southern California's climate, they need irrigation only during an initial 2-year establishment period. Little irrigation beyond natural rainfall is required once most native plants are established. Also, native plant landscaping often results in considerable cost savings over time, as a result of decreased water demands and lower maintenance costs. For more information on the benefits of native plant landscaping please see the ample information available from the CNPS Gardening Program[12].

10. We question some of the very fundamental assumptions about how growth should/will occur in Southern California, both location and type. While some strides have been made to locate new housing within urban boundaries, much of the housing growth in recent years has occurred on the periphery of existing urban areas. Some of these development projects threaten intact ecosystems. Still, other development projects (e.g. the Centennial[13] and Paradise Valley[14] Specific Plans) are located far from existing jobs and mass transportation infrastructure. In type, we question whether there is a single housing market. Rather, there appear to be multiple housing markets for luxury, median income, and affordable housing. While the development industry can readily produce profitable, high-end, single-family homes in subdivisions, these homes are so far out of the reach of most Californians and they do nothing to satisfy the demand for cheaper housing.[15]

In Connect SoCal, SCAG should study the true complexity of the housing markets in Southern California, exercise its leadership to encourage production of affordable housing and discourage leapfrog development and the production of surplus high end homes. Connect SoCal should find ways to incentivize builders to fulfill the demand for lower cost housing. One idea would be to exclude transportation projects from the PEIR if they fail to promote affordable housing and GHG reduction goals.

We could also like to point out that new home sales have decreased drastically in many Southern California markets[16]. We need to question the logic of lead agencies permitting construction of new cities when new homes are not even selling on the heels of ten years of economic growth. Is our current approach to building new housing consistent with the needs of the average Southern California resident? It is one thing to build a large number of new housing units, and an entirely different challenge to build housing where it is needed and at prices that average people can afford. In many ways, this will be the greatest challenge faced by Southern California counties and cities in the coming decades. We see Connect SoCal as an integral part of this solution.

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[12] CNPS Gardening Program
[13] CNPS Website on Centennial
[14] Article on Paradise Valley
[15] Shelterforce Housing Article, February 19, 2019
[16] LA Times Housing Article, January 29, 2019

Lastly, we are concerned about the role that SCAG continues to play in promoting poorly-planned and often destructive development projects in Southern California. A most striking example of this was a quote from SCAG's then-director, Hasan Ikharta, about Los Angeles County's Centennial Specific Plan that appeared the Los Angeles Times in August 2018. In this article[17], Ikharta essentially condones the construction of a new city 65 miles away from downtown Los Angeles with no planned mass transportation. He said "there will not be enough land and not enough cities around … to accommodate more than half of the growth within transit-quality areas." Ikharta even emphasized that "it's not only physically impossible, it's also politically impossible." With that statement coming from SCAG it is no wonder that Southern California continues to destroy native habitats while at the same time failing to meet GHG reduction goals. If the leadership necessary to effect change is not going to come from SCAG, where will it come from?

Thank you once again for the opportunity to provide scoping comments on Connect SoCal. Please feel free to contact me with any questions.

Sincerely,

Nick Jensen, PhD
Southern California Conservation Analyst
California Native Plant Society
2707 K Street, Suite 1
Sacramento, CA 95816
njensen@cnps.org

[17] LA Times, Centennial, August 26, 2018

February 21, 2019

Sent via email to: 2020PEIR@scag.ca.gov

Southern California Association of Governments (SCAG)
900 Wilshire Blvd, Suite 1700
Los Angeles, California 90017

RE: Notice of Preparation of a Program Environmental Impact Report for Connect SoCal (2020-2045 Regional Transportation Plan/Sustainable Communities Strategy)

Dear SCAG:

Friends of Harbors, Beaches, and Parks (FHBP) is a regional non-profit organization that works to protect the natural lands, waterways, and beaches of Orange County. We received the Southern California Association of Governments' (SCAG) Notice of Preparation (NOP) of a Program Environmental Impact Report (PEIR) for the next Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS).

FHBP has been engaged with land use, transportation, and housing issues and the associated impacts to natural lands (protected and unprotected) for last two RTP/SCS cycles. We appreciate the work done to date to advance conservation policies and look forward to continuing our role in this effort with this current iteration.

As it relates to biology and transportation and the impacts of the RTP/SCS, **we encourage a focus on advanced mitigation as a standard practice** or measure. The successes of the Orange County Transportation Authority (OCTA) and its comprehensive mitigation program show the extensive benefits that landscape-level mitigation programs could bring across the six-county-wide region. Notably, CalTrans has begun its own advanced mitigation effort on a statewide level to streamline permitting, reduce project costs, create better conservation outcomes, and reduce delays. We believe mitigation measures should focus on comprehensive programs with a net environmental benefit and improved project outcomes.

Additionally, as it relates to the land use analysis, FHBP participates regularly in the Natural and Farmlands Conservation Working Group under SCAG and **we encourage policies and mitigation measures that cover a wide spectrum of topics**. Too often a specific solution is offered in a geography that doesn't fit that model. For example, urban infill works in urban infill areas—not as easily or at all in suburban or rural areas. And, similarly, rural solutions may not work in suburban or urban areas. Ensuring a wide range of mitigation measures and policies that fit the spectrum of land uses and land areas is important.

P.O. Box 9256 • Newport Beach, CA 92658 • www.FHBP.org • (949) 274-9621

Finally, to comply with AB 32 (Global Warming Solutions Act of 2006) and SB 375 (Sustainable Communities Act of 2008), **we encourage a focus of city-centered, transit-oriented, sustainable mixed-use development**. With the rise of wildland fire occurrences and losses of both life and property locally and throughout the state, more thoughtful land use and public safety planning needs to be a priority to ensure safe communities. As a co-benefit, city-centered development increases the opportunities for transit, pedestrian/bike-friendly streets, and access to basic amenities (groceries, banks, day care, etc.). Increased access to amenities reduces vehicle miles travelled and greenhouse gas emissions, which helps meet the greenhouse gas reduction goals established by the California Air Resources Board. Meeting the goals of AB 32 and SB 375 with more sustainable planning in the land use, housing, and circulation analyses should be a primary focus of the environmental document.

We look forward to reviewing the RTP/SCS in detail and providing additional comments at that time.

Sincerely,

Michael Wellborn
President

Holland & Knight

400 S. Hope Street, 8th Floor | Los Angeles, CA 90071 | T 213.896.2400
Holland & Knight LLP | www.hklaw.com

Jennifer L Hernandez
Jennifer.hernandez@hklaw.com

February 22, 2019

Via electronic mail to: 2020PEIR@scag.ca.gov

Southern California Association of Governments
Attn: Roland Ok, Senior Regional Planner

Re: **Scoping Comments of the Draft Program Environmental Impact Report (PEIR) For Connect SoCal 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy ("SCS")**

Dear Members of the Board, Executive Officers, and Staff:

We represent The 200, an accomplished group of civil rights leaders from all regions of California. The 200 believes minority home ownership is the cornerstone for creating multi-generational economic security, helping students to go to college and seniors to remain independent. The 200 believes that solving the housing crisis, and the housing-induced homelessness and poverty crisis, requires a Marshall Plan for building enough homes available for purchase by California's hard working minority families. The 200 supports public health and the environment, including protecting people from pollution and housing the poor, but these goals may only be equitably achieved if the all civil rights of minority communities are honored, including achieving the American (and California) dream that working families can own their own home.

Unfortunately, government agencies have for decades adopted and implemented racially discriminatory government policies and practices that harm minority home ownership. Four anti-housing measures in the California Air Resource Board's 2017 Scoping Plan are the latest additions to this Hall of Shame, and The 200 has filed a civil rights lawsuit against CARB challenging these discriminatory measures – including CARB's mandated reduction in Vehicles Miles Travelled ("VMT"). A copy of The 200 lawsuit petition is included as Attachment 1, and all arguments made therein against CARB's Scoping Plan mandate that VMT must be reduced even for an increasingly electric and efficient fleet, are hereby restated and submitted as comments on the required scope of the environmental and economic analysis that must be completed by SCAG for the SCS. As described in detail in the lawsuit, and in a followup letter recently submitted on behalf of The 200 to CARB and the California Transportation Commission

(Attachment 2), minority families are disproportionately harmed by the housing crisis, and are forced to "drive until they qualify" for housing they can afford to rent or buy. Poverty and homelessness rates also disproportionately plague minority communities.

We urge SCAG to fully and completely address, in its Program EIR ("PEIR") and accompanying economic analysis, both the feasibility and substantial and discriminatory adverse impacts caused by CARB's ever-more strident and infeasible VMT reduction demands. These are described in greater detail in Attachment 1, and include but are not limited to:

Notwithstanding billions of dollars in transit system expansions, traditional transit services such as fixed bus routes have continued to lose ridership – and fixed rail options that take 20 years to complete include stations proximate to only a small fraction of the homes and residences in the SCAG region. Emerging transit solutions that are growing in popularity and available for today's Californians, such as ride sharing and other app-based point-to-point public and private transit providers, do not reduce VMT. VMT is also a poor metric for greenhouse gas reductions, given California's past achievements and future legal mandates and policy commitments to electric vehicles, and low emission fleets. SCAG's air quality is far better now than it was with the far fewer cars, people, and VMT present in the region in the 1960's – and President Obama's EPA administration confirmed that today's cars are more than 98% cleaner than the pre-Clean Air Act fleet of the 1960's.

Unlike the Clean Air Act, however, which requires the systematic and transparent ranking of emission reduction measures by effectiveness and cost to consumers, CARB has at all times refused to engage in the same level of transparency and consumer accountability for its GHG reductions – and instead leaped to a VMT mandate that profoundly affects the health and welfare of the majority of Californians who now live in the SCAG region.

Again as cited in the lawsuit, poverty scholars from non-partisan organizations like the Brookings Institute have long affirmed that poor families with a car are better able to hold a job, keep their kids in school, and attain greater economic security than families forced to ride the bus. The 200 was supportive of efforts by SCAG staff and other regional transit agencies to dissuade CARB from mandating discriminatory VMT reductions in this next round of SCS targets, and instead establishing greenhouse gas ("GHG") reduction targets.

The 200 does not oppose California's commitment to be a climate leader. However, the entirety of the California economy – the fifth largest in the world – is responsible for less than 1% of global greenhouse gas emissions. As explained in the letter The 200 submitted to CARB and the California Transportation Commission (Attachment 2), this basic mathematical reality is critical to understand the level of increased housing, poverty and homelessness burdens that CARB is willing to inflict on Californians under the banner of addressing of global climate change:

- The only study, completed by a team at UC Berkeley, to quantify the expected benefits of confining all required new housing to existing urbanized areas acknowledged that it

would result in the demolition of "tens if not hundreds of thousands" of single family homes. The study assumed we needed only about two-thirds of the Governor's housing target of 3.5 million new homes, which under the study's methodology would result in the need to demolish hundreds of thousands of existing single family homes. The study also equates 2000 square foot homes with 800 square foot apartments, and assumes that new housing must be downsized from even traditional starter small homes into multi-family small units. SCAG's environmental and economic analysis must identify with specificity, and evaluate all economic and environmental impacts of, this radical demolition agenda – which if past is prologue, will follow the path of destruction by some redevelopment agencies in targeting minority neighborhoods for demolition.

- The displacement of minority communities in high density transit neighborhoods that are upzoned to high densities such as towers has been well-documented in both the SCAG and Bay Area regions. Only the wealthy (or foreign and institutional investors) can afford to buy these high rise condos costing more than $1 million, or rent high rise apartments costing more than $4000 per month. Units in mid- and high rise buildings cost 3-6 times more to construct than small starter homes and town homes: the building type itself is simply unaffordable for average working families. Even more perversely, people wealthy enough to move into these units are certainly wealthy enough to own – and drive – a car. Lower income working families displaced by this development typology are forced to move to more distant locations, where transit solutions are nonexistent and car ownership and use is absolutely required to timely get to jobs and other destinations. This displacement is not color blind: numerous studies now confirm that minority residents are far more likely to be displaced, and forced to more distant suburbs and even out of the region entirely, when high density housing for the wealthy overruns their neighborhood. Nor can this displacement be addressed by directing taxpayer funding to the "missing middle" of workforce housing: with the cost of producing even affordable low income units now surpassing $500,000 per unit in many SCAG markets, numerous experts from the public sector (e.g., the non-partisan) Legislative Analyst's Office and academics have shown that we cannot even make public dollars stretch far enough to address the housing needs of the homeless and very low income families, let alone build housing for the pre-school teachers, first responders, and scores of other occupations forced into 2+ hour commutes each day. The PEIR and accompanying economic analysis must match the affordability of housing to SCAG's growing population, and update the SCS to take into account the real prices, real costs, and real incomes of today.

- Poverty scholars have long confirmed that access to and use of a car is critical for low income families. It is entirely fanciful, if it wasn't so tragic and discriminatory, to accept CARB's doctrinal view that global climate change requires that parents take a two-bus ride with a fevered child to a doctor, or struggle with mid-day bus service gaps to pick up an injured child from school, or pay more than $3000 per month in rent for a tenth story new transit village apartment instead of spending the same amount on a mortgage for a

starter home that enhances family wealth, health and welfare. It is equally uncontested that homeowner households accrue family wealth between 37-45 times higher than rental households. Also uncontested: far less than 10% of jobs are accessible by SCAG commuters in less than 60 minutes on public transit, so even those who do live near an express bus stop are unlikely to be able to get to their job or school – let alone their doctor or grocer – on some later bus stop, which is why fixed bus routes in particular have shown collapsing ridership in the SCAG region and nationally. In the midst of a revolution in transportation services and technology, CARB is demanding that the non-wealthy among us spend hours extra each day away from our families reliant on 19th century transit technology.

- CARB's fixation on discriminatory VMT mandates is unmoored from both global climate change or GHG reductions. CARB has itself acknowledged that the entire California economy contributes less than 1% of global greenhouse gas emissions ("GHG"). CARB's VMT reduction mandate, as quantified by the same UCB study given CARB's refusal to show its own math, will result in less than 1% of CARB's unlegislated goal of reducing GHG in California 80% by 2050. This VMT reduction mandate is absolutely not required, as the CARB Scoping Plan itself shows, to achieve California's legislated target of reducing GHG 40% by 2030. CARB's discriminatory fixation on VMT deprives minority Californians of home ownership and vehicular access that wealthy Californians have long taken for granted is not just bad policy, it is illegal discrimination. We urge SCAG to not collude with CARB in this illegal discrimination. There are scores of alternative measures that can easily result in greater GHG reductions in California that do not discriminate against California's minority communities, from reducing forest fires and increasing renewable energy produced from dead and dying trees, to regulating GHG emissions from imported luxury goods. SB 375 did not give CARB legal authority to mandate reductions in VMT, and all legislative proposals to mandate VMT reductions have been derailed by the Legislature. Given the proven infeasibility of VMT reductions in a growing population and economy, the CARB Board decided in March of 2017 (with support from The 200) to not mandate VMT reductions in the upcoming round of SCS updates. In a breathtaking and arrogant rejection of its own Board decision, CARB staff in December 2018 decreed that staff would solely credit SCAG and other transit authorities with GHG reductions caused by VMT reductions, and not count any other form of GHG reduction achieved in the region. This staff decree is the equivalent of the VMT reduction mandate that the CARB Board rejected, and is simply and completely unlawful.

In addition to the foregoing comments, and the many more detailed comments about the adverse and discriminatory environmental and economic impacts of CARB's VMT and other anti-housing Scoping Plan measures described in the two Attachments, we offer the following comments that are specific to the SCS PEIR and accompanying economic impact analysis:

- The California Environmental Quality Act ("CEQA") Guidelines define "feasible" as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account **economic**, environmental, **legal, social**, **and** technical factors." (emphasis added). Neither the original or current SCS have resulted in adequate housing supplies that are affordable to hard working minority families, nor has it resulted in adequate transportation solutions for the SCAG population. In fact, the trajectory of VMT remains upward, in alignment with population and economic growth. Under CEQA, the PEIR must identify a reasonable range of "feasible" alternatives. Even the existing SCS, let alone an alternative that relies even more on unaffordable high density housing types that have already failed to make a dent in the region's housing crisis, fails as a CEQA alternative because substantial evidence shows that it is in fact not "feasible."

- Similarly, the SCS has been added to – and is linked for CEQA purposes to – the Regional Transportation Plan ("RTP"). SCAG has independent legal obligations under numerous other federal and state transportation and air quality laws to deliver transportation solutions for the region that actually work in practice. After 10 years of SB 375 implementation, and billions of dollars invested in conventional transit modes (bus and rail), ridership on these transit modes continues to decline in the midst of a revolution in transit modes and services. Greenhouse gas emission reductions – the legislated environmental objective of SB 375 – are not dependent on VMT reductions, especially as vehicular fleets are electrified and improved. Again, even the existing SCS, yet alone any higher density and anti-car alternative CARB would like to mandate pursuant to its December 2018 decree, have not in fact produced the level of transportation functionality demanded by SCAG's other legal compliance obligations and are thus legally infeasible.

- Apart from the current list of alternatives failing to meet the CEQA criteria for feasibility, it is critical that the impacts analysis for all topics required to be addressed by CEQA – not just GHG – be given equal and full consideration in the PEIR. CEQA further requires that mitigation measures proposed to lessen or avoid significant adverse impacts, such as the scores of significant unavoidable adverse impacts that even the prior SCS PEIR acknowledged would result from SCS implementation, be "feasible" and meet legal criteria for effectiveness and enforceability. Illusory mitigation through reliance on unenforceable policies, unfunded aspirations, or legally unauthorized future commitments, are not lawful. For example, in some of the more recent discussions of imposing new CEQA mitigation mandates on project-level VMT impacts, it was suggested that new housing units be required to annually fund, in perpetuity, bus passes in perpetuity to offset VMT impacts. Examples provided, such as paying for LAUSD student bus passes, were estimated to cost in excess of $6000 per unit of new housing per year – to be assessed for both rental and homeownership products. Given the overwhelming housing shortage and affordability crisis, as well as worst-in-nation poverty and homeless populations, ANY new mitigation obligations that even indirectly get passed along as new cost burdens to SCAG residents must be honestly described,

quantified, and assessed for feasibility given that more than 40% of today's California households cannot even afford to meet existing expense burdens.

In conclusion, we know that SCAG staff and Board members have been committed to a thorough and honest SCS process, and we commend SCAG for its leadership in attempting to work with CARB and, for example, dissuading the CARB Board from imposing VMT reduction mandates on the SCS. CARB staff, however, has not gotten the message – and while the rest of state and local governments are mobilized to solve the housing crisis and restore equity and economic mobility to all residents, CARB staff pursue the single silo goal of reducing GHG produced in California (and counting Californians who move to higher per capita GHG states like Texas and Nevada as a GHG "reduction" for California GHG accounting purposes) to extremes such as the 80% reduction by 2050 and VMT reduction mandates that have been expressly rejected by the Legislature.

The lawful foundation of this PEIR must begin with "feasible" alternatives, including the "no action" alternative – and be informed by the region's growing population, diverse and robust economy, and "feasible" housing and transportation options that can "feasibly" be implemented based on economic, legal and technical constraints. We are confident that adherence to these core legal mandates of CEQA (and NEPA) will require substantial revisions to the two "No Project" alternatives currently under consideration, and re-scoping of the PEIR with revised alternatives.

Please do not hesitate to contact us if you would like any further clarification on these issues. Also, please include us in stakeholder meetings and notices for the duration of this process.

Thank you for your time and consideration, and for your excellent work on behalf of the region.

Very truly yours,

HOLLAND & KNIGHT LLP

Jennifer L. Hernandez

cc: The 200 Leadership Council

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Attachments

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SUPERIOR COURT OF THE STATE OF CALIFORNIA

COUNTY OF FRESNO

UNLIMITED CIVIL JURISDICTION

THE TWO HUNDRED, an unincorporated association of civil rights leaders, including LETICIA RODRIGUEZ, TERESA MURILLO, and EUGENIA PEREZ, Plaintiffs/Petitioners, v. CALIFORNIA AIR RESOURCES BOARD, RICHARD COREY, in his Official Capacity, and DOES 1-50, Respondents/Defendants.	Case No. 18CECG01494 **FIRST AMENDED[1] VERIFIED PETITION FOR WRIT OF MANDATE; COMPLAINT FOR DECLARATORY AND INJUNCTIVE RELIEF** **[Code Civ. Proc. §§ 1085, 1094.5, 1060, 526; Gov. Code § 12955 *et seq.* (FEHA); 42 U.S.C. § 3601 *et seq.* (FHA); Cal. Const. Art. I, § 7; Art. IV, § 16; U.S. Const. Amd. 14, § 1; 42 U.S.C. § 1983; Pub. Res. Code § 12000 *et seq.* (CEQA); Gov. Code § 11346 *et seq.* (APA); H&S Code § 38500 *et seq.* (GWSA); H&S Code § 39000 *et seq.* (CCAA); Gov. Code § 65088 *et seq.* (Congestion Management Plan)]**

[1] Principal added and revised allegations are at ¶¶ 262-351 and 379 (pages 79-108, 112) below. A full comparison between this First Amended Petition/Complaint and the original Petition/ Complaint, generated using Adobe Acrobat® Compare software, is attached as Exhibit 3.

Table of Contents

Page

I. INTRODUCTION AND SUMMARY OF REQUESTED RELIEF 4

A. California's Greenhouse Gas Policies and Housing-Induced Poverty Crisis 4

B. California's Historical Use of Environmental and Zoning Laws and Regulations to Oppress and Marginalize Minority Communities 10

C. Four New GHG Housing Measures in CARB's 2017 Scoping Plan Are Unlawful, Unconstitutional, and Would Exacerbate the Housing-Induced Poverty Crisis 12

II. JURISDICTION AND VENUE 21

III. PARTIES 22

IV. GENERAL ALLEGATIONS 32

A. California's Statutory Scheme To Reduce Greenhouse Gas Emissions and Avoid Disparate Impacts 32

B. The 2017 Scoping Plan 34

C. CARB's Improper "Cumulative Gap" Reduction Requirement 36

D. The Four New, Unlawful GHG Housing Measures the 2017 Scoping Plan Authorizes 42

1. Unlawful VMT Reduction Requirement 42

2. Unlawful CEQA Net Zero GHG Threshold 48

3. Unlawful Per Capita GHG Targets for Local Climate Action Plans 54

4. Appendix C "Vibrant Communities" Policies Incorporating Unlawful VMT, "Net Zero" and CO2 Per Capita Standards 59

E. CARB's Inadequate Environmental Analysis and Adverse Environmental Effects of the 2017 Scoping Plan 65

1. Deficient Project Description 66

2. Improper Project Objectives 67

3. Illegal Piecemealing 69

4. Inadequate Impact Analysis 69

F. CARB's Insufficient Fiscal Analysis and Failure To Comply with the APA's Cost-Benefit Analyis Requirements 73

G. The Blatantly Discriminatory Impacts of CARB's 2017 Scoping Plan 76

H. CARB'S GHG Housing Measures Are "Underground Regulations" and Ultra Vires 107

Table of Contents (Continued)

Page

FIRST CAUSE OF ACTION (Fair Employment and Housing Act, Gov. Code § 12955 *et seq.*) 108

SECOND CAUSE OF ACTION (Federal Housing Act and HUD Regulations, 42 U.S.C. § 3601 *et seq.*; 24 C.F.R. Part 100) 109

THIRD CAUSE OF ACTION (Denial of Due Process, Cal. Const. Art. I, § 7; U.S. Const. Amd. 14, § 1) 111

FOURTH CAUSE OF ACTION (Denial of Equal Protection, Cal. Const. Art. I, § 7, Art. IV § 16; U.S. Const. Amd. 14, § 1) 111

FIFTH CAUSE OF ACTION (Violations of CEQA, Pub. Res. Code § 21000 *et seq.* and CEQA Guidelines, 14 C.C.R. § 15000 *et seq.*) 112

SIXTH CAUSE OF ACTION (Violations of APA, Gov. Code § 11346 *et seq.*) 116

SEVENTH CAUSE OF ACTION (Violations of the California Global Warming Solutions Act, Health & Safety Code § 38500 *et seq.*) 118

EIGHTH CAUSE OF ACTION (Violations of the Health & Safety Code, § 39000 *et seq.*, including the California Clean Air Act, Stats. 1988, ch. 1568 (AB 2595)) 120

NINTH CAUSE OF ACTION (Violations of the APA – Underground Regulations, Gov. Code § 11340 – 11365) 123

TENTH CAUSE OF ACTION (Ultra Vires Agency Action, Cal. Code of Civil Proc. § 1085) 124

PRAYER FOR RELIEF 126

I. INTRODUCTION AND SUMMARY OF REQUESTED RELIEF

A. California's Greenhouse Gas Policies and Housing-Induced Poverty Crisis

1. California's reputation as a global climate leader is built on the state's dual claims of substantially reducing greenhouse gas ("GHG") emissions while simultaneously enjoying a thriving economy. Neither claim is true.

2. California has made far less progress in reducing GHG emissions than other states. Since the effective date of California's landmark GHG reduction law, the Global Warming Solutions Act,[2] 41 states have reduced per capita GHG emissions by more than California

3. California's lead climate agency, the California Air Resources Board ("CARB"), has ignored California's modest scale of GHG reductions, as well as the highly regressive costs imposed on current state residents by CARB's climate programs.

4. Others have been more forthcoming. Governor Jerry Brown acknowledged in 2017 that the state's lauded cap-and-trade program, which the non-partisan state Legislative Analysist's Office ("LAO") concluded would cost consumers between 24 cents and 73 cents more per gallon of gasoline by 2031,[3] actually "is not that important [for greenhouse gas reduction]. I know that. I'm Mr. 'It Ain't That Much.' It isn't that much. Everybody here [in a European climate change conference] is hype, hype to the skies."[4]

5. Governor Brown's acknowledgement was prompted by a report from Mother Jones—not CARB—that high rainfall had resulted in more hydroelectric power generation from

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[2] The Global Warming Solutions Act of 2006 ("GWSA") is codified at Health and Safety Code ("H&S Code") § 38500 *et seq.* and became effective in 2007. The Act is often referred to as "AB 32", the assembly bill number assigned to the legislation. AB 32 required California to reduce GHG emissions from a "business as usual" scenario in 2020 to the state's 1990 GHG emission level. AB 32 was amended in 2017 by Senate Bill 32 by the same author. SB 32 established a new GHG reduction mandate of 40% below California's 1990 GHG levels by 2030.

[3] LAO, Letter to Assembly Member Fong (Mar. 29, 2017), www.lao.ca.gov/letters/2017/fong-fuels-cap-and-trade.pdf.

[4] Julie Cart, *Weather Helped California's Greenhouse Gas Emissions Drop 5% Last Year*, CALMatters (Dec. 2, 2017), https://timesofsandiego.com/tech/2017/12/02/weather-helped-californias-greenhouse-gas-emissions-drop-5-last-year/.

existing dams than had occurred during the drought, and that this weather pattern resulted in a 5% decrease in California's GHG emissions.[5]

6. GHG emissions data from California's wildfires are also telling. As reported by the *San Francisco Chronicle* (again not CARB), GHG emissions from all California regulatory efforts "inched down" statewide by 1.5 million metric tons (from total estimated emissions of 440 million metric tons),[6] while just one wildfire near Fresno County (the Rough Fire) produced 6.8 million metric tons of GHGs, and other fires on just federally managed forest lands in California emitted 16 million metric tons of GHGs.[7]

7. Reliance on statewide economic data for the false idea that California's economy is thriving conflates the remarkable stock market profits of San Francisco Bay Area technology companies with disparate economic harms and losses suffered by Latino and African American Californians statewide, and by white and Asian American Californians outside the Bay Area.

8. Since 2007, which included both the global recession and current sustained period of economic recovery, California has had the highest poverty rate in the country—over 8 million people living below the U.S. Census Bureau poverty line when housing costs are taken into account.[8] By another authoritative poverty methodology developed by the United Way of California, which counts housing as well as other basic necessities like transportation and medical costs (and then offsets these with state welfare and related poverty assistance programs), about 40% of Californians "do not have sufficient income to meet their basic cost of living."[9] The

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[5] *Ibid.*

[6] California Air Resources Board, 2017 Edition California Greenhouse Gas Inventory for 2000-2015 (June 2017), https://www.arb.ca.gov/cc/inventory/data/data.htm.

[7] David R Baker, *Huge wildfires can wipe out California's greenhouse gas gains,* SF Chronicle, (Nov. 21, 2017), https://www.sfchronicle.com/bayarea/article/Huge-wildfires-can-wipe-out-California-s-12376324.php.

[8] Liana Fox, The Supplemental Poverty Measure: 2016, U.S. Census Bureau Report Number: P60-261, Table A-5 (Sept. 21, 2017), https://www.census.gov/library/publications/2017/demo/p60-261.html; Dan Walters, *Why does California have the nation's highest poverty level?*, CALMatters (Aug. 13, 2017), https://calmatters.org/articles/california-nations-highest-poverty-level/.

[9] Betsy Block et al., Struggling to Get By: The Real Cost Measure in California 2015, United Ways of California (2016), https://www.unitedwaysca.org/realcost.

Public Policy Institute of California used a methodology that also accounts for the cost of living and independently concluded that about 40% of Californians live in poverty.[10]

9. Poverty is just one of several indicators of the deep economic distress affecting California. California also has the highest homeless population, and the highest homelessness rate, in the nation. According to the U.S. Department of Housing and Urban Development, about 25% of the nation's homeless, or about 135,000 individuals, are in California.[11]

10. National homeownership rates have been recovering since the recession levels, but California's rate has plunged to the second lowest in the country—with homeownership losses steepest and most sustained for California's Latinos and African Americans.[12]

11. As shown in Figure 1, with the exception of white and Asian populations in the five-county Bay Area, elsewhere in California—and for Latino and African American residents statewide—incomes are comparable to national averages.

Figure 1

Median Income in 2007 and 2017, White, Asian, Latino and Black Populations

Bay Area, California excluding the Bay Area, and U.S. excluding California

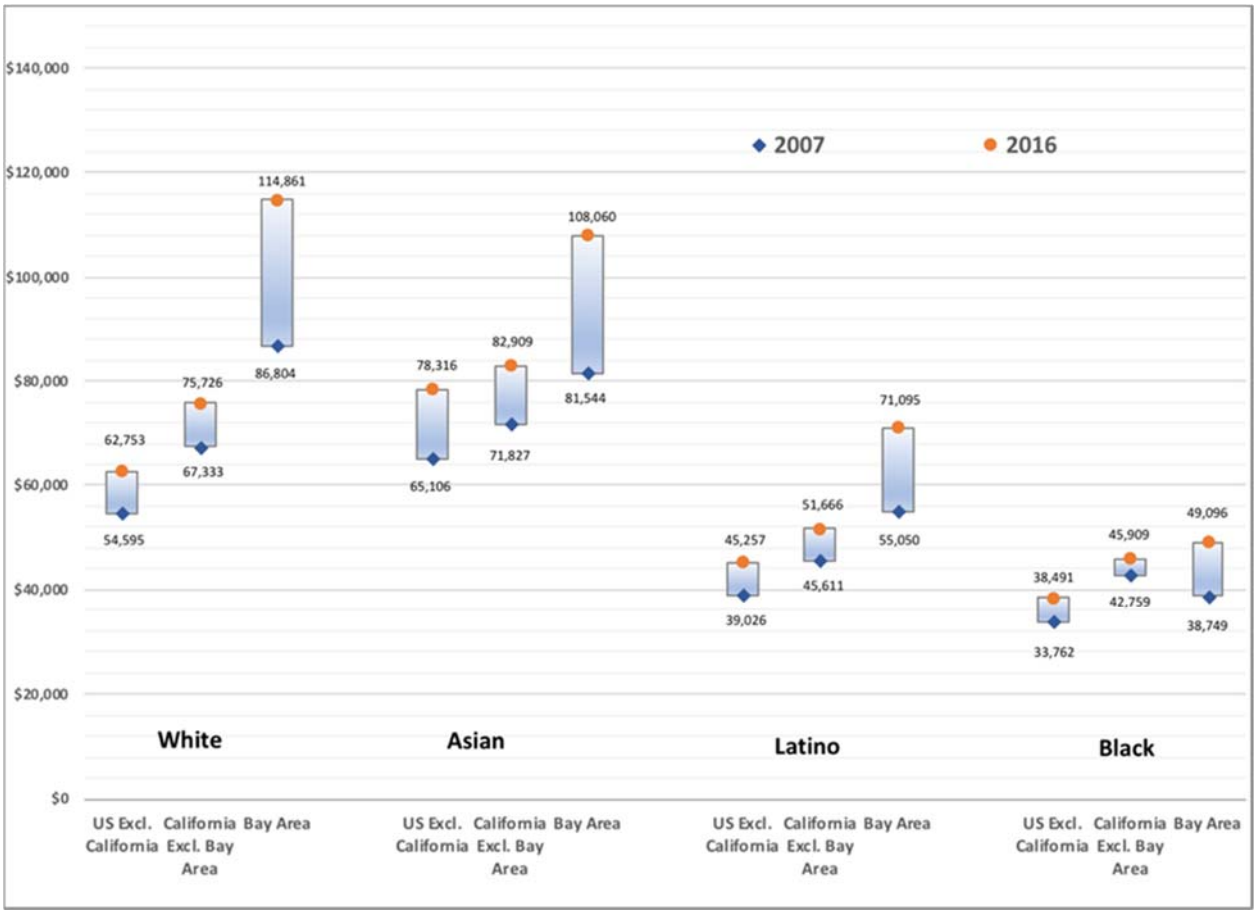
(nominal current dollars)[13]

[10] Public Policy Institute of California, Poverty in California (Oct. 2017), http://www.ppic.org/publication/poverty-in-california/.

[11] U.S. Department of Housing and Urban Development, 2017 Annual Homeless Assessment Report to Congress, https://www.hudexchange.info/resources/documents/2017-AHAR-Part-1.pdf; Kevin Fagan et al., *California's homelessness crisis expands to country*, SF Chronicle (Sept. 8, 2017), https://www.sfchronicle.com/news/article/California-s-homelessness-crisis-moves-to-the-12182026.php.

[12] U.S. Census Bureau, Housing Vacancies and Homeownership (CPS/HVS), Table 16. Homeownership Rates for the 75 Largest Metropolitan Statistical Areas: 2015 to 2017, https://www.census.gov/housing/hvs/data/ann17ind.html. See also 2007 and 2016 American Community Survey 1-Year Estimates, Table B25003 series (Tenure in Occupied housing units), California, https://factfinder.census.gov/.

[13] Median income estimated from household income distributions for 2007 and 2016 American Community Survey 1-Year Estimates, Table B19001 series, https://factfinder.census.gov/ (using the estimation methodology described by the California Department of Finance at http://www.dof.ca.gov/Forecasting/Demographics/Census_Data_Center_Network/documents/How_to_Recalculate_a_Median.pdf).



12. However, Californians pay far higher costs for basic necessities. A national survey of housing, food, medical and other costs conducted by the Council for Community & Economic Research showed that in 2017, California was the second most expensive state in the nation (after Hawaii), and had a cost of living index that was 41% higher than the national average.[14] The LAO reported that "California's home prices and rents are higher than just about anywhere else," with average home prices 2.5 times more than the national average and rents 50% higher than the national average.[15] Californians also pay 58% more in average electricity cost per KWh hour (2016 annual average)[16] and about $0.80 cents more per gallon of gas than the national average.[17]

[14] The 2017 survey by the Council for Community & Economic Research was published by the Missouri Economic Research and Information Center, https://www.missourieconomy.org/indicators/cost_of_living/index.stm.

[15] LAO, California's High Housing Costs: Causes and Consequences (Mar. 17, 2015), http://www.lao.ca.gov/reports/2015/finance/housing-costs/housing-costs.aspx.

[16] U.S. Energy Information Agency, Electric Power Annual, Table 2.10 (Dec. 2, 2017), https://www.eia.gov/electricity/annual/ (showing average annual 2016 prices).

[17] American Automobile Association, Regular Gas Prices, http://gasprices.aaa.com/state-gas-price-averages/, last visited April 25, 2018.

13. These high costs for two basic living expenses—electricity and transportation—are highest for those who live in the state's inland areas (and need more heating and cooling than the temperate coast), and drive farthest to jobs due to the acute housing crisis the LAO has concluded is worst in the coastal urban job centers like the San Francisco Bay Area and Los Angeles.[18]

14. An estimated 138,000 commuters enter and exit the nine-county Bay Area megaregion each day.[19] These are workers who are forced to "drive until they qualify" for housing they can afford to buy or rent.

15. San Joaquin County housing prices in cities nearest the Bay Area, such as Stockton, are about one-third lower, even though commute times to San Jose are 77 minutes each direction (80 miles and 2.5 hour daily commutes), and to San Francisco are 80 minutes (82 miles and 3 hour daily commutes).[20] The median housing price in Stockton is about $286,000—still double the national average of $140,000—while the median housing price in San Jose is over $1,076,000 and in San Francisco is over $1,341,000.[21]

16. California's poverty, housing, transportation and homeless crisis have created a perfect storm of economic hardship that has, in the words of the civil rights group Urban Habitat, resulted in the "resegregation" of the Bay Area.[22] Between 2000 and 2014, substantial African American and Latino populations shifted from central cities on and near the Bay, like San Francisco, Oakland, Richmond and San Jose, to eastern outer suburbs like Antioch, and Central Valley communities like Stockton and Suisun City.[23] As reported:

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[18] LAO, California's High Housing Costs: Causes and Consequences (Mar. 17, 2015), http://www.lao.ca.gov/reports/2015/finance/housing-costs/housing-costs.aspx.

[19] Bay Area Council, Another Inconvenient Truth (Aug. 16, 2016), www.bayareaeconomy.org/report/another-inconvenient-truth/.

[20] Commute times from Google navigation, calculated April 25, 2018.

[21] Zillow, Stockton CA Home Prices & Home Values, https://www.zillow.com/stockton-ca/home-values/; San Jose CA Home Prices and Home Values, https://www.zillow.com/san-jose-ca/home-values/; San Francisco CA Home Prices and Home Values, https://www.zillow.com/san-francisco-ca/home-values/.

[22] Urban Habitat League, Race, Inequality, and the Resegregation of the Bay Area (Nov. 2016), http://urbanhabitat.org/new-report-urban-habitat-reveals-growing-inequality-and-resegregation-bay-area-reflecting-divided; see also LAO, Lower Income Households Moving to Inland California from Coast (Sept. 2015), http://www.lao.ca.gov/LAOEconTax/Article/Detail/133.

[23] *Id.* p. 10-11, Maps 5 and 6.

> Low income communities of color are increasingly living at the expanding edges of our region. . . . Those who do live closer to the regional core find themselves unable to afford skyrocketing rents and other necessities; many families are doubling or tripling up in homes, or facing housing instability and homelessness.[24]

17. Los Angeles (#1) and the Bay Area (#3) are already ranked the worst in the nation for traffic congestion, flanking Washington DC (#2).[25] Yet California's climate leaders have decided to intentionally increase traffic congestion—to lengthen commute times and encourage gridlock—to try to get more people to ride buses or take other form of public transit.[26] This climate strategy has already failed, with public transit ridership—particularly by bus—continuing to fall even as California has invested billions in public transit systems.[27]

18. Vehicle miles travelled ("VMT") by Californians forced to drive ever-greater distances to homes they can afford have also increased by 15% between 2000 and 2015.[28] Serious

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[24] *Id.* p. 2.

[25] INRIX Global Traffic Scorecard (2017), http://inrix.com/scorecard/.

[26] Governor's Office of Planning and Research ("OPR"), Updating Transportation Analysis in the CEQA Guidelines, Preliminary Discussion Draft (Aug. 6, 2014), http://www.opr.ca.gov/docs/Final_Preliminary_Discussion_Draft_of_Updates_Implementing_SB_743_080614.pdf, p. 9 (stating that "research indicates that adding new traffic lanes in areas subject to congestion tends to lead to more people driving further distances. (Handy and Boarnet, "DRAFT Policy Brief on Highway Capacity and Induced Travel," (April 2014).) This is because the new roadway capacity may allow increased speeds on the roadway, which then allows people to access more distant locations in a shorter amount of time. Thus, the new roadway capacity may cause people to make trips that they would otherwise avoid because of congestion, or may make driving a more attractive mode of travel"). In subsequent CEQA regulatory proposals, and in pertinent parts of the 2017 Scoping Plan, text supportive of traffic congestion was deleted but the substantive policy direction remains unchanged. Further, the gas tax approved by the Legislature in 2017 was structured to limit money for addressing congestion to $250 million (less than 1% of the $2.88 billion anticipated to be generated by the new taxes). See Jim Miller, *California's gas tax increase is now law. What it costs you and what it fixes.* Sacramento Bee (April 28, 2017), http://www.sacbee.com/news/politics-government/capitol-alert/article147437054.html.

[27] See, e.g., Bay Area Metropolitan Planning Commission, Transit Ridership Report (Sept. 2017), http://www.vitalsigns.mtc.ca.gov/transit-ridership (showing transit ridership decline on a per capita basis by 11% since 1990 with per capita bus boardings declining by 33%); see also University of California Institute for Transportation Studies, Falling Transit Ridership: California and Southern California (Jan. 2018), https://www.scag.ca.gov/Documents/ITS_SCAG_Transit_Ridership.pdf (showing Los Angeles regional public transit decline).

[28] TRIP, California Transportation by the Numbers (Aug. 2016), https://mtc.ca.gov/sites/default/files/CA_Transportation_by_the_Numbers_TRIP_Report_2016.pdf.

adverse health impacts to individual commuters,[29] as well as adverse economic impacts to drivers and the California economy,[30] from excessive commutes have also worsened.

19. In 2016 and 2017, the combination of increased congestion and more VMT reversed decades of air quality improvements in California, and caused increased emissions of both GHG and other traditional air pollutants that cause smog and other adverse health effects,[31] for which reductions have long been mandated under federal and state clean air laws.

20. In short, in the vast majority of California, and for the whole of its Latino and African American populations, the story of California's "thriving" economy is built on CARB's reliance on misleading statewide averages, which are distorted by the unprecedented concentration of stock market wealth created by the Bay Area technology industry.

21. For most Californians, especially those who lost their home in the Great Recession (with foreclosures disproportionately affecting minority homeowners),[32] or who never owned a home and are struggling with college loans or struggling to find a steady job that pays enough to cover California's extraordinary living costs, CARB's assertion that California is a booming, "clean and green" economy is a distant fiction.

B. California's Historical Use of Environmental and Zoning Laws and Regulations to Oppress and Marginalize Minority Communities

22. The current plight of minority communities in California is the product of many decades of institutional racism, perpetuated by school bureaucrats of the 1940's who defended the "separate but equal" system, highway bureaucrats of the 1950's who targeted minority neighborhoods for demolition to make way for freeway routes, urban planning bureaucrats in the

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[29] Carolyn Kylstra, *10 Things Your Commute Does to Your Body*, Time Magazine (Feb. 2014), http://time.com/9912/10-things-your-commute-does-to-your-body/.

[30] TRIP, California Transportation by the Numbers (Aug. 2016), https://mtc.ca.gov/sites/default/files/CA_Transportation_by_the_Numbers_TRIP_Report_2016.pdf (stating that traffic congestion is estimated to cost California $28 billion, including lost time for drivers and businesses, and wasted fuels).

[31] Next 10, 2017 CA Green Innovation Index (Aug. 22, 2017), http://next10.org/sites/default/files/2017-CA-Green-Innovation-Index-2.pdf.

[32] Gillian White, *The Recession's Racial Slant,* Atlantic Magazine (June 24, 2015), https://www.theatlantic.com/business/archive/2015/06/black-recession-housing-race/396725/.

1960's who destroyed minority communities in pursuit of redevelopment, and those who enabled decades of "redlining" practices by insurance and banking bureaucrats aimed at denying minorities equal access to mortgages and home insurance.[33]

23. Environmental regulators are no less susceptible to racism and bias than other regulators. Members of The Two Hundred had to intervene when environmental regulators threatened to block construction of the UC Merced campus, which is the only UC campus in the Central Valley and serves the highest percentage of Latino students of any UC campus.[34]

24. Members of The Two Hundred also had to intervene to require environmental regulators to establish clear standards for the cleanup of contaminated property that blighted many minority neighborhoods, where cleanup and redevelopment could not be financed without the standards that virtually all other states had already adopted.[35]

25. Racial bias in environmental advocacy organizations, including those that heavily lobbied CARB in 2017 Scoping Plan proceedings, was also confirmed in an influential study funded by major foundations that contribute to such organizations.[36]

[33] See Richard Rothstein, Color of Law: A Forgotten History of How Our Government Segregated America (2017).

[34] UC Merced's Latino undergraduates comprise 53% of the student population, compared to the 21% rate of Latino undergraduate enrollment for the UC system as a whole. University of California System Enrollment (2017), https://www.universityofcalifornia.edu/infocenter/fall-enrollment-glance; UC Merced Fast Facts 2017-2018, https://www.ucmerced.edu/fast-facts; see also John Gamboa, Greenlining Institute, Brownfields, UC Merced, and Fighting for Environmental Equity (March 2018), http://greenlining.org/blog/2018/brownfields-uc-merced-fighting-environmental-equity/.

[35] John Gamboa, Greenlining Institute, Brownfields, UC Merced, and Fighting for Environmental Equity (Mar. 2018), http://greenlining.org/blog/2018/brownfields-uc-merced-fighting-environmental-equity/.

[36] Dorceta E. Taylor, Ph.D., The State of Diversity in Environmental Organizations: Mainstream NOGs, Foundations & Government Agencies (July 2014), http://vaipl.org/wp-content/uploads/2014/10/ExecutiveSummary-Diverse-Green.pdf.

26. Additional studies have confirmed racial bias in environmental organizations, and in media reports on environmental issues.[37] As the newest President of the Sierra Club Board of Directors, African American Aaron Mair recently confirmed: "White privilege and racism within the broader environmental movement is existent and pervasive."[38]

27. The simple fact is that vast areas of California, and disproportionately high numbers of Latino and African American Californians, have fallen into poverty or out of homeownership, and California's climate policies guarantee that housing, transportation and electricity prices will continue to rise while "gateway" jobs to the middle class for those without college degrees, such as manufacturing and logistics, will continue to locate in other states.

C. Four New GHG Housing Measures in CARB's 2017 Scoping Plan Are Unlawful, Unconstitutional, and Would Exacerbate the Housing-Induced Poverty Crisis

28. Defendant/Respondent CARB is the state agency directed by the Legislature to implement SB 32, which requires the State to set a target to reduce its GHG emissions to forty percent below 1990 levels by 2030 ("2030 Target").

29. CARB adopts a "Scoping Plan" every five years, as described in the GWSA. The most recent Scoping Plan sets out the GHG reduction measures that CARB finds will be required to achieve the 2030 Target ("2017 Scoping Plan"). The 2017 Scoping Plan was approved in December 2017.

30. The most staggering, unlawful, and racist components of the 2017 Scoping Plan target new housing. The Plan includes four measures, challenged in this action, that increase the cost and litigation risks of building housing, intentionally worsen congestion (including commute

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[37] See, e.g., Nikhil Swaminathan, *The Unsustainable Whiteness of Green*, Moyers & Company (June 30, 2017), https://billmoyers.com/story/unsustainable-whiteness-green/; Jedidiah Purdy, *Environmentalism's Racist History,* The New Yorker (Aug. 13, 2015), https://www.newyorker.com/news/news-desk/environmentalisms-racist-history; Brentin Mock, *The Green Movement Is Talking About Racism? It's About Time*, Outside Magazine (Feb. 27, 2017), https://www.outsideonline.com/2142326/environmentalism-must-confront-its-social-justice-sins.

[38] Nikhil Swaminathan, *The Unsustainable Whiteness of Green*, Moyers & Company (June 30, 2017), https://billmoyers.com/story/unsustainable-whiteness-green/

times and vehicular emissions) for workers who already spend more than two hours on the road instead of with their families, and further increase the cost of transportation fuels and electricity.

31. These newly-adopted measures (herein the "GHG Housing Measures") are: (A) The new VMT mandate; (B) The new "net zero" CEQA threshold; (C) The new CO2 per capita targets for local climate action plans for 2030 and 2050; and (D) The "Vibrant Communities" policies in Appendix C to the 2017 Scoping Plan, to the extent they incorporate the VMT, net zero and new CO2 per capita targets.[39]

32. The presumptive "net zero" GHG threshold requires offsetting GHG emissions for all new projects including housing under CEQA, the "Vibrant Communities" measures include limiting new housing to the boundaries of existing developed communities, and a mandate to substantially reduce VMT even for electric vehicles by (among other means) intentionally increasing congestion to induce greater reliance on buses and other transit modes.

33. The development of, and the measures included in, the 2017 Scoping Plan was required to be informed by an environmental analysis ("EA") pursuant to the California Environmental Quality Act (Pub. Res. Code § 21000 *et seq.*) ("CEQA"), and an economic fiscal analysis ("FA") as mandated by both the GWSA and the Administrative Procedure Act, Gov. Code § 11346 *et seq.* ("APA").

34. However, in one of many examples of the lack of analysis in the 2017 Scoping Plan and related documents, CARB does not disclose the GHG emission reductions it expects from the GHG Housing Measures. The Scoping Plan also omits any economic analysis that accounts for the cost of these measures on today's Californians, and omits any environmental analysis of the Plan's effects on existing California communities and infrastructure.

35. CARB concluded that in 2017 California's entire economy will emit 440 million metric tons of GHGs per year, and that California will need to reduce emissions by 181.8 million

[39] While CARB styled the GHG Housing Measures as "guidelines", they are self-implementing and unlawful underground regulations. All other components of the 2017 Scoping Plan will be implemented as regulations, such as the Cap and Trade program and low carbon fuel standard, and thus will undergo a formal rulemaking process. However, CARB refused to undertake the same legislatively-mandated public process for the four GHG Housing Measures.

metric tons to meet the 2030 Target. Notwithstanding widespread reports, and public and agency concern about the housing crisis, the homelessness crisis, the housing-induced poverty crisis, and the transportation crisis (collectively referred to herein as the "housing crisis"), neither the 2017 Scoping Plan, nor the environmental or economic analyses, disclose how much of this 181.8 million metric ton GHG reduction must or even may be achieved by constructing the at least three million new homes that experts,[40] and all candidates for Governor,[41] agree California must produce to resolve the current housing shortfall.

36. The core elements of the Scoping Plan related to housing call for new housing in California's existing communities (which comprise 4% of California's lands), with smaller multi-family units instead of single family homes located near public transit to reduce VMT. The 2017 Scoping Plan does not contemplate the need for any new regulations to implement this housing regime. Instead, it includes expert agency conclusions about how CEQA, a 1970 environmental law, must be implemented to achieve California's statutory climate change mandates as well as the unlegislated 2050 GHG reduction goal (80% reduction from 1990 GHG emissions by 2050) included in various Executive Orders from California Governors.

37. The best available data on the actual GHG reductions that will be achieved by the Scoping Plan's GHG Housing Measures is the "Right Type, Right Place" report, prepared by a multi-disciplinary team of housing and environmental law experts at the University of California, Berkeley, that examined some of the consequences from the housing crisis solution embedded in the 2017 Scoping Plan's GHG Housing Measures ("UCB Study").[42]

[40] Jonathan Woetzel et al., Closing California's Housing Gap, McKinsey Global Institute (Oct. 2016), https://www.mckinsey.com/global-themes/urbanization/closing-californias-housing-gap.

[41] Liam Dillon, *We asked the candidates how they planned to meet housing production goals. Here's how they responded*, LA Times (March 6, 2018), http://www.latimes.com/politics/essential/la-pol-ca-essential-politics-updates-we-asked-the-candidates-how-they-planned-1520382029-htmlstory.html.

[42] Nathaniel Decker et al., Right Type Right Place: Assessing the Environmental and Economic Impacts of Infill Residential Development through 2030, U.C. Berkeley Terner Center for Housing Innovation and Center for Law, Energy and the Environment (Mar. 2017), https://ternercenter.berkeley.edu/right-type-right-place.

38. The UCB Study anticipates constructing only 1.9 million new homes, less than two-thirds of California's 3.5 million shortfall identified by other experts. The Study examines the continuation of existing housing production, which is dominated by single family homes with fewer than 1% of Californians living in high rise structures, and compares this with a changed housing pattern that would confine new housing to the boundaries of existing cities and towns and replace traditional single family homes with smaller apartments or condos (thereby equating 2,000 square foot homes with 800 square foot apartments).

39. The UCB Study concludes that high rise and even mid-rise (e.g., six story) buildings are far more costly to build on a per unit basis than single family homes—three to five time higher—and are thus infeasible in most markets for most Californians. The Study thus recommends focusing on less costly housing units such as quadplexes (four units in two-story buildings) and stacked flats (one or two units per floor, generally limited to four stories)—which are still approximately 30% more costly than single family homes on a per unit basis.

40. The UCB Study then concludes that it would be possible for California to build all 1.9 million new homes in existing communities with these small multi-family structures, but to confine all new units to the 4% of California that is already urbanized would require the demolition of "tens, if not hundreds of thousands, of single family homes." The Study does not quantify the GHG emissions from such massive demolition activities, nor does it identify any funding source or assess any non-GHG environmental, public service, infrastructure, historic structure, school, traffic, or other impact associated with this new housing vision.

41. Unlike CARB's 2017 Scoping Plan, the UCB Study does quantify the GHG reductions to be achieved by remaking California's existing communities and housing all Californians harmed by the current housing crisis in small apartments. With this new housing future, California will reduce annual GHG emissions by 1.79 million metric tons per year, less than 1% of the 181.8 million metric tons required to meet the 2030 Target in SB 32.

42. The Scoping Plan's new CEQA provisions, which have already been cited as CEQA legal mandates by opponents to a Los Angeles County housing project called

"Northlake,"[43] would increase still further the cost of new housing (and thereby make it even less affordable to California's minority and other families). Since new housing—especially infill housing—is already the top target of CEQA lawsuits statewide,[44] the GHG Housing Measures will encourage even more anti-housing lawsuits, with attendant increases in project litigation costs and construction delays, as well as vehement opposition from existing residents.

43. CEQA lawsuits also disproportionately target multi-family housing such as apartments in existing urbanized "infill" locations. In a recent 3-year study of all CEQA lawsuits filed statewide, the approximately 14,000 housing units challenged in the six county region comprising the Southern California Association of Governments ("SCAG"), which includes Los Angeles, Orange, San Bernadino, Ventura, Imperial, and Riverside counties and all cities within those counties, SCAG determined that 98% of the challenged housing units were located in existing urbanized areas, 70% were within areas designated for transit-oriented high density development, and 78% were located in the whiter, wealthier and healthier areas of the region (outside the portions of the regions with higher minority populations, poverty rates, pollution, and health problems associated with adverse environmental conditions such as asthma).[45]

44. CEQA lawsuit petitioners also have an unusually high success rate against the cities and other government agencies responsible for CEQA compliance. A metastudy of administrative agency challenges nationally showed that agencies win approximately 70% of such cases. In contrast, three different law firm studies of CEQA reported appellate court opinions showed that CEQA petitioners prevailed in almost 50% of such cases.[46]

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[43] Center for Biological Diversity, Letter to Los Angeles County (April 16, 2018), http://planning.lacounty.gov/assets/upl/case/tr073336_correspondence-20180418.pdf.

[44] Jennifer L. Hernandez, California Environmental Quality Act Lawsuits and California's Housing Crisis, 24 Hastings Envtl. L.J. (2018), https://www.hklaw.com/files/Uploads/Documents/Articles/121317_HELJ_Jennifer_Hernandez.pdf.

[45] Jennifer Hernandez, David Friedman, Stephanie DeHerrera, In the Name of the Environment Update: CEQA Litigation Update for SCAG Region (2013-2015) (Jul. 2016), p. 31-34, https://www.hklaw.com/files/UPloads/Documents/Alerts/Environment/InfillHousingCEQALawsuits.pdf.

[46] Jennifer Hernandez, Spencer Potter, Dan Golub, Joanna Meldrum, CEQA Judicial Outcomes: Fifteen Years of Reported California Appellate and Supreme Court Decisions (2015), p. 3-4, 10, https://www.hklaw.com/files/Uploads/Documents/Articles/0504FINALCEQA.pdf.

45. As noted by senior CEQA practitioner William Fulton, "CEQA provides a way for anybody who wants anything out of a public agency to get some leverage over the situation – whether that's unions, environmentalists, businesses, developers, and even local governments themselves."[47]

46. As the founder of California's first law firm focused on filing CEQA lawsuit petitions, E. Clement Shute, recently reported when accepting a lifetime environmental law firm award from the California State Bar Environmental Section:

> Moving to the bad and ugly side of CEQA, projects with merit that serve valid public purposes and not be harmful to the environment can be killed just by the passage of the time it takes to litigate a CEQA case.
>
> In the same vein, often just filing a CEQA lawsuit is the equivalent of an injunction because lenders will not provide funding where there is pending litigation. This is fundamentally unfair. There is no need to show a high probability of success to secure an injunction and no application of a bond requirement to offset damage to the developer should he or she prevail.
>
> CEQA has also been misused by people whose move is not environmental protection but using the law as leverage for other purposes. I have seen this happen where a party argues directly to argue lack of CEQA compliance or where a party funds an unrelated group to carry the fight. These, in my opinion, go to the bad or ugly side of CEQA's impact.[48]

47. African American radio host and MBA, Eric L. Frazier, called this climate-based CEQA housing regime "environmental apartheid" since whiter, wealthier and older homeowners were less likely to be affected, while aspiring minority homeowners were likely to be denied housing even longer based on community opposition to widespread density increases and destruction of single family homes, bear even higher housing costs given the absence of funding

[47] William Fulton, Insight: Everyone wants to keep leverage under CEQA, California Planning & Development Report (Sept. 30, 2014), http://www.cp-dr.com/node/3585.

[48] E. Clement Shute, Jr., Reprise of Fireside Chat, Yosemite Environmental Law Conference, 25 Envtl Law News, 3 (2016).

sources to expand and replace undersized infrastructure and public services, and never be within reach of purchasing a family home.[49]

48. CARB's 2017 Scoping Plan, and its required CEQA analysis, also provide no assessment of alternatives for achieving the only 1% reduction in GHG emissions that the new housing future will accomplish from other sectors or sources, which could avoid adverse impacts to California's minority communities, avoid increased housing costs and CEQA litigation risks, and avoid impacting existing California communities by—for example—allowing urbanization of even 1% more of California's land.

49. CARB also ignores a history of success in reducing traditional pollutants from cars, as required by the federal and state Clean Air Acts, while preserving the transportation mobility of people and goods. U.S. Environmental Protection Agency ("EPA") reported in 2016 that most auto tailpipe pollutants had declined by 98-99% in comparison to 1960's cars, gasoline got cleaner with the elimination of lead and reduction in sulfur, and even though it had not been directly regulated, the primary GHG from cars (carbon dioxide) has risen nationally by less than 20% even as VMT nationally more than doubled as a co-benefit of mandatory reductions of traditional pollutants.[50]

50. In contrast to this success, CARB's VMT reduction scheme and its ongoing efforts to intentionally increase congestion are an assault on the transportation mobility of people, which disparately harm minority workers who have been forced by the housing crisis to drive ever greater distances to work.

51. CARB staff's response to The Two Hundred's December 2017 comment letter on the 2017 Scoping Plan is plain evidence of the intentional concealment and willful omission of the true impacts of the 2017 Scoping Plan and the GHG Housing Measures on California. CARB

[49] Eric L. Frazier, The Power is Now, Facebook Live Broadcast (Feb. 28, 2018), https://thepowerisnow.com/events/event/jennifer-hernandez/.

[50] U.S. EPA, Historic Success of the Clean Air Act (2016), https://www.epa.gov/air-pollution-transportation/accomplishments-and-success-air-pollution-transportation.

staff said that GHG Housing Measures were in a separate chapter and thus not part of the 2017 Scoping Plan after all.[51]

52. California's climate change policies, and specifically those policies that increase the cost and delay or reduce the availability of housing, that increase the cost of transportation fuels and intentionally worsen highway congestion to lengthen commute times, and further increase electricity costs, have caused and will cause unconstitutional and unlawful disparate impacts to California's minority populations, which now comprise a plurality of the state's population. These impacts also disproportionately affect younger Californians including millennials (the majority of whom are minorities), as well as workers without college degrees.

53. In short, in the midst of California's unprecedented housing, homeless, poverty and transportation crisis, CARB adopted a 2017 Scoping Plan which imposes still higher housing, transportation and electricity costs on Californians. CARB did so without disclosing or assessing the economic consequences or the significant adverse environmental consequences of its GHG Housing Measures on California residents.

54. In doing so, CARB again affirmed its now-wanton and flagrant pattern of violating CEQA—a pattern consistent with what an appellate court termed "ARB's lack of good faith" in correcting earlier CEQA violations as ordered by the courts.

55. The GHG Housing Measures have a demonstrably disproportionate adverse impact on already-marginalized minority communities and individuals, including but not limited to Petitioners LETICIA RODRIGUEZ, TERESA MURILLO and EUGENIA PEREZ, who are Latina residents of Fresno County that are personally, directly and disproportionately adversely affected by the affordable housing shortage and the future exacerbation of that shortage if the GHG Housing Measures are allowed to remain in effect.

56. The Legislature has recognized the equal right to access to housing, *inter alia*, in the California Fair Employment and Housing Act (Gov. Code § 12900 *et seq.*) ("FEHA"). FEHA

[51] Supplemental Responses to Comments on the Environmental Analysis Prepared for the Proposed Strategy for Achieving California's 2030 Greenhouse Gas Target (Dec. 14, 2017), p. 14-16, https://www.arb.ca.gov/cc/scopingplan/final-supplemental-rtc.pdf.

§ 12921(b) provides that: "The opportunity to seek, obtain, and hold housing without discrimination because of race, color, . . . source of income . . . or any other basis prohibited by Section 51 of the Civil Code is hereby recognized and declared to be a civil right."

57. California's housing crisis is particularly acute, and has long-lasting adverse impacts. As the Director of the California Department of Housing and Community Development, Ben Metcalf, recently reported: "Research has been unequivocal in supporting two undeniable conclusions: Low-income households paying more than half their income in rent have profoundly reduced expenditures on food, retirement, health care, and education compared with non–rent-burdened households. And children growing up in neighborhoods of concentrated poverty are more likely to have psychological distress and health problems."[52]

58. The 2017 Scoping Plan is also violative of the due process and equal protection clauses of the California and U.S. Constitutions (Cal. Const. Art. I, § 7, U.S. Const., Amd. 14, § 1). Accordingly, Petitioners in this action seek declaratory and injunctive relief from these violations pursuant to 42 U.S.C. § 1983. The GHG Housing Measures are thus unconstitutional on their face and as applied to Petitioners.

59. While the unlawful and unconstitutional disparate impact of the GHG Housing Measures on minority communities, including Petitioners, is the most egregious feature of the regulations, there are numerous other flaws, *each* of which is fatal to the 2017 Scoping Plan and the GHG Housing Measures. As detailed herein, these include violations of CEQA, the APA, the GWSA, the California Health and Safety Code, including the California Clean Air Act (H&S Code § 39607 *et seq.*) ("CCAA"), and the California Congestion Management Act (Gov. Code § 65088 *et seq.*). Moreover, CARB has acted in excess of its statutory authority (ultra vires).

60. The GHG Housing Measures are unlawful both procedurally (because they were adopted in violation of numerous statutory requirements, including but not limited to CEQA) and substantively (because they frustrate and violate a wide range of state and federal laws and regulations prohibiting housing regulations that have an unjustified discriminatory effect).

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[52] Donna Kimura, Pop Quiz with Ben Metcalf, Affordable Housing Finance (July 8, 2016), http://www.housingfinance.com/news/pop-quiz-with-ben-metcalf_o.

61. California's commitment to climate leadership does not require or allow CARB to violate the civil rights of California's minority communities, or constitutional and statutory mandates for clean air, fair housing, historic preservation, consumer protection, transportation mobility, CEQA, or administrative rulemaking.

62. With climate change repeatedly described as a "catastrophe" that could destroy civilizations, perhaps it is necessary for CARB to plunge more of California's minority residents into poverty and homelessness. If so—if climate change requires that the state ignore civil rights, federal and state clean air, fair housing, transportation and consumer protection mandates, and ignore the administrative law checks and balances that require a thorough environmental and economic assessment of regulatory proposals—then this is a conclusion that may only be implemented by the Legislature, to the extent it can do so consistent with the California and federal Constitutions.

63. For this reason, this action seeks declaratory and injunctive relief setting aside the four GHG Housing Measures, each of which places a disproportionate burden on California's minority community members, including Petitioners, and for the court to direct CARB to complete a thorough economic and environmental analysis prior to adopting any new regulations or taking other actions to implement the 2017 Scoping Plan, and to return to this court with a revised Scoping Plan that complies with state and federal law.

II. JURISDICTION AND VENUE

64. This Court has jurisdiction over this proceeding pursuant to California Code of Civil Procedure ("CCP") §§ 410.10, 1085, 1094.5, 526, *et seq.* and 1060. Defendants are subject to personal jurisdiction because their new GHG Housing Measures would, if allowed to remain in effect, pertain to Petitioners and others located within the County of Fresno. Defendants may be properly be served here, and jurisdiction and venue are proper here under CCP § 401, because Defendants are being sued in their official capacities as members of an agency of the State of California, and the Attorney General maintains an office in Fresno, California and the GHG regulations complained of herein have an effect in, and apply in, the County of Fresno, California.

III. PARTIES

65. Petitioners/Plaintiffs THE TWO HUNDRED are a California-based unincorporated association of community leaders, opinion makers and advocates working in California (including in Fresno County) and elsewhere on behalf of low income minorities who are, and have been, affected by California's housing crisis and increasing wealth gap.[53]

66. The Two Hundred is committed to increasing the supply of housing, to reducing the cost of housing to levels that are affordable to California's hard working families, and to restoring and enhancing home ownership by minorities so that minority communities can also benefit from the family stability, enhanced educational attainment over multiple generations, and improved family and individual health outcomes, that white homeowners have long taken for granted. The Two Hundred includes civil rights advocates who each have four or more decades of experience in protecting the civil rights of our communities against unlawful conduct by government agencies as well as businesses.

67. The Two Hundred supports the quality of the California environment, and the need to protect and improve public health in our communities.

68. The Two Hundred have for many decades watched with dismay decisions by government bureaucrats that discriminate against and disproportionately harm minority communities. The Two Hundred have battled against this discrimination for entire careers, which for some members means working to combat discrimination for more than 50 years. In litigation and political action, The Two Hundred have worked to force two government bureaucrats to reform policies and programs that included blatant racial discrimination—by for example denying minority veterans college and home loans and benefits that were available to white veterans, and promoting housing segregation as well as preferentially demolishing homes in minority communities.

69. The Two Hundred sued and lobbied and legislated to force federal and state agencies to end redlining practices that denied loans and insurance to aspiring minority home

[53] See www.the200leaders.org.

buyers and small businesses. The Two Hundred sued and lobbied to force regulators and private companies to recognize their own civil rights violations, and end discriminatory services and practices, in the banking, telecommunication, electricity, and insurance industries.

70. The Two Hundred have learned, the hard way, that California's purportedly liberal, progressive environmental regulators and environmental advocacy group lobbyists are as oblivious to the needs of minority communities, and are as supportive of ongoing racial discrimination in their policies and practices, as many of their banking, utility and insurance bureaucratic peers.

71. Several years ago, The Two Hundred waged a three year battle in Sacramento to successfully overcome state environmental agency and environmental advocacy group opposition to establishing clear rules for the cleanup of the polluted properties in communities of The Two Hundred, and experienced first-hand the harm caused to those communities by the relationships between regulators and environmentalists who financially benefited from cleanup delays and disputes instead of creating the clear, understandable, financeable, insurable, and equitable rules for the cleanup and redevelopment of the polluted properties that blighted these communities.

72. THE TWO HUNDRED's members include, but are not limited to, members of and advocates for minority communities in California, including the following:

- Joe Coto- Joe Coto is Chair of THE TWO HUNDRED. Mr. Coto is an American educator, city council member, and Democratic politician. From 2004-2010, he was a member of the California State Assembly, representing the 23rd Assembly District. He served as Chair of the Assembly's Insurance committee, and held positions on the Elections and Redistricting, Governmental Organization, and Revenue and Taxation committees. He also served on the Special committee on Urban Education. Coto served as Chair of the 26 member Latino Legislative Caucus for a 2-year term, and as Vice Chair for a 2-year term..
- John Gamboa – John Gamboa is Vice-Chair of THE TWO HUNDRED. Mr. Gamboa is the former Executive Director of the Greenlining Institute and has experience in academia, the private sector and the non-profit sector. Prior to the

Greenlining Institute, he was Executive Director of Latino Issues Forum, Communications Manager at U.C. Berkeley, Executive Director of Project Participar, a citizenship program, and Marketing and Advertising Manager at Pacific Bell. At the Greenlining Institute, Mr. Gamboa focuses on public policy issues that promote economic development in urban and low-income areas, and in developing future leaders within the country's minority youth. He has been active in combating redlining and in providing a voice for the poor and underserved in insurance, philanthropy, banking, housing, energy, higher education and telecommunications. He has served on numerous boards and commissions.

- Cruz Reynoso – Cruz Reynoso, now retired, formerly served as Legal Counsel for THE TWO HUNDRED. Mr. Reynoso has dedicated his life to public service championing civil rights, immigration and refugee policy, government reform, and legal services for the poor. Mr. Reynoso began his career in private practice then moved to public service as the assistant director of the California Fair Employment Practices Commission, the associate general counsel of the Equal Employment Opportunity Commission, and head of the California Rural Legal Assistance (CRLA). Mr. Reynoso was a faculty member at the University of New Mexico School of Law and in 1976, he was appointed associate justice of the California Courts of Appeal. In 1982, he became the first Latino to be appointed an associate justice of the California Supreme Court. Mr. Reynoso later returned to private practice, and resumed his teaching career by joining the UCLA School of Law and then the UC Davis School of Law. Mr. Reynoso has served as Vice Chair of the U.S. Commission on Civil Rights, was a member of the Select Commission on Immigration and Human Rights, and received the Presidential Medal of Freedom.
- José Antonio Ramirez – José Antonio Ramirez is a Council Member of THE TWO HUNDRED. He has dedicated his life to public service, especially for the residents

of the Central Valley, seeking to improve economic vitality, strengthen community life, and increase educational opportunities and housing affordability for all Californians, including disadvantaged members of the Latino community. He currently serves as President of Community Development Inc. and as City Manager for the City of Livingston. He was previously Program Manager, International Affairs Coordinator and Security Engineer and Emergency Management Coordinator for the U.S. Bureau of Reclamation. He served on the San Joaquin River Resource Management board, the Valley Water Alliance Board and as Chairman of the Technical Review Boards for Merced and Fresno County.

- Herman Gallegos – Herman Gallegos is a Council Member of THE TWO HUNDRED. He has provided active leadership in a wide variety of community, corporate and philanthropic affairs spanning local, national and international interests. As a pioneer civil rights activist in the early 1950s, Gallegos was a leader in the formation of the Community Service Organization, a civil rights-advocacy group organized to promote the empowerment and well-being of Latinos in California. In 1965, while serving as a Consultant to the Ford Foundation's National Affairs Program, Gallegos, with Dr. Julian Samora and Dr. Ernesto Galarza, made an assessment with recommendations on how the foundation might initiate support to address the critical needs of the rapidly growing Latino population in the U.S.. As a result, he was asked to organize a new conduit for such funds—the Southwest Council of La Raza, now the National Council of La Raza. Gallegos went on to become the council's founding executive director. Gallegos also served as CEO of several business firms, including the U. S. Human Resources Corporation and Gallegos Institutional Investors Corporation. He became one of the first Latinos elected to the boards of publicly traded corporations and the boards of preeminent private and publicly supported philanthropic organizations, such as the Rockefeller Foundation, The San Francisco Foundation, The Poverello Fund and the California Endowment.

- Hyepin Im – Hyepin Im is a Council Member of THE TWO HUNDRED. She currently serves as the Founder and President of Korean Churches for Community Development (KCCD) whose mission is to help churches build capacity to do economic development work. Under Ms. Im's leadership, KCCD has implemented a historic homeownership fair in the Korean community, a Home Buyer Center Initiative with Freddie Mac, a national database and research study on Korean American churches, and ongoing training programs. Previously, Ms. Im was a venture capitalist for Renaissance Capital Partners, Sponsorship and Community Gifts Manager for California Science Center, a Vice President with GTA Consulting Company, and a Consultant and Auditor with Ernst & Young LLP. Ms. Im serves on the Steering Committee of Churches United for Economic Development, as Chair for the Asian Faith Commission for Assemblymember Herb Wesson, and has served as the President of the Korean American Coalition, is a member of the Pacific Council, was selected to be a German Marshall Fund American Memorial Marshall Fellow, and most recently, was selected to take part in the Harvard Divinity School Summer Leadership Institute.
- Don Perata – Don Perata is a Council Member of THE TWO HUNDRED. Mr. Perata began his career in public service as a schoolteacher. He went on to serve on the Alameda County Board of Supervisors (1986-1994) and the California State Assembly (1996-1998). In 1998, he was elected to the California State Senate and served as president pro tem of the Senate from 2004-2008. As president pro tem, Mr. Perata oversaw the passage of AB 32, California's cap and trade regulatory scheme to reduce greenhouse gases. Mr. Perata has guided major legislation in health care, in-home services, water development and conservation and cancer, biomedical and renewable energy. Mr. Perata has broad experience in water, infrastructure, energy, and environmental policies, both as an elected official and a consultant. He is versed in the State Water Project, Bay Delta restoration,

renewable energy, imported water and water transfers, recycling, conservation, groundwater regulation, local initiative, storage and desalination.

- Steven Figueroa – Steven Figueroa is a Council Member of THE TWO HUNDRED. He was born in East L. A., with a long history in California. Working on his first political campaign at age nine he learned that if you want change you have to be involved. As an adult he was involved in the labor movement through the California School Employees Association and later as a union shop steward at the U.S.P.S. A father of three, Steven has been advocating for children with disabilities for 30 years, beginning in 1985, for his own son, who is autistic. He took the Hesperia School District to court for violating his disabled son's rights and prevailed. He advocates for disabled children throughout the United States, focusing on California. Currently, he serves as president of the Inland Empire Latino Coalition and sits on the advisory boards of California Hispanic Chambers of Commerce, the National Latina Business Women Association Inland Empire the Disability Rights and Legal Center Inland Empire, and as Executive Director for Latin PBS. He previously served as the vice president of the Mexican American Political Association Voter Registration & Education Corp.
- Sunne Wright McPeak – Sunne McPeak is a Council Member of THE TWO HUNDRED. She is the President and CEO of the California Emerging Technology Fund, a statewide non-profit whose mission is to close the Digital Divide by accelerating the deployment and adoption of broadband. She previously served for three years as Secretary of the California Business, Transportation and Housing Agency where she oversaw the largest state Agency and was responsible for more than 42,000 employees and a budget in excess of $11 billion. Prior to that she served for seven years as President and CEO of the Bay Area Council, as the President and CEO of the Bay Area Economic Forum, and for fifteen years as a member of the Contra Costa County Board of Supervisors. She has led numerous statewide initiatives on a variety of issues ranging from water, to housing, to child

care, and served as President of the California State Association of Counties in 1984. She was named by the San Francisco League of Women Voters as "A Woman Who Could Be President." She also served on the Boards of Directors of First Nationwide Bank and Simpson Manufacturing Company.

- George Dean – George Dean is a Council Member of THE TWO HUNDRED. Mr. Dean has been President and Chief Executive Officer of the Greater Phoenix Urban League since 1992. As such, he has brought a troubled affiliate back to community visibility, responsiveness and sound fiscal accountability. Mr. Dean, a former CEO of the Sacramento, California and Omaha, Nebraska affiliates boasts more than 25 years as an Urban League staff member. His leadership focuses on advocacy toward issues affecting the African-American and minority community, education, training, job placement and economic development. Mr. Dean annually raises more than 3 million dollars from major corporations, local municipalities and state agencies for the advancement of minority enterprises, individuals, families and non-profits. Mr. Dean is nationally recognized in the field of minority issues and advancement, and affordable housing.
- Joey Quinto – Joey Quinto is a Council Member of THE TWO HUNDRED. Mr. Quinto's has made many contributions to the advancement of the API community. He began his professional career as a mortgage banker. As a publisher, his weekly newspaper advances the interests of the API community and addresses local, consumer and business news, and community events. He is a member of several organizations including the Los Angeles Minority Business Opportunity Committee and The Greenlining Coalition. Mr. Quinto is the recipient of the Award for Excellence in Journalism during the Fourth Annual Asian Pacific Islander Heritage Awards in celebration of the Asian Pacific Islander American Heritage Month. He was also listed among the Star Suppliers of the Year of the Southern California Regional Purchasing Council, received the Minority Media

Award from the U.S. Small Business Administration, and earned a leadership award from the Filipino American Chamber of Commerce based in Los Angeles.

- Bruce Quan, Jr. – Bruce Quan is a Council Member of THE TWO HUNDRED. Mr. Quan is a fifth generation Californian whose great grandfather, Lew Hing founded the Pacific Coast Canning Company in West Oakland in 1905, then one of the largest employers in Oakland. Bruce attended Oakland schools, UC Berkeley, and Boalt Hall School of Law. At Berkeley, he was a community activist for social justice, participated in the Free Speech Movement and the Vietnam Day Committee and was elected student body president. In 1973, he was chosen as one of three students to clerk for the Senate Watergate Committee and later returned to Washington to draft the "Cover-up" and "Break-in" sections of the committee's final report. He worked in the Alameda's City Attorney office, his own law practice advising Oakland's Mayor Lionel Wilson on economic development issues in Chinatown and serving Mayor Art Agnos as General Counsel for the San Francisco-Shanghai Sister City Committee and the San Francisco-Taipei Sister City Committee. In 2000, he moved to Beijing, continued his law practice, worked as a professor with Peking Law School, and became senior of counsel with Allbright Law Offices. Now in Oakland, he has reengaged in issues affecting the Chinese community and on issues of social justice, public safety and economic development in Oakland.
- Robert J. Apodaca – Robert Apodaca is a Council Member of THE TWO HUNDRED. He is a Founder of ZeZeN Advisors, Inc., a boutique financial services firm that connects institutional capital with developers and real estate owners. He has a 45-year career that spans private and public sectors. He was Chairman and Trustee of Alameda County Retirement Board (pension fund) and then joined Kennedy Associates, an institutional investor for pension funds as Senior Vice President & Partner. He represented Kennedy Companies on Barings Private Equity's "Mexico Fund" board of directors. He later joined McLarand

Vasquez Emsiek & Partners, a leading international architectural and planning firm, as Senior Vice President of Business Development. He currently serves on numerous board of directors including Jobs and Housing Coalition, Greenlining Institute, California Community Builders and California Infill Federation.

- Ortensia Lopez – Ortensia Lopez is a Council Member of THE TWO HUNDRED. She is a nationally recognized leader in creating coalitions, collaboratives and partnerships, resulting in innovative initiatives that ensure participation for low-income communities. Ms. Lopez has worked in the non-profit sector for over forty-one years in executive management positions. She is the second of 11 children born to parents from Mexico and the first to graduate from college. She currently serves on the California Public Utilities Commission's Low-Income Oversight Board, as Co-Chairperson and founding member of the Greenlining Institute, as Vice-President Chicana/Latina Foundation, as Director of Comerica Advisory Board, and on PG&E's Community Renewables Program Advisory Group. Ms. Lopez has earned numerous awards, including Hispanic Magazine's "Hispanic Achievement Award", San Francisco's "ADELITA Award", the prestigious "Simon Bolivar Leadership Award", the League of Women Voters of San Francisco "Woman Who Could Be President" award, California Latino Civil Rights Network award, and the Greenlining Lifetime Achievement.
- Frank Williams – Frank Williams is a Council Member of THE TWO HUNDRED. He is an established leader in the mortgage banking industry, with over 25 years of experience, and is an unwavering advocate for creating wealth through homeownership for underrepresented communities. Frank began his real estate finance career in 1990, emphasizing Wholesale Mortgage Banking. He founded Capital Direct Funding, Inc. in 2009. Today, as Co-founder and Divisional Manager, Mr. Williams has made Capital Direct Funding into California's premier private lending firm. Capital Direct Funding's foundations are built on giving back to the community by supporting several non-profits. He

currently serves as President of East LA Classic Theater, a non-profit that works with underserved school districts in California. Frank was also Past President for Los Angeles' National Association of Hispanic Real Estate Professionals.

- Leticia Rodriguez - Leticia Rodriguez is a resident of Fresno County, California. She is a low-income single mother and Latina who suffers ongoing personal harm from the severe shortage of housing that is affordable to working-class families. Within the last three years, she has spent more than 30% of her income on rent. She has been forced to move into her parents' home because she cannot afford a decent apartment for herself and her family.
- Teresa Murillo – Teresa Murillo is a resident of the City of Parlier in Fresno County, California. She is a young Latina with a low income. In recent years, she has spent approximately 30% of her income on housing. She currently is unable to afford a decent apartment and has been forced to move back in with her parents.
- Eugenia Perez – Eugenia Perez is a resident of Fresno County, California. She is a Latina grandmother. The majority of her income goes to pay rent. She currently is renting a room on E. Fremont Avenue in Fresno. She struggles to pay rent and lives in fear of becoming homeless if housing prices and rent continue to increase.

73. Defendant CALIFORNIA AIR RESOURCES BOARD is an agency of the State of California. On information and belief, current members of the CALIFORNIA AIR RESOURCES BOARD are: Mary D. Nichols, Sandra Berg, John R. Balmes, Hector De La Torre, John Eisenhut, Dean Flores, Eduardo Garcia, John Gioia, Ricardo Lara, Judy Mitchell, Barbara Riordan, Ron Roberts, Phil Serna, Alexander Sherriffs, Daniel Sperling, and Diane Takvorian.

74. Defendant RICHARD COREY, sued herein in his official capacity, is Executive Officer of the CALIFORNIA AIR RESOURCES BOARD.

75. Petitioners are ignorant of the true names or capacities of the defendants sued herein under the fictitious names DOES 1 through 20 inclusive. When their true names and capacities are ascertained, Petitioners will amend this Petition/Complaint to show such true names and capacities. Petitioners are informed and believe, and thereon allege, that DOES 1 through 20,

inclusive, and each of them, are agents or employees of one or more of the named Defendants responsible, in one way or another, for the promulgation and prospective enforcement of the GHG Housing Measures sought to be invalidated and set aside herein.

IV. GENERAL ALLEGATIONS

A. California's Statutory Scheme To Reduce Greenhouse Gas Emissions and Avoid Disparate Impacts

76. As part of developing solutions to global warming, the California Legislature adopted the California Global Warming Solutions Act of 2006 (otherwise known as "AB 32" or the "GWSA") and established the first comprehensive greenhouse gas regulatory program in the United States. H&S Code § 38500 *et seq.*

77. Under AB 32, CARB is the state agency charged with regulating and reducing the sources of emissions of GHGs that cause global warming. H&S Code § 38510.

78. AB 32 required CARB to set a statewide GHG emissions limit equivalent to California's 1990 GHG emissions to be achieved by 2020. H&S Code § 38550.

79. AB 32 also required CARB to prepare, approve, and periodically update a scoping plan detailing how it would achieve the maximum technologically feasible and cost-effective GHG emissions reductions by 2020. H&S Code § 38561(a). The scoping plan is required to identify and make recommendations on direct emissions reductions measures, alternative compliance mechanisms, market-based compliance mechanisms, and potential monetary and nonmonetary incentives for sources to achieve reductions of GHGs by 2020. H&S Code § 38561(b). The scoping plan must be updated at least every five years. H&S Code § 38561(h).

80. In adopting a scoping plan, CARB must evaluate the total potential costs and total potential benefits of the plan to California's economy, environment, and public health. H&S Code § 38561(d).

81. Each scoping plan update also must identify, for each emissions reduction measure, the range of projected GHG emissions reductions that result from the measure, the range of projected air pollution reductions that result from the measure, and the cost-effectiveness, including avoided social costs, of the measure. H&S Code § 38562.7.

82. The initial scoping plan[54] was discussed in public hearings on or about December 11, 2008. The initial scoping plan was adopted by CARB on or about May 7, 2009.

83. On or about December 23, 2009, the initial scoping plan was challenged in the Superior Court for the City and County of San Francisco for failing to meet the statutory requirements of AB 32, the APA, and CEQA. The superior court accepted the challenge in part and the appeal was thereafter resolved after a further environmental document was filed.[55]

84. The Low Carbon Fuel Standard ("LCFS") was an early action item under AB 32. The LCFS was adopted on or about November 25, 2009 by CARB's executive officer. CARB's action to adopt the LCFS also was challenged for CEQA and APA violations. On or about November 2011, the Superior Court of Fresno County found that CARB had not violated the APA or CEQA. On or about July 15, 2013 the Fifth District Court of Appeal reversed the superior court's judgment and ordered it to issue a preemptory writ of mandate ordering CARB to revise and recertify its environmental assessment to meet CEQA's standards.[56]

85. The first update to the scoping plan[57] was adopted on or about May 22, 2014.

86. Thereafter, on or about May 30, 2017, the Fifth District Court of Appeal again found that CARB had violated CEQA and the APA, and that it had not acted in good faith in responding to certain of the Court's prior orders.[58] Specifically, the court found that CARB violated CEQA in deferring its analysis and mitigation of potential increases in nitrogen oxide emissions resulting from impacts of the LCFS regulations.

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[54] California Air Resources Board, Climate Change Scoping Plan (Dec. 2008), https://www.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf.

[55] *Ass'n. of Irritated Residents v. Cal. Air Res. Bd.*, 2011 WL 8897315 (Cal. Super. May 20, 2011) (approving challenges to alternatives analysis and improper "pre-approval" under CEQA) and *Ass'n. of Irritated Residents v. Cal. Air Res. Bd.* (2012) 206 Cal.App.4th 1487.

[56] *POET, LLC v. California Air Resources Board* (2013) 217 Cal.App.4th 1214 (holding that CARB prematurely approved the LCFS and improperly deferred analysis and mitigation of potential NOx emissions increased by the rule).

[57] California Air Resources Board, First Update to the Climate Change Scoping Plan (May 2014), https://www.arb.ca.gov/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf.

[58] *POET, LLC v. State Air Resources Board* (2017) 12 Cal.App. 5th 52.

87. In 2016, the California Legislature adopted SB 32, which required CARB to ensure that rules and regulations adopted pursuant to the GWSA would target California's GHG emissions for reductions of 40% below 1990 levels by 2030. H&S Code § 38566.

88. AB 32 requires CARB to update the scoping plan at least every five years. CARB superseded its 2014 Scoping Plan with the current 2017 Scoping Plan adopted on December 14, 2017. The 2017 Scoping Plan contains the new GHG Housing Measures complained of herein.[59]

89. Between December, 2017 and mid-April, 2018, Petitioners, through counsel, sought to persuade CARB to eliminate or materially modify the four new GHG Housing Measures complained of herein, without success. During this time, the parties entered into a series of written tolling agreements that were continuously operative until April 30, 2018.

B. The 2017 Scoping Plan

90. Throughout 2016 and 2017, CARB prepared the 2017 Scoping Plan. CARB held meetings on or about January 27, 2017, February 16-17, 2017 and December 14, 2017 to accept public comment on the proposed 2017 Scoping Plan.

91. Because the Scoping Plan is both sweeping and vague, and because it was not preceded by a notice of proposed rulemaking, Petitioners THE TWO HUNDRED, *et al.* did not initially appreciate the significance of the new GHG regulations and standards embedded in the 2017 Scoping Plan by CARB staff.

92. Petitioners submitted a detailed letter commenting on the 2017 Scoping Plan on December 11, 2017, in advance of CARB's meeting to vote on the 2017 Scoping Plan.[60] The letter included extensive citations to documents and publications analyzing California's ongoing housing crisis and the disproportionate impact of the worsening housing shortage on marginalized minority communities.

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[59] California Air Resources Board, The 2017 Climate Change Scoping Plan Update (Jan. 20, 2017), https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf.

[60] The Two Hundred Comment Letter dated Dec. 11, 2017, can be found in the Supplemental Responses to Comments on the Environmental Analysis Prepared for the Proposed Strategy for Achieving California's 2030 Greenhouse Gas Target (Dec. 14, 2017), p. 74, https://www.arb.ca.gov/cc/scopingplan/final-supplemental-rtc.pdf

93. On December 14, 2017, CARB adopted the 2017 Scoping Plan.

94. While the 2017 Scoping Plan is replete with protestations to the effect that it is only providing "guidance" rather than a "directive or mandate to local governments" (see, e.g., Scoping Plan, p. 99), it is plain that CARB's pronouncements on the GHG Housing Measures, by their nature, will be given the force and effect of law. Numerous courts have stated that when an agency has specific expertise in an area and/or acts as lead or responsible agency under CEQA, and publishes guidance, that guidance must be taken into consideration and will be given heavy weight.

95. In *California Building Industry Assn. v. Bay Area Air Quality Mgmt. Dist.* (2016) 2 Cal.App.5th 1067, 1088, the court rejected the notion that the District's CEQA guidelines were a nonbinding, advisory document. The court stated that the guidelines suggested a routine analysis of air quality in CEQA review and were promulgated by an air district that acts as either lead or responsible agency on projects within its jurisdictional boundaries.

96. In addition, in *Center for Biological Diversity v. Cal. Dept. of Fish and Wildlife* (2015) 62 Cal.4th 204, 229, the court recognized the value of "performance based standards" as CEQA thresholds, as outlined in the Scoping Plan or other authoritative body of regulations.

97. Further, in *Cleveland Nat. Forest Foundation, et al v. San Diego Assoc. of Governments* (2017) 3 Cal.5th 497, 515, the court held that even though the 2050 Executive Order was not an adopted GHG reduction plan and there was no legal requirement to use it as a threshold of significance, that was not dispositive of the issue. Although lead agencies have discretion in designing an Environmental Impact Report ("EIR") under CEQA, the court stated that the exercise of that discretion must be "based to the extent possible on scientific and factual data" and thus the scientific basis for the Executive Order's and CARB's emission reduction goals must be considered in a CEQA analysis.

98. Thus, because CEQA documents must take a long term view of GHG compliance and because of the deference and weight other agencies are required to give to CARB guidance, the measures alleged to be "guidance" are in reality self-implementing regulations having an immediate "as applied" effect.

99. The LAO also has recognized that CARB's Scoping Plans include "a wide variety of regulations intended to help the state meet its GHG goal…"[61]

C. CARB's Improper "Cumulative Gap" Reduction Requirement

100. In AB 32, the Legislature directed CARB to reduce statewide GHG emissions to 1990 levels by 2020 via measures in the first Scoping Plan. This legislative mandate is simple and uncontested. CARB concluded that California's GHG emissions were 431 million metric tons of carbon dioxide equivalent ("$MMTCO_2e$") in 1990.

101. SB 32 established the more stringent mandate of reducing GHG emissions to 40% below 1990 levels by 2030, even though California's population and economic activities are expected to continue to increase during this period. The 2030 Target is simple math: 40% below 431 $MMTCO_2e$ equals 258.6 $MMTCO_2e$.[62] Thus, the 2017 Scoping Plan created measures to reduce statewide emissions to 260 MMTCO2e by 2030.

102. The 2017 Scoping Plan first evaluates the "Reference Scenario", which is the emissions expected in 2030 by continuing "Business as Usual" and considering existing legal mandates to reduce GHG emissions that have been implemented, but without adopting any new GHG reduction measures. The Scoping Plan concludes that in this scenario California's GHG .emissions will fall to 389 MMTCO2e by 2030.

103. Because numerous GHG reduction mandates are being phased in over time, CARB also evaluated a "Known Commitments Scenario" (which CARB confusingly named the "Scoping Plan Scenario") which estimates GHG emissions in 2030 based on compliance with all legally required GHG reduction measures, including those that have not yet been fully implemented. Under the "Known Commitments Scenario" the 2017 Scoping Plan concludes that California's GHG emissions will fall to 320 MMTCO2e by 2030.

[61] LAO, Cap-and-Trade Revenues: Strategies to Promote Legislative Priorities (Jan. 21, 2016), http://www.lao.ca.gov/reports/2016/3328/cap-trade-revenues-012116.pdf, at p. 5-6.

[62] CARB generally rounds this to 260 MMTCO2e.

104. Given that SB 32 required a reduction to 260 MMTCO2e, this left a gap of 60 MMTCO2e for which CARB was required to identify measures in the 2017 Scoping Plan in the "Known Commitments Scenario" and 129 MMTCO2e in the "Reference Scenario".

105. CARB declined to comply with this legislated mandate, and instead invented a different "cumulative gap" reduction requirement which requires far more GHG emission reductions.

106. Neither the Scoping Plan nor any of its appendices explain how this "cumulative gap" reduction requirement was derived, and the methodology and assumptions CARB used can only be located in one of several modeling spreadsheets generally referenced in the plan.

107. CARB's unlegislated "cumulative gap" requirement is based on the unsupportable assumption that state emissions must decline in a fixed trajectory from 431 $MMTCO_2e$ in 2020 to 258.6 MMTCO2e in 2030 despite the fact that SB 32 does not require that the state reach the 2030 Target in any specific way. CARB arbitrarily created the "cumulative gap" requirement by summing the annual emissions that would occur from 2021-2030 if emissions declined in a straight line trajectory, which totaled 3,362 MMTCO2e, as follows:

	Annual emissions based on a straight line trajectory from 2020 to 2030 ($MMTCO_2e$)
2020	431.0
2021	413.8
2022	396.5
2023	379.3
2024	362.0
2025	344.8
2026	327.6
2027	310.3
2028	293.1
2029	275.8
2030	258.6
2021-2030 Cumulative Emissions	3,362

108. CARB then summed the annual emissions projected to occur from 2021-2030 under the "Reference Scenario" without the implementation of the measures included in the "Known Commitments Scenario," as 3,982 MMTCO2e.

109. CARB then subtracted the cumulative "Reference Scenario" emissions (3,982 $MMTCO_2e$) from the cumulative emissions based on the straight line trajectory (3,362 $MMTCO_2e$) and illegally used the difference, 621 $MMTCO_2e$, as a new, unlegislated GHG "cumulative gap" reduction requirement.

Year	"Reference Scenario" Annual Emissions ($MMTCO_2e$)
2020	415.8
2021	411.0
2022	405.5
2023	400.3
2024	397.6
2025	398.7
2026	396.8
2027	395.5
2028	394.4
2029	393.9
2030	388.9
2021-2030 Cumulative Emissions	3,982
Difference from Straight Line Cumulative Emissions Total	621

110. Scoping Plan Figure 7, for example, is titled "Scoping Plan Scenario – Estimated Cumulative GHG Reductions by Measure (2021–2030)." The identified measures show the amount of reductions required to "close" the 621 $MMTCO_2e$ GHG "cumulative gap" CARB invented from the difference in cumulative emissions from 2021-2030 between a hypothetical straight line trajectory to the 2030 Target and the "Reference Scenario" projections.

111. Figure 8 of the Scoping Plan and associated text provide an "uncertainty analysis to examine the range of outcomes that could occur under the Scoping Plan policies and measures" which is entirely based on the 621 $MMTCO_2e$ GHG "cumulative gap" metric.[63]

112. CARB also calculated that the cumulative annual emissions projected to occur under the "Known Commitments Scenario" from 2021-2030 would be 3,586 MMTCO2e and subtracted this amount from the cumulative emissions generated by the straight line trajectory (3,362 $MMTCO_2e$). The difference is 224 $MMTCO_2e$, which is incorrectly shown as 236 $MMTCO_2e$ in Table 3 of the Scoping Plan and in the text following Table 3. CARB illegally characterized the 224 $MMTCO_2$ difference as the "cumulative emissions reduction gap" in the "Known Commitments Scenario" in the Scoping Plan and evaluated the need for additional measures on the basis of "closing" this unlegislated and unlawful "cumulative gap".

Year	"Known Commitments Scenario" Annual Emissions ($MMTCO_2e$)
2020	405.5
2021	396.8
2022	387.1
2023	377.6
2024	367.4
2025	362.7
2026	354.4
2027	347.1
2028	340.4
2029	331.8
2030	320.4
2021-2030 Cumulative Annual Emissions	3,586
Difference from Straight Line Cumulative Emissions Total	224

[63] The analysis discussion references Scoping Plan Appendix E for more details.

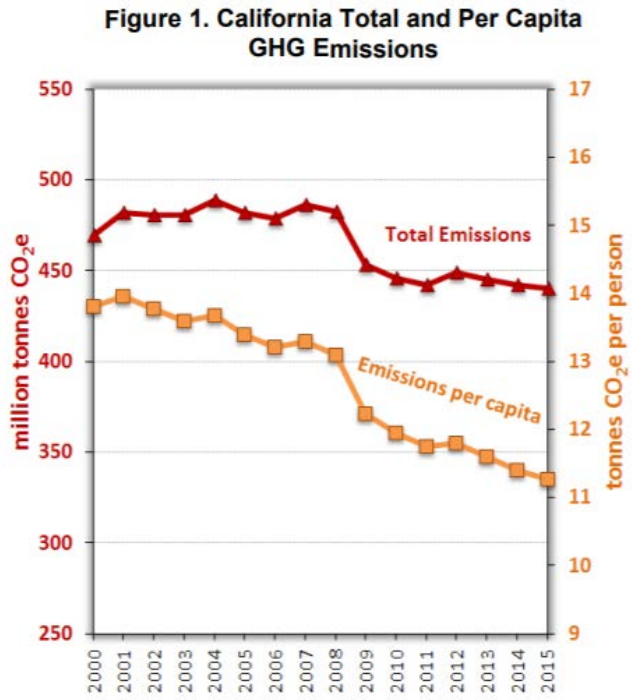
113. The California legislature in no way authorized CARB to invent a "cumulative gap" methodology based on an unreasonable and arbitrary straight line trajectory from 2020 to the 2030 Target, which counted each year's shortfall against the 2030 Target and then added all such shortfalls to inflate reduction needed from the 129 and 60 $MMTCO_2e$ (depending on scenario) required by the 2030 Target to the 621 and 224 $MMTCO_2e$ "cumulative gap" requirements.

114. SB 32 does not regulate cumulative emissions and only requires that the 2030 Target of 260 MMTCO2e be achieved by 2030. CARB's own analysis shows that existing legal requirements will reduce emissions to 320 $MMTCO_2e$ in 2030. At most, CARB was authorized to identify measures in the Scoping Plan that would further reduce emissions by 60 $MMTCO_2e$ in 2030 under the "Known Commitments Scenario". CARB instead illegally created new, and much larger "cumulative gap" reduction requirements of 224 $MMTCO_2e$ and 621 $MMTCO_2e$.

115. CARB arbitrarily determined that the straight line trajectory to the 2030 Target was the only way to reach the mandate of 260 MMTCO2e by 2030 when there are numerous potential paths that California's GHG emission reductions could take between 2021 and 2030.

116. For example, as shown in Figure 1 below, in reaching the 2020 Target, California's GHG emissions reductions have not followed a straight line trajectory, but have gone up and down based on the economy and other factors.[64]

[64] Figure 1 is from the California Air Resources Board's 2017 Edition of California's GHG Emission Inventory (June 6, 2017), p. 2, https://www.arb.ca.gov/cc/inventory/pubs/reports/2000_2015/ghg_inventory_trends_00-15.pdf.



117. CARB's arbitrary and capricious requirement that reductions must meet a cumulative GHG reduction total, rather than take any path feasible that gets the state to the 2030 Target is unlawful.

118. Both AB 32 (and earlier Scoping Plans) and SB 32 contemplated a "step down" of GHG emissions to the quantity established for the target year, with the "step down" increments occurring as new technologies, regulations, and other measures took effect. This step down approach has been part of air pollution control law for decades.

119. Under the federal Clean Air Act ("CAA"), the EPA sets National Ambient Air Quality Standards ("NAAQS") that set air quality levels in certain years for specific pollutants (*e.g.*, the 2015 NAAQS for ozone is 70 ppb and it must be achieved as expeditiously as possible). States then create and adopt State Implementation Plans ("SIPs") which include control measures to indicate how the state will meet the NAAQS standard. The reductions that the SIPs must achieve via their control measures to reach the NAAQS are always interpreted as being applicable to the target year, *i.e.,* how much reduction will need to occur in one year to reduce emissions from business as usual to the NAAQS level? The SIPs do not plan for emission reduction measures that must reduce emissions cumulatively over time (from the time of adoption of the

2015 ozone NAAQS until the year it is reached), such that not meeting the NAAQS in earlier years means that those excess emissions must be added to future years to create the required emissions reductions to balloon over time as the NAAQS goes unmet.

120. In addition, criteria air pollutants regulated by EPA, CARB, and California's local air districts are always regulated under a cost/ton disclosure metric in which the expected cost to reduce emissions must be not only explained in rulemaking documents, but taken into consideration in deciding whether to adopt any rule controlling emissions. This system has worked to reduce tailpipe emissions of criteria pollutants from passenger cars by 99% over time.

121. Given this clear and consistent pattern of EPA and CARB interpretation of the legal status of air quality levels to be achieved by a certain time, it was arbitrary and capricious for CARB to create this "deficit accounting" metric in the cumulative gap analysis rather than merely creating measures which would meet the 2030 Target by 2030.

122. CARB also used the unlawful "cumulative gap" reduction metric to identify the nature and extent of Scoping Plan reduction measures, including the GHG Housing Measures, address uncertainties in achieving these reductions, and to complete the legally mandated FA and EA for the 2017 Scoping Plan.

123. CARB's unilateral creation and use of the "cumulative gap" reduction requirement instead of the statutory SB 32 2030 Target is unlawful, and imposes new cost burdens, including on housing, that will further exacerbate the housing-induced poverty crisis.

D. The Four New, Unlawful GHG Housing Measures the 2017 Scoping Plan Authorizes

1. Unlawful VMT Reduction Requirement

124. Among the new regulations and standards added to CARB's 2017 Scoping Plan—which were not in any of its earlier scoping plans—is a requirement to reduce VMT. This requirement is part of the Scoping Plan Scenario presented in Chapter 2 in the "Mobile Source Strategy."[65]

[65] See Scoping Plan, p. 25 Table 1: Scoping Plan Scenario (listing Mobile Source Strategy (Cleaner Technology and Fuels [CTF] Scenario)).

125. The "Mobile Source Strategy" includes a requirement to reduce VMT. This allegedly would be achieved by continued implementation of SB 375, regional Sustainable Communities Strategies, statewide implementation of SB 743, and potential additional VMT reduction strategies included in Appendix C ("Potential VMT Reduction Strategies for Discussion"). Scoping Plan, p. 25.

126. The 2017 Scoping Plan states that "VMT reductions will be needed to achieve the 2030 target" and to meet the 2050 GHG emission reduction goal set in Executive Order S-3-05. Scoping Plan, p. 75.

127. CARB states that VMT reductions of 7 percent below projected VMT are necessary by 2030 and 15 percent below projected VMT by 2050. Scoping Plan, p. 101.

128. The "Mobile Source Strategy" measure requires a 15 percent reduction in total light-duty VMT from the business as usual scenario by 2050. Scoping Plan, p. 78. It also requires CARB to work with regions to update SB 375 targets to reduce VMT to reach the 2050 goal and to implement VMT as the CEQA metric for assessing transportation impacts. ***Id.***

129. The "Mobile Source Strategy" as a whole is estimated to result in cumulative GHG emission reductions of 64 $MMTCO_2e$ per year. Scoping Plan, p. 28.

130. These VMT reduction requirements are included in the 2017 Scoping Plan without appropriate recognition of the counterproductive effects of such a fixation on reducing VMT in the context of affordable housing proximate to job centers.

131. The 2017 Scoping Plan notes that promoting stronger boundaries to suburban growth, such as urban growth boundaries, will reduce VMT. Scoping Plan, p. 78. This also raises housing prices within the urban growth boundary and pushes low-income Californians, including minorities, to unacceptable housing locations with long drive times to job centers.

132. Other VMT reduction measures in the 2017 Scoping Plan, such as road user and/or VMT-based pricing mechanisms, congestion pricing, and parking pricing, further disadvantage low-income and minority residents who must drive farther through more congested roads.

133. The VMT reductions called for in Chapters 2 and 5 of the Scoping Plan make no distinction for miles driven by electric vehicles with zero GHG emissions or for miles driven by

hybrid vehicles when using only electric power. Instead, they would advance a suite of new burdens, including charging individual drivers for each vehicle mile travelled, and intentionally increasing overall roadway congestion to induce more workers to use public transit.

134. CARB's new VMT requirements, which purport to encourage public transit, essentially ignore the fact that far fewer than 10% of Californians can get from their home to their jobs in less than one hour on public transit, and that public transit ridership has fallen nationally and in California.[66] CARB's new VMT requirements fail to rationally address the reality that VMT continues to increase rather than decrease in California due to increasing population and employment levels.[67]

135. CARB's answer to reducing VMT by increasing bicycling, walking, and transit use is a laughable solution for low-income Californians, such as those living in the San Joaquin Valley and commuting to jobs in the San Francisco Bay Area.[68]

136. The burden of CARB's VMT reduction measures falls disproportionately on minority workers already forced by the housing crisis to endure long and even "mega" commutes lasting more than three hours per day.[69] The vast majority of middle and lower-income jobs (disproportionately performed by minority workers) require those workers to be physically present at their job sites to be paid. Affected job categories include teachers, nurses, emergency

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[66] Laura J. Nelson, *L.A. Bus Ridership Continues to Fall: Officials Now Looking to Overhaul the System*, L.A. Times (May 23, 2017) http://www.latimes.com/local/lanow/la-me-ln-bus-ridership-study-20170518-story.html; Center for Transportation Studies, Access Across America, University of Minnesota (2017) http://www.cts.umn.edu/research/featured/access.

[67] California Air Resources Board, Updated Final Staff Report, Proposed Update to the SB 375 Greenhouse Gas Emission Reduction Targets, Feb. 2018, https://www.arb.ca.gov/cc/sb375/sb375_target_update_final_staff_report_feb2018.pdf, p. 19.

[68] Conor Dougherty, Andrew Burton, *A 2:15 Alarm, 2 Trains and a Bus Get Her to Work by 7 A.M.*, N.Y. Times (Aug. 17, 2017), https://www.nytimes.com/2017/08/17/business/economy/san-francisco-commute.html.

[69] 2007 and 2016 American Community Survey 1-Year Estimates, Table B08303 series (Travel Time To Work, Workers 16 years and over who did not work at home), https://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t (showing increase in commute time from 2007 to 2016 in California and Bay Area); 2007 and 2016 American Community Survey 1-Year Estimates, Table S802 series (Means of transportation to work by selected characteristics), https://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t (showing more Latino and noncitizen workers commuting to work by driving alone).

responders, courtroom and municipal service workers, construction workers, day care and home health care workers, retail clerks, and food service workers.[70]

137. In addition to being ill-conceived, CARB's new VMT measures are not statutorily authorized. The Legislature has repeatedly rejected proposed legislation to mandate that Californians reduce their use of cars and light duty trucks (e.g., personal pickup trucks), including most recently in 2017 (Senate Bill 150, Allen).

138. Only a different agency, the Office of Planning and Research ("OPR"), has legislative authority to regulate VMT. It has not done so. In Senate Bill 743 (2013), the Legislature authorized OPR to consider adopting VMT as a new threshold for assessing the significance of transportation impacts under CEQA, but only after OPR completed a rulemaking process and amended the regulatory requirements implementing CEQA, *i.e.*, the CEQA Guidelines (14 C.C.R. § 15000 *et seq.*) ("CEQA Guidelines"). OPR has commenced but not completed the process for amending the CEQA Guidelines as authorized by SB 743.

139. Instead of regulating VMT, CARB's role under SB 375 is to encourage higher density housing and public transit and thereby reduce GHGs. In this context, CARB has included VMT reduction metrics for helping achieve GHG reduction goals in current SB 375 targets.

140. In the past, when CARB proposed to establish standalone VMT reduction targets (independent of GHG emission reduction targets) it has been swamped with objections and concerns, including challenges to its legal authority to attempt to impose fees and restrictions on driving as a standalone mandate independent of regional GHG reduction targets.

141. Until its adoption of the 2017 Scoping Plan, CARB had rightly stopped short of purporting to set out standalone VMT reduction targets and methods. At the same meeting that CARB approved the 2017 Scoping Plan, CARB agreed to indefinitely postpone establishing regional VMT reduction targets for a variety of reasons (including but not limited to the fact that notwithstanding current efforts, VMT is actually increasing).

[70] Adam Nagourney and Conor Dougherty, *The Cost of a Hot Economy in California: A Severe Housing Crisis,* N.Y. Times (July 17, 2017), https://www.nytimes.com/2017/07/17/us/california-housing-crisis.html.

142. Immediately following its determination to indefinitely postpone its proposal to adopt standalone VMT reduction targets, CARB nevertheless voted to approve the 2017 Scoping Plan's VMT reduction mandate, which includes in pertinent part a GHG measure requiring additional VMT reductions beyond the reductions achieved via SB 743 and SB 375. See Scoping Plan p. 25, Table 1, p. 101.

143. The inherent contradiction between the morning CARB agenda discussion indefinitely postponing establishing SB 375 VMT reduction targets, and CARB's afternoon agenda item approving the 2017 Scoping Plan, going above and beyond the VMT reductions CARB elected not to set a few hours earlier, caused widespread confusion. Even the CARB Board chair reported that she was "confused" – but CARB's unlawful action to mandate reduced driving by individual Californians was nevertheless unanimously approved in the 2017 Scoping Plan that CARB has now adopted.

144. In order to achieve these newly-mandated reductions in VMT, CARB intends to intentionally increase congestion to induce transit use. OPR's proposal for updating the CEQA Guidelines to include VMT as a metric for analyzing transportation impacts states that adding new roadway capacity increases VMT.[71] The OPR proposal further states that "[r]educing roadway capacity (i.e. a "road diet") will generally reduce VMT and therefore is presumed to cause a less than significant impact on transportation. Building new roadways, adding roadway capacity in congested areas, or adding roadway capacity to areas where congestion is expected in the future, typically induces additional vehicle travel." *Id.* at p. III:32.

145. Attempting to reduce VMT by purposefully increasing congestion by reducing roadway capacity will not lead to GHG emission reductions. Instead, increasing congestion will cause greater GHG emissions due to idling, not to mention increased criteria air pollutant[72] and

[71] OPR, Revised Proposal on Updates to the CEQA Guidelines Evaluating Transportation Impacts in CEQA (Jan. 20, 2016), p. I:4, http://www.opr.ca.gov/docs/Revised_VMT_CEQA_Guidelines_Proposal_January_20_2016.pdf.

[72] The six criteria air pollutants designated by the Environmental Protection Agency ("EPA") are particulate matter ("PM"), ozone, nitrogen dioxide ("NO_2" or "NOx"), carbon monoxide ("CO"), sulfur dioxide ("SO_2"), and lead.

toxic air contaminant[73] emissions. CARB has no authority to impose a VMT limit and any VMT limit imposed by an agency must be approved in a formal rulemaking process.

146. As implemented, CARB's VMT reduction measure will not achieve the GHG reductions ascribed to it in the 2017 Scoping Plan and has no rational basis. In fact, it will increase air quality and climate related environmental impacts, something not analyzed in the EA for the 2017 Scoping Plan.

147. In addition, CARB has recently undergone an update of regional GHG emission reduction targets under SB 375 in which CARB stated that: "In terms of tons, CARB staff's proposed [SB 375] targets would result in an estimated additional reduction of approximately 8 million metric tons of CO2 per year in 2035 compared to the existing targets. The estimated remaining GHG emissions reductions needed would be approximately 10 million metric tons CO2 per year in 2035 based on the Scoping Plan Update scenario. These remaining GHG emissions reductions are attributed to new State-initiated VMT reduction strategies described in the Scoping Plan Update."[74]

148. Thus, CARB's only stated support for needing the VMT reduction mandates in the 2017 Scoping Plan is to close a gap to the Scoping Plan Update Scenario that the SB 375 targets will not meet. However, all of the allegedly "necessary" reductions in the Scoping Plan Update Scenario are based on CARB's unlawful "cumulative gap" reduction requirement, which, as described above, improperly ballooned the GHG reductions required from 60 to 224 $MMTCO_2e$ based on the "Known Commitments Scenario" and from 129 to 621 $MMTCO_2e$ based on the "Reference Case Scenario."

149. Because of CARB's unlawful "cumulative gap" calculation, CARB now argues that the VMT reduction mandates are necessary, but the only reason they are necessary is to meet the unlawful "cumulative gap" reduction requirements.

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[73] Toxic air contaminants, or TACs, include benzene, hexavalent chrome, cadmium, chloroform, vinyl chloride, formaldehyde, and numerous other chemicals.

[74] California Air Resources Board, Updated Final Staff Report, Proposed Update to the SB 375 Greenhouse Gas Emission Reduction Targets (Feb. 2018), p. 35, https://www.arb.ca.gov/cc/sb375/sb375_target_update_final_staff_report_feb2018.pdf.

150. There is also no evidence that CARB's estimated 10 MMTCO2e per year reductions based on the VMT reduction mandate is in any way achievable. The Right Type, Right Place report[75] estimates only 1.79 MMTCO2e per year will be reduced from both lower VMT and smaller unit size houses using less energy and thus creating lower operational emissions.

151. The Staff Report for SB 375 acknowledges that VMT has increased, that the results of new technologies are at best mixed in early reports as to VMT reductions, and that the correlation between VMT and GHG is declining.[76] There is no evidence that the 10 MMTCO2e per year reductions based on the VMT reduction mandate in the 2017 Scoping Plan is in any way something other than a number created solely based on the fundamental miscalculation about the 2030 target demonstrated by the "cumulative gap" methodology in the 2017 Scoping Plan.

2. Unlawful CEQA Net Zero GHG Threshold

152. The 2017 Scoping Plan also sets a net zero GHG threshold for all projects subject to CEQA review, asserting that "[a]chieving no net additional increase in GHG emissions, resulting in no contribution to GHG impacts, is an appropriate overall objective for new development". Scoping Plan, p. 101-102.

153. The Scoping Plan directs that this new CEQA "zero molecule" GHG threshold be presumptively imposed by all public agencies when making all new discretionary decisions to approve or fund projects in all of California, where under CEQA "project" is an exceptionally broad legal term encompassing everything from transit projects to recycled water plants, from the renovation of school playgrounds to building six units of affordable housing, from the adoption of General Plans applicable to entire cities and counties to the adoption of a single rule or regulation.

154. This is an unauthorized, unworkable and counterproductive standard as applied to new housing projects. CEQA applies to the "whole of a project", which includes construction

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[75] Nathaniel Decker et al., Right Type Right Place: Assessing the Environmental and Economic Impacts of Infill Residential Development through 2030, U.C. Berkeley Terner Center for Housing Innovation and Center for Law, Energy and the Environment (Mar. 2017), https://ternercenter.berkeley.edu/right-type-right-place.

[76] California Air Resources Board, Updated Final Staff Report, Proposed Update to the SB 375 Greenhouse Gas Emission Reduction Targets (Feb. 2018), p. 19, https://www.arb.ca.gov/cc/sb375/sb375_target_update_final_staff_report_feb2018.pdf.

activities, operation of new buildings, offsite electricity generation, waste management, transportation fuel use, and a myriad of other activities. Meeting a net zero threshold for these activities is not possible. While there have been examples of "net zero" buildings—which are more expensive than other housing[77]—none of these examples included the other components of a "project" as required by CEQA.

155. The Scoping Plan's "net zero" CEQA provisions also would raise housing and homeowner transportation costs and further delay completion of critically needed housing by increasing CEQA litigation risks—thereby exacerbating California's acute housing and poverty crisis.[78]

156. Despite CARB's claim that this "net zero" threshold is "guidance", CARB's status as the expert state agency on GHG emissions means that all lead agencies or project proponents will have to accept this standard in CEQA review unless they can prove by substantial evidence that a project cannot meet the standard.

157. The threshold has immediate evidentiary weight as the expert conclusion of the state's expert GHG agency. An agency's failure to use the 2017 Scoping Plan's CEQA threshold has already been cited as legal error in the comment letter preceding the expected lawsuit against the Northlake housing project in Los Angeles.[79]

158. A "net zero" GHG threshold is inconsistent with current California precedent affirming that compliance with law is generally an acceptable CEQA standard. See, e.g., *Center for Biological Diversity v. Dept. of Fish and Wildlife* (2016) 62 Cal.4th 204, 229 ("*Newhall"*) (a lead agency can assess consistency with AB 32 goal by looking to compliance with regulatory programs). This includes, but is not limited to, using compliance with the cap-and-trade program as appropriate CEQA mitigation for GHG and transportation impacts.

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[77] LAO, Evaluating California's Pursuit of Zero Net Energy State Buildings (Nov. 14, 2017), http://www.lao.ca.gov/Publications/Report/3711.

[78] Chang-Tai Hsieh and Enrico Moretti, *How Local Housing Regulations Smother the U.S. Economy*, N.Y. Times (Sept. 6, 2017), https://www.nytimes.com/2017/09/06/opinion/housing-regulations-us-economy.html.

[79] Center for Biological Diversity, Letter to Los Angeles County (April 16, 2018), http://planning.lacounty.gov/assets/upl/case/tr073336_correspondence-20180418.pdf.

159. The Scoping Plan's expansive new "net zero" GHG CEQA threshold is directly at odds with, and is dramatically more stringent than, the existing CEQA regulatory threshold for GHG emissions. This existing threshold was adopted by OPR pursuant to specific authorization and direction from the Legislature in SB 97. In the SB 97 rulemaking context, OPR, in its Statement of Reasons, expressly rejected a "zero molecule" or "no net increase" GHG threshold (now adopted by CARB without Legislative authority) as being inconsistent with, and not supported by, CEQA's statutory provisions or applicable judicial precedent. OPR stated that "[n]otably, section 15064.4(b)(1) is not intended to imply a zero net emissions threshold of significance. As case law makes clear, there is no "one molecule rule" in CEQA."[80]

160. In January of 2017, OPR commenced a formal rulemaking process for what it describes as a "comprehensive" set of regulatory amendments to the CEQA Guidelines. After adoption of the 2017 Scoping Plan, OPR has not proposed to change the existing GHG thresholds in the Guidelines to conform with CARB's unauthorized new "net zero" GHG threshold. Instead, OPR has expressly criticized reliance on a numerical project-specific assessment of GHGs.

161. In short, CARB's "net zero" GHG threshold is inconsistent with OPR's legal conclusion that CEQA cannot be interpreted to impose a "net zero" standard.[81]

162. In addition to being Legislatively unauthorized and unlawful, the "net zero" GHG threshold would operate unconstitutionally so as to disproportionately disadvantage low income minorities in need of affordable housing relative to wealthier, whiter homeowners who currently occupy the limited existing housing stock.[82] This disadvantage arises because of the use of CEQA

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[80] OPR, Final Statement of Reasons for Regulatory Action, Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB 97 (Dec. 2009), p. 25, http://resources.ca.gov/ceqa/docs/Final_Statement_of_Reasons.pdf.

[81] See OPR, Proposed Updates to the CEQA Guidelines (Nov. 2017), p. 81-85, http://opr.ca.gov/docs/20171127_Comprehensive_CEQA_Guidelines_Package_Nov_2017.pdf.

[82] See Richard Rothstein, Color of Law: A Forgotten History of How Our Government Segregated America (2017) for a historical review of how zoning and land use laws were designed to promote discrimination against African Americans and other communities of color, patterns that, in many instances, have been maintained to this day; see also Housing Development Toolkit, The White House (Sept. 2016), https://www.whitehouse.gov/sites/whitehouse.gov/files/images/Housing_Development_Toolkit%20f.2.pdf.

litigation by current homeowners to block new housing for others, including especially low income housing for minorities.[83]

163. Under CEQA, once an impact is considered "significant", it must be "mitigated" by avoidance or reduction measures "to the extent feasible." Pub. Res. Code §§ 21002, 21002.1; 14 C.C.R. § 15020(a)(2). By imposing a presumptive "net zero" GHG threshold on all new projects pursuant to CEQA, CARB has instantly and unilaterally increased the GHG CEQA mitigation mandate to "net zero" unless a later agency applying CEQA can affirmatively demonstrate, through "substantial evidence", that this threshold is not "feasible" as that term is defined in the CEQA Guidelines.

164. Under CEQA, any party—even an anonymous litigant—can file a CEQA lawsuit challenging the sufficiency of a project's analysis and mitigation for scores of "impacts," including GHG emissions. *See Save the Plastic Bag Coalition v. City of Manhattan Beach* (2011) 52 Cal.4th 155.

165. Anonymous use of CEQA lawsuits, as well as reliance on CEQA lawsuits to advance economic objectives such as fast cash settlements, union wage agreements, and competitive advantage, has been repeatedly documented—but Governor Brown has been unable

[83] See Jennifer L. Hernandez, California Environmental Quality Act Lawsuits and California's Housing Crisis, 24 Hastings Envtl. L.J. (2018), https://www.hklaw.com/files/Uploads/Documents/Articles/121317_HELJ_Jennifer_Hernandez.pdf; see also Jennifer Hernandez, David Friedman, and Stephanie DeHerrera, In the Name of the Environment Update: CEQA Litigation Update for SCAG Region (2013-2015) (Jul. 2016), https://www.hklaw.com/files/UPloads/Documents/Alerts/Environment/InfillHousingCEQALawsuits.pdf; Jennifer Hernandez, David Friedman, and Stephanie DeHerrera, In the Name of the Environment: Litigation Abuse Under CEQA (August 2015), https://www.hklaw.com/publications/in-the-name-of-the-environment-litigation-abuse-under-ceqa-august-2015/.

to secure the Legislature's support for CEQA because, as he explains, unions use CEQA to leverage labor agreements.[84]

166. Using CEQA to advance economic rather than environmental objectives, and allowing anonymous lawsuits to mask more nefarious motives including racism and extortion, has established CEQA litigation (and litigation threats) as among the top reasons why adequate housing supplies have not been built near coastal jobs centers.[85]

167. The "net zero" threshold, as applied to new housing projects in California, adds significantly to the risk and CEQA litigation outcome uncertainty faced by persons who wish to build such housing.[86] Not even the California Supreme Court, in *Newhall, supra,* 62 Cal.4th 204, could decide how CEQA should apply to a global condition like climate change in the context of considering the GHG impacts of any particular project. Instead, the Supreme Court identified four "potential pathways" for CEQA compliance. Notably, none of these was the "net zero" threshold adopted by CARB in its 2017 Scoping Plan.

168. The California Supreme Court has declined to mandate, under CEQA, a non-statutory GHG threshold. Instead, the California Supreme Court has recognized that this area remains in the province of the Legislature, which has acted through directives such as SB 375. *Cleveland National Forest Foundation v. San Diego Assn. of Gov'ts* (2017) 3 Cal.5th 497 ("*SANDAG"*).

169. As explained in The Two Hundred's comment letter, and referenced academic and other studies in that letter, the top litigation targets of CEQA lawsuits statewide are projects that

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[84] See Jennifer Hernandez, David Friedman, and Stephanie DeHerrera, In the Name of the Environment Update: CEQA Litigation Update for SCAG Region (2013-2015) (Jul. 2016), https://www.hklaw.com/files/UPloads/Documents/Alerts/Environment/InfillHousingCEQALawsuits.pdf, p. 10-12 (stating Governor Brown's 2016 conclusion that CEQA litigation reform was politically impossible because labor unions use litigation threats to "hammer" project sponsors into agreeing to enter into union labor agreements, and Building Trades Council lobbyist Caesar Diaz testimony in "strong opposition" to legislative proposal to require disclosure of the identity and interests of those filing CEQA lawsuits at the time CEQA lawsuits are filed, rather than at the end of the litigation process when seeking attorneys' fees, wherein Mr. Diaz concluded that requiring such disclosure would "dismantle" CEQA).

[85] Legislative Analyst's Office, California's High Housing Costs: Causes and Consequences, May 17, 2015, http://www.lao.ca.gov/reports/2015/finance/housing-costs/housing-costs.aspx.

[86] See *Id.*

include housing.[87] Over a three year period in the SCAG region, nearly 14,000 housing units were challenged in CEQA lawsuits, even though 98% of these units were located in already developed existing communities and 70% were located within a short distance of frequent transit and other existing infrastructure and public services. This and a referenced prior study also showed that the vast majority of CEQA lawsuits filed statewide are against projects providing housing, infrastructure and other public services and employment uses within existing communities.[88]

170. Thus, the same minority families victimized by the housing-induced poverty crisis, and forced to drive ever longer distances to qualify for housing they can afford to rent or buy are disproportionately affected by CEQA lawsuits attacking housing projects that are proximate to jobs.

171. Expanding CEQA to require only future occupants of acutely needed housing units to double- and triple-pay to get to and from work with a CEQA mitigation obligation to purchase GHG offsets to satisfy a "net zero" threshold unlawfully and unfairly discriminates against new occupants in violation of equal protection and due process.

172. Finally, CARB's "net zero" threshold fails to address the likelihood that it will actually be counterproductive because of "leakage" of California residents driven out to other states because of unaffordable housing prices.[89] Including this measure in the 2017 Scoping Plan bypasses statutory requirements to discourage and minimize "leakage"—movement of

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[87] See Jennifer L. Hernandez, California Environmental Quality Act Lawsuits and California's Housing Crisis, 24 Hastings Envtl. L.J. (2018), https://www.hklaw.com/files/Uploads/Documents/Articles/121317_HELJ_Jennifer_Hernandez.pdf; see also Jennifer Hernandez, David Friedman, and Stephanie DeHerrera, In the Name of the Environment Update: CEQA Litigation Update for SCAG Region (2013-2015) (Jul. 2016), https://www.hklaw.com/files/UPloads/Documents/Alerts/Environment/InfillHousingCEQALawsuits.pdf; Jennifer Hernandez, David Friedman, and Stephanie DeHerrera, In the Name of the Environment: Litigation Abuse Under CEQA (August 2015), https://www.hklaw.com/publications/in-the-name-of-the-environment-litigation-abuse-under-ceqa-august-2015/

[88] *Ibid.*

[89] California experienced a net loss of 556,710 former residents to other states during 2010 to 2017. U.S. Census Bureau, Table 4. Cumulative Estimates of the Components of Resident Population Change for the United States, Regions, States, and Puerto Rico: April 1, 2010 to July 1, 2017 (NST-EST2017-04) (Dec. 2017), https://www.census.gov/data/datasets/2017/demo/popest/nation-total.html.

economically productive activities to other states or countries that have much higher GHG emissions on a per capita basis than California. Imposing "net zero" standards that end up shutting down or blocking economic activities in California results in a global increase in GHGs when those activities move to other states or countries with higher per capita GHG emissions.[90]

173. It is noteworthy that the GWSA and SB 32 "count" only GHG emissions produced within the state, and from the generation of out-of-state electricity consumed in the state. When a family moves from California to states such as Texas (nearly three times higher per capita GHG emissions) or Nevada (more than double California's per capita GHG emissions), *global* GHG emissions increase even though California's GHG emissions decrease.

174. The housing crisis has resulted in a significant emigration of families that cannot afford California housing prices, and this emigration increases global GHG emissions—precisely the type of "cumulative" contribution to GHGs that OPR explains should be evaluated under CEQA, rather than CARB's net zero GHG threshold which numerically-focuses on project-level GHG emissions and mitigation.[91]

175. The Scoping Plan's CEQA threshold is appropriately justiciable, and should be vacated for the reasons set forth herein.

3. Unlawful Per Capita GHG Targets for Local Climate Action Plans

176. California's per capita GHG emissions are already far lower than all but two states. The only state with low per capita GHG emissions that is comparable to California is New York, which has a lower per capita GHG emission level but also six nuclear power plants

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[90] Philip Reese, *California Exports Its Poor to Texas, Other States, While Wealthier People Move In*, The Sacramento Bee (Mar. 5, 2017), http://www.sacbee.com/news/state/california/article136478098.html; Drew Lynch, *Californians Consider Moving Due to Rising Housing Costs, Poll Finds*, Cal Watchdog (Sept. 21, 2017), https://calwatchdog.com/2017/09/21/californians-consider-moving-due-rising-housing-costs-poll-finds/; U.S. Energy Information Agency, State Carbon Dioxide Emissions Data, October 2017, https://www.eia.gov/environment/emissions/state/.

[91] Philip Reese, *California Exports Its Poor to Texas, Other States, While Wealthier People Move In*, The Sacramento Bee (Mar. 5, 2017), http://www.sacbee.com/news/state/california/article136478098.html; Drew Lynch, *Californians Consider Moving Due to Rising Housing Costs, Poll Finds*, Cal Watchdog (Sept. 21, 2017), https://calwatchdog.com/2017/09/21/californians-consider-moving-due-rising-housing-costs-poll-finds/; U.S. Energy Information Agency, State Carbon Dioxide Emissions Data, October 2017, https://www.eia.gov/environment/emissions/state/.

(compared to California's one) as well as more reliable hydropower from large dams that are less affected by the cyclical drought cycles affecting West Coast rivers.[92]

177. California's current very low per capita GHG emissions are approximately 11 MMTCO2e.

178. The existing CEQA Guidelines include a provision that allows projects that comply with locally-adopted "climate action plans" ("CAPs") to conclude that project-related GHG emissions are less than significant, and thus require no further mitigation that would add to the cost of new housing projects.

179. In *Newhall*, *supra,* 62 Cal.4th at 230, the California Supreme Court endorsed CAPs, and wrote that a project's compliance with an approved CAP could be an appropriate "pathway" for CEQA compliance. No local jurisdiction is required by law to adopt a CAP, but if a CAP is adopted, then the Supreme Court has held that it must have enforceable measures to actually achieve the CAP's GHG reduction target. *SANDAG, supra,* 3 Cal.5th 497.

180. The CAP compliance pathway through CEQA was upheld in *Mission Bay Alliance v. Office of Community Invest. & Infrastructure* (2016) 6 Cal.App.5th 160. This compliance pathway provides a more streamlined, predictable, and generally cost-effective pathway for housing and other projects covered by the local CAP.

181. In stark contrast, CARB's unlawful new per capita GHG requirements effectively direct local governments—cities and counties—to adopt CAPs that reduce per capita GHG emissions from eleven to six MMTCO2e per capita by 2030, and to two MMTCO2e per capita by 2050. This mandate is unlawful.

182. First, CARB has no statutory authority to impose any 2050 GHG reduction measure in CAPs or otherwise since the Legislature has repeatedly declined to adopt a 2050 GHG target (including by rejecting earlier versions of SB 32 that included such a 2050 target), and the California Supreme Court has declined to interpret CEQA to mandate a 2050 target based on an Executive Order. *SANDAG, supra,* 3 Cal.5th at 509; *Newhall, supra,* 62 Cal.4th at 223.

[92] U.S. Energy Information Agency, State Carbon Dioxide Emissions Data, October 2017, https://www.eia.gov/environment/emissions/state/.

183. Second, the Scoping Plan attributes the vast majority of state GHG emissions to transportation, energy, and stationary source sectors over which local governments have little or no legal jurisdiction or control. A local government cannot prohibit the sale or use of gasoline or diesel-powered private vehicles, for example—nor can a local government regulate and redesign the state's power grid, or invent and mandate battery storage technology to capture intermittent electricity produced from solar and wind farms for use during evening hours and cloudy days.

184. The limited types of GHG measures that local governments can mandate (such as installation of rooftop solar, water conservation, and public transit investments) have very small—or no—measurable quantitative effect on GHG emission reductions. The 2017 Scoping Plan Appendix recommending local government action does not identify any measure that would contribute more than a tiny fraction toward reducing a community's per capita GHG emissions to six metric tons or two metric tons, respectively.

185. Additionally, under state law, local governments' authority to require more aggressive GHG reductions in buildings is subject to a cost-effectiveness test decided by the California Building Standards Commission ("CBSC")—the same CBSC that has already determined that "net zero", even for single family homes and even for just the electricity used in such homes, is *not* yet feasible or cost-effective to impose.[93]

186. Third, it is important to consider the per capita metrics that the 2017 Scoping Plan wants local governments to achieve in their localized climate action plans in a real world context. Since most of the world's energy is still produced from fossil fuels, energy consumption is still highly correlated to economic productivity and per capita incomes and other wealth-related metrics such as educational attainment and public health.[94] The suggested very low per capita

[93] California Energy Commission, 2019 Building Energy Efficiency Standards PreRulemaking Presentation - Proposed 2019 Building Energy Efficiency Standards ZNE Strategy (Aug. 24, 2017), http://docketpublic.energy.ca.gov/PublicDocuments/17-BSTD-01/TN220876_20170824T105443_82217_ZNE_Strategy_Presentation.pdf.

[94] See Mengpin Ge, Johannes Friedrich, and Thomas Damassa, 6 Graphs Explain the World's Top 10 Emitters, World Resources Institute (Nov. 25, 2014), https://wri.org/blog/2014/11/6-graphs-explain-world%E2%80%99s-top-10-emitters (see tables entitled "Per Capita Emissions for Top 10 Emitters" and "Emissions Intensity of Top 10 Emitters" showing that emissions are generally linked to GDP).

metrics in the 2017 Scoping Plan are currently only achieved by countries with struggling economies, minimal manufacturing and other higher wage middle income jobs, and extremely high global poverty rates.

187. Growing economies such as China and India bargained for, and received, permission to substantially increase their GHG emissions under the Paris Accord precisely because economic prosperity remains linked to energy use.[95] This is not news: even in the 1940's, the then-Sierra Club President confirmed that inexpensive energy was critical to economic prosperity AND environmental protection.

188. Nor has CARB provided the required economic or environmental analysis that would be required to try to justify its irrational and impractical new per capita GHG target requirements. As with CARB's project-level "net zero" CEQA threshold, the per capita CEQA expansion for CAPs does not quantify the GHG emission reductions to be achieved by this measure.

189. Finally, these targets effectively create CEQA thresholds as compliance with a CAP is recognized by the California Supreme Court as a presumptively valid CEQA compliance pathway. *Newhall, supra,* 62 Cal.4th at 230 (stating that local governments can use climate action plans as a basis to tier or streamline project-level CEQA analysis). The targets clearly establish CARB's position on what would (or would not) be consistent with the 2017 Scoping Plan and the State's long-term goals. Courts have stated that GHG determinations under CEQA must be consistent with the statewide CARB Scoping Plan goals, and that CEQA documents taking a goal-consistency approach to significance need to consider a project's effects on meeting the State's longer term post-2020 goals. Thus, these per capita targets are essentially self-implementing CEQA requirements that lead and responsible agencies will be required to use.

190. The CAP measure thus effectively eliminates the one predictable CEQA GHG compliance pathway that has been upheld by the courts, compliance with an adopted CAP. The

[95] Marianne Lavelle, *China, India to Reach Climate Goals Years Early, as U.S. Likely to Fall Far Short,* Inside Climate News (May 16, 2017), https://insideclimatenews.org/news/15052017/china-india-paris-climate-goals-emissions-coal-renewable-energy.

pathway that CARB's per capita GHG targets would unlawfully displace is fully consistent with the existing CEQA Guidelines adopted pursuant to full rulemaking procedures based on express Legislative direction.

191. In short, the 2017 Scoping Plan directs local governments to adopt CAPs—which the Supreme Court has explained must then be enforced—with per capita numeric GHG reduction mandates in sectors that local governments have no legal or practical capacity to meet, without any regard for the consequential losses to middle income jobs in manufacturing and other business enterprises, or to the loss of tax revenues and services from such lost jobs and businesses,[96] or to the highly disparate impact that such anti-jobs measures would have on minority populations already struggling to get out of poverty and afford housing.

192. While the 2017 Scoping Plan acknowledges that some local governments may have difficulty achieving the per capita targets if their communities have inherently higher GHG economic activities, such as agriculture or manufacturing, such communities are required to explain why they cannot meet the numeric targets—and withstand potential CEQA lawsuit challenges from anyone who can file a CEQA lawsuit.

193. As with CARB's project-level "net zero" CEQA threshold, CARB's new per capita GHG targets are entirely infeasible, unlawful, and disparately affect those in most need of homes they can afford with jobs that continue to exist in manufacturing, transportation, and other sectors having GHG emissions that are outside the jurisdiction and control of local governments.

[96] Just four states—Ohio, Pennsylvania, Georgia and Indiana—collectively have a population and economy comparable with California. With a combined gross product of $2.25 trillion in 2016, these four states would be the 8th largest economy in the world if considered a nation. Yet despite achieving five times more GHG emission reductions than California since 2007, in 2016 these four states had 560,000 fewer people in poverty and 871,000 more manufacturing jobs (including 200,000 new jobs from 2009 to 2017 compared with just 53,000 in California). U.S. Bureau of Labor Statistics, Monthly Total Nonfarm Employment, Seasonally Adjusted, https://www.bls.gov/data/; U.S. Bureau of Economic Analysis, Table 3. Current-Dollar Gross Domestic Product (GDP) by State, 2016:Q1-2017:Q3, https://www.bea.gov/newsreleases/regional/gdp_state/qgdpstate_newsrelease.htm; Liana Fox, The Supplemental Poverty Measure: 2016, U.S. Census Bureau Report Number: P60-261 (Sept. 21, 2017), https://www.census.gov/library/publications/2017/demo/p60-261.html; U.S. Census Bureau, 2016 American Community Survey 1-Year Estimates, Table B15001, Sex by age by educational attainment for the population 18 years and over, https://factfinder.census.gov/.

They are also inconsistent with current standards and common sense and result in unjustifiable disproportionate adverse impacts on California minorities, including Petitioners.

4. Appendix C "Vibrant Communities" Policies Incorporating Unlawful VMT, "Net Zero" and CO2 Per Capita Standards

194. Chapter 5 of CARB's 2017 Scoping Plan explains that notwithstanding the other GHG Housing Measures (*e.g.*, the VMT reduction mandated in Chapter 2), California must do "more" to achieve the 2030 Target. With this in mind, CARB purports to empower eight new state agencies—including itself—with a new, non-legislated role in the plan and project approval process for local cities and counties. This hodgepodge of unlegislated, and in many cases Legislatively-rejected, new "climate" measures is included in what the Scoping Plan calls a "Vibrant Communities" appendix.

195. Cities and counties have constitutional and statutory authority to plan and regulate land use, and related community-scale health and welfare ordinances. Cities and counties are also expressly required to plan for adequate housing supplies, and in response to the housing crisis and resulting poverty and homeless crisis, in 2017 the Legislature enacted 15 new bills designed to produce more housing of all types more quickly. These include: Senate Bills ("SB") 2, SB 3, SB 35, SB 166, SB 167, SB 540, SB 897, and Assembly Bills ("AB") 72, AB 73, AB 571, AB 678, AB 1397, AB 1505, AB 1515, and AB 1521.

196. The Legislature has periodically, and expressly, imposed new statutory obligations on how local agencies plan for and approve land use projects. For example, in recent years, the Legislature required a greater level of certainty regarding the adequacy of water supplies as well as expressly required new updates to General Plans, which serve as the "constitution" of local land use authority, to expressly address environmental justice issues such as the extent to which poor minority neighborhoods are exposed to disproportionately higher pollution than wealthier and whiter neighborhoods.

197. Local government's role in regulating land uses, starting with the Constitution and then shaped by scores of statutes, is where the "rubber hits the road" on housing: without local

government approval of housing, along with the public services and infrastructure required to support new residents and homes, new housing simply cannot get built.

198. The Legislature has repeatedly authorized and/or directed specific agencies to have specific roles in land use decisionmaking.

199. The Legislature also is routinely asked to impose limits on local land use controls that have been rejected during the legislative process, such as the VMT reduction mandates described above. The Vibrant Communities Scoping Plan appendix is a litany of new policies, many of which were previously considered and rejected by the Legislature, directing eight state agencies to become enmeshed in directing the local land use decisions that under current law remain within the control of cities and counties (and their voting residents) and not within any role or authority delegated by the Legislature.

200. Just a few examples of Vibrant Community Scoping Plan measures adopted by CARB that have been expressly considered and rejected by the Legislature or are not legal include:

(A) **Establishing mandatory development area boundaries (urban growth boundaries) around existing cities,** that cannot be changed even if approved by local voters as well as the city and county, to encourage higher density development (*e.g.*, multi-story apartments and condominiums) and to promote greater transit use and reduce VMT. An authoritative study that CARB funded, as well as other peer reviewed academic studies, show that there is no substantial VMT reduction from these high density urban housing patterns—although there is ample confirmation of "gentrification" (displacement of lower income, disproportionately minority) occupants from higher density transit neighborhoods to distant suburbs and exurbs where workers are forced to drive greater distances to their jobs.[97] Mandatory urban growth boundaries have been routinely rejected in the Legislature. See AB 721 (Matthews, 2003)

[97] UCLA Department of Urban and Regional Planning, Oriented For Whom? The Impacts of TOD on Six Los Angeles Neighborhoods (June 2, 2015), http://www.urbandisplacement.org/sites/default/files/images/spring_2015_tod.pdf.

(proposing the addition of mandatory urban growth boundaries in the land use element of municipalities' general plans).

(B) **Charging new fees for cities and counties to pay for "eco-system services"** such as carbon sequestration from preserved vegetation on open space forests, deserts, agricultural and rangelands. Taxes or fees could not be imposed on residents of Fresno or Los Angeles to pay for preservation of forests in Mendocino or watersheds around Mount Lassen unless authorized by votes of the people or the Legislature—*except* that payment of fees has become a widespread "mitigation measure" for various "impacts" under CEQA. The 2017 Scoping Plan's express approval of the "Vibrant Communities" Appendix creates a massive CEQA mitigation measure work-around that can be imposed in tandem with agency approvals of local land use plans and policies that entirely bypasses the normal constitutional and statutory requirements applicable to new fees and taxes. Since CEQA applies only to new agency approvals, this unlawful and unauthorized framework effectively guarantees that residents of newly-approved homes will be required to shoulder the economic costs of the additional "mitigation" measures. This idea of taxation has been rejected by voter initiatives such as Proposition 13 (which limits ad valorem tax on real property to 1 percent and requires a 2/3 vote in both houses to increase state tax rates or impose local special taxes) and Proposition 218 (requiring that all taxes and most charges on property owners are subject to voter approval).

(C) **Intentionally worsening roadway congestion**, even for voter-funded and CARB-approved highway and roadway projects, to "induce" people to rely more on walking, biking, and public transit, and reduce VMT. Efficient goods movement, and avoidance of congestion, on California's highways and roads is required under both federal and state transportation and air quality laws. This component of "Vibrant Communities" is another example of a VMT reduction mandate, but is even more flatly inconsistent with applicable laws and common sense. Voters have routinely approved funding for new carpool lanes and other congestion relief projects. The goods movement industry—which is linked to almost 40% of all economic activity in Southern California and is critical to agricultural and other product-based business sectors throughout

California—cannot function under policies that intentionally increase congestion.[98] CARB has itself approved hundreds of highway improvement projects pursuant to the Legislative mandates in SB 375—yet the "Vibrant Communities" appendix unilaterally rejects this by telling Californians not to expect any relief from gridlock, ever again. The Legislature and state agencies have also consistently rejected VMT reduction mandates. See SB 150 (Allen, 2017) (initially requiring regional transportation plans to meet VMT reductions but modified before passage); SB 375 (Steinberg, 2008) (early version stating bill would require regional transportation plan to include preferred growth scenario designed to achieve reductions in VMT but modified before passage).

(D) **Mileage-based road pricing strategies which charge a fee per miles driven.** These types of "pay as you drive" fees are barred by current California law, which prohibits local agencies from "imposing a tax, permit fee or other charge" in ways that would create congestion pricing programs. Vehicle Code § 9400.8. Yet CARB attempts to override a Legislative mandate via the 2017 Scoping Plan and its "Vibrant Communities" strategies.

201. Through the Vibrant Communities strategies, CARB attempts to give state agencies expansive authority and involvement in city and county decisionmaking. The 2017 Scoping Plan asserts that the Vibrant Communities strategies will reduce GHG emissions by an amount that is "necessary" to achieving California's 2030 Target. However, no effort is made by CARB to quantify the reductions it anticipates would result from injecting these agencies into local decisionmaking processes. Instead, CARB merely states that the "Vibrant Communities" appendix is a supposedly-necessary step to meet the 2030 Target.

202. The eight named state agencies CARB attempts to give unauthorized authority over local actions are:[99]

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[98] Edward Humes, *Four Easy Fixes for L.A. Traffic*, L.A. Times (Apr. 10, 2016), http://www.latimes.com/opinion/livable-city/la-oe-humes-why-cant-trucks-and-cars-just-get-along-20160410-story.html; Eleanor Lamb, *California Eyes Future Projects to Relieve Freight Congestion,* Transport Topics (Mar. 26, 2018), http://www.ttnews.com/articles/california-eyes-future-projects-relieve-freight-congestion.

[99] Several of the eight named agencies are parent agencies, each of which has several subordinate agencies and departments. If these are counted, they collectively elevate the number of state agencies being coopted to join in CARB's local land use power grab to nearly twenty.

(1) **Business, Consumer Services and Housing Agency**, which among other subordinate agencies includes the Department of Housing and Community Development (HCD), which alone among these agencies has direct statutory responsibility for designating housing production and corresponding land use planning requirements for cities and counties;

(2) **California Environmental Protection Agency**, which is the parent agency for CARB as well as several other agencies and departments;

(3) **California Natural Resources Agency**, another parent agency of subordinate agencies and departments;

(4) **California State Transportation Agency**, most notably **Caltrans** – which the Scoping Plan would redirect from implementing their statutory responsibilities to reduce congestion and facilitate transportation on the state's highways to instead advancing CARB's "road diet" policy of intentionally increasing congestion to satisfy CARB's desire to induce more public transit ridership;

(5) **California Health and Human Services Agency**, which among other duties administers health and welfare assistance programs;

(6) **California Department of Food and Agriculture**, which among other duties regulates food cultivation and production activities;

(7) **Strategic Growth Council**, formed in 2008 by SB 732, which is tasked with "coordinating" activities of state agencies to achieve a broad range of goals but has no independent statutory authority to regulate housing or local land use plans and projects; and

(8) **Governor's Office of Planning and Research**, which has statutory responsibility to issue the CEQA Guidelines as well as "advisory" guidelines for local agency preparation of General Plans pursuant to Gov. Code § 65040.

203. The "Vibrant Communities" Appendix includes provisions that conflict with applicable law and/or have been rejected by the Legislature and cannot now be imposed by CARB through the 2017 Scoping Plan given California's comprehensive scheme of agency-allocated land use obligations (certain agencies—such as California Department of Fish and

Game, the Regional Water Quality Control Boards, and the Coastal Commission—already possess land use authority or obligations based on statutory or voter-approved schemes).

204. If CARB intends that other agencies be imbued with similar land use authority, it should ask the Legislature for such authority for those agencies, not its own Board. The "Vibrant Communities" Appendix should be struck from the 2017 Scoping Plan for this reason.

205. Less housing that is more expensive (urban growth boundary)[100], increased housing cost (CEQA mitigation measure fees), and ever-worsening gridlock resulting in ever-lengthier commutes with ever-increasing vehicular emissions and ever-reduced time at home with children, is the dystopian "necessity" built into the "Vibrant Communities" appendix.

206. Bureaucrats and tech workers in the "keyboard" economy who can work remotely, with better wages, benefits and job security that remove the economic insecurity of lifetime renter status, should be just fine. They can live in small apartments in dense cities filled with coffee shops and restaurants, rely on home delivery of internet-acquired meals and other goods, and enjoy "flextime" jobs that avoid the drudgery of the five-day work week model.

207. But for the rest of the California populace—including particularly the people (disproportionately minorities) staffing those restaurants and coffee shops, delivering those goods, providing home healthcare and building and repairing our buildings and infrastructure, and those Californians that are actually producing food and manufacturing products that are consumed in California and around the world—"Vibrant Communities" is where they can't afford to live, where they sleep in their cars during the week, where they fall into homelessness for missing rental payments because of an illness or injury to themselves or a family member.[101] For these folks, "Vibrant Communities" amounts to an increase in poverty, homelessness, and premature "despair deaths" as well as permanent drop outs from the work force.

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[100] Shishir Mathur, Impact of Urban Growth Boundary on Housing and Land Prices: Evidence from King County, Washington, Journal of Housing Studies Vol. 29 – Issue 1 (2014), https://tandfonline.com/doi/abs/10.1080/02673037.2013.825695.

[101] Alastair Gee, *Low-income workers who live in RVs are being 'chased out' of Silicon Valley streets,* The Guardian (June 29 2017), https://www.theguardian.com/us-news/2017/jun/29/low-income-workers-rvs-palo-alto-california-homeless.

208. For the foregoing reasons, the "Vibrant Communities" appendix is an unlawful and unconstitutional attempt by CARB to supplant existing local land use law and policy processes with a top-down regime that is both counterproductive and discriminatory against already-disadvantaged minority Californians, including but not limited to Petitioners.

E. CARB's Inadequate Environmental Analysis and Adverse Environmental Effects of the 2017 Scoping Plan

209. Along with the 2017 Scoping Plan, CARB prepared an EA purporting to comply with CEQA requirements.[102]

210. Under its certified regulatory program, CARB need not comply with requirements for preparing initial studies, negative declarations, or environmental impact reports. CARB's actions, however, remain subject to other provisions of CEQA. CEQA Guidelines § 15250.

211. CARB's regulatory program is contained in 17 C.C.R. §§ 60005, 60006, and 60007. These provisions require the preparation of a staff report at least 45 days before the public hearing on a proposed regulation, which report is required to be available for public review and comment. It is also CARB's policy "to prepare staff reports in a manner consistent with the environmental protection purposes of [ARB's] regulatory program and with the goals and policies of [CEQA]." The provisions of the regulatory program also address environmental alternatives and responses to comments on the EA.

212. For purposes of its CEQA review, CARB defined the project as the Proposed Strategy for Achieving California's 2030 Greenhouse Gas Target (Scoping Plan) and the recommended measures in the 2017 Plan (Chapter 2).

213. The Draft EA was released on or about January 20, 2017 for an 80-day public review period that concluded on or about April 10, 2017.

214. On or about November 17, 2017, CARB released the Final EA. CARB did not modify the Draft EA to bring it into compliance with CEQA's requirements.

[102] CARB has a regulatory program certified under Pub. Res. Code § 21080.5 and pursuant to this program CARB conducts environmental analyses to meet the requirements of CEQA.

215. The Final EA provides a programmatic analysis of the potential for adverse environmental impacts associated with implementation of the 2017 Scoping Plan. It also describes feasible mitigation measures for identified significant impacts.

216. The Final EA states that, although the 2017 Scoping Plan is a State-level planning document that recommends measures to reduce GHG emissions to achieve the 2030 target, and its approval does not directly lead to any adverse impacts on the environment, implementation of the measures in the Plan may indirectly lead to adverse environmental impacts as a result of reasonably foreseeable compliance responses.

217. The Final EA also states that CARB expects that many of the identified potentially significant impacts can be feasibly avoided or mitigated to a less-than-significant level either when the specific measures are designed and evaluated (e.g., during the rulemaking process) or through any project-specific approval or entitlement process related to compliance responses, which typically requires a project-specific environmental review.

218. The EA violated CEQA by failing to comply with its requirements in numerous ways, as described below.

1. Deficient Project Description

219. The EA's Project description was deficient because CARB did not assess the "whole of the project" as required by CEQA. The GHG Housing Measures are included in the 2017 Scoping Plan (in Chapters 2 and 5) and thus the "project" for CEQA purposes should have been defined to include potential direct and indirect impacts on the environment from the four GHG Housing Measures. Instead, CARB described the Project for CEQA purposes as the measures only in Chapter 2 of the 2017 Scoping Plan.

220. CARB has acknowledged that Chapter 5 of the 2017 Scoping Plan (which sets out the new GHG Housing Measures) was not part of what it analyzed in issuing the Scoping Plan. In CARB's words, "These recommendations in the 'Enabling Local Action' subchapter of the

Scoping Plan are not part of the proposed 'project' for purposes of CEQA review."[103] Thus, CARB admits that it did not even pretend to analyze the consequences of the provisions of Chapter 5 of the Scoping Plan.

221. The VMT reduction requirement is part of the Scoping Plan Scenario presented in Chapter 2 in the "Mobile Source Strategy".[104] Chapter 2 is included in the description of the Project in the EA but Chapter 5 is not, despite the fact that the VMT reduction mandate is found in both chapters.

222. For this reason, CARB applied an unreasonable and unlawful "project" definition and undermined CEQA's informational and decision-making purposes.

2. Improper Project Objectives

223. The Project objectives in the EA are also improperly defined in relation to the 2017 Scoping Plan, the unlawful GHG Housing Measures, and the goals explained in the 2017 Scoping Plan.[105] The EA states that the primary objectives of the 2017 Scoping Plan are:

- Update the Scoping Plan for achieving the maximum technologically feasible and cost-effective reductions in GHG emissions to reflect the 2030 target;
- Pursue measures that implement reduction strategies covering the State's GHG emissions in furtherance of executive and statutory direction to reduce GHG emissions to at least 40 percent below 1990 levels by 2030;
- Increase electricity derived from renewable sources from one-third to 50 percent;
- Double efficiency savings achieved at existing buildings and make heating fuels cleaner;
- Reduce the release of methane and other short-lived climate pollutants;

[103] Supplemental Responses to Comments on the Environmental Analysis Prepared for the Proposed Strategy for Achieving California's 2030 Greenhouse Gas Target (Dec. 14, 2017), p. 14-16, https://www.arb.ca.gov/cc/scopingplan/final-supplemental-rtc.pdf.

[104] Scoping Plan, p. 25 Table 1: Scoping Plan Scenario (listing Mobile Source Strategy (Cleaner Technology and Fuels [CTF] Scenario)).

[105] Appendix F to 2017 Scoping Plan, Final Environmental Analysis for the Strategy for Achieving California's 2030 Greenhouse Gas Target, p. 10-11, https://www.arb.ca.gov/cc/scopingplan/2030sp_appf_finalea.pdf.

- Pursue emission reductions that are real, permanent, quantifiable, verifiable and enforceable;
- Achieve the maximum technologically feasible and cost-effective reductions in GHG emissions, in furtherance of reaching the statewide GHG emissions limit;
- Minimize, to the extent feasible, leakage of emissions outside of the State;
- Ensure, to the extent feasible, that activities undertaken to comply with the measures do not disproportionately impact low-income communities;
- Ensure, to the extent feasible, that activities undertaken pursuant to the measures complement, and do not interfere with, efforts to achieve and maintain the NAAQS and CAAQS and reduce toxic air contaminant ("TAC") emissions;
- Consider overall societal benefits, including reductions in other air pollutants, diversification of energy sources, and other benefits to the economy, environment, and public health;
- Minimize, to the extent feasible, the administrative burden of implementing and complying with the measure;
- Consider, to the extent feasible, the contribution of each source or category of sources to statewide emissions of GHGs;
- Maximize, to the extent feasible, additional environmental and economic benefits for California, as appropriate;
- Ensure that electricity and natural gas providers are not required to meet duplicative or inconsistent regulatory requirements.

224. Because CARB used the unlawful "cumulative gap" methodology to calculate the emission reductions that it was required to achieve by 2030, the 2017 Scoping Plan does not meet the project objectives as described in the EA, *i.e.*, to meet the 2030 Target.

225. As explained throughout this Petition, CARB's 2017 Scoping Plan and the unlawful GHG Housing Measures are not cost-effective, are contrary to law, are not equitable to all Californians, and will increase criteria and TAC emissions preventing attainment of the NAAQS and CAAQS

226. For this reason, other alternatives to the 2017 Scoping Plan, including an alternative without the GHG Housing Measures, should have been assessed in the EA.

3. Illegal Piecemealing

227. CEQA requires an environmental analysis to consider the whole of the project and not divide a project into two or more pieces to improperly downplay the potential environmental impacts of the project on the environment.

228. CARB improperly piecemealed its 2017 Scoping Plan and the GHG Housing Measures within it from its similar and contemporaneous SB 375 GHG target update.[106] Both projects address mandated GHG reductions based on VMT and thus should have been addressed as one project for CEQA purposes.

229. In separately issuing the 2017 Scoping Plan and the SB 375 GHG target update, CARB improperly piecemealed a project under CEQA and thus the EA is inadequate as a matter of law.

4. Inadequate Impact Analysis

230. The analysis in the EA also was deficient because the EA did not analyze impacts from implementing the four GHG Housing Measures in Chapter 5, including, but not limited to, the CEQA net zero threshold, the VMT limits, and per capita GHG CAP targets, and the suite of Vibrant Communities measures.

231. Potential environmental impacts from these GHG Housing Measures overlap substantially with similar high density, transit-oriented, automobile use reduction measures included in regional plans to reduce GHGs from the land use and transportation sectors under SB 375. CARB has reviewed and approved more than a dozen SB 375 regional plans, each of which is informed by its own "programmatic environmental impact report ("PEIR").

232. Each PEIR for each regional plan has identified multiple significant adverse environmental impacts which cannot be avoided or further reduced with feasible mitigation

[106] California Air Resources Board, Updated Final Staff Report, Proposed Update to the SB 375 Greenhouse Gas Emission Reduction Targets (Feb. 2018), https://www.arb.ca.gov/cc/sb375/sb375.htm.

measures or alternatives.[107] In the first regional plan adopted for the SCAG region, California's most-populous region, the PEIR compared the impacts of developing all new housing within previously-developed areas in relation to developing half of such new housing in such areas, and the other half in previously-undeveloped areas near existing major infrastructure like freeways.

233. The SCAG 2012 PEIR concluded that the all-infill plan caused substantially more unavoidable significant adverse environmental impacts in relation to the preferred plan which divided new development equally between infill and greenfield locations.[108]

234. Following public comments and refinement of the PEIR (inclusive of the addition and modification of various mitigation measures to further reduce significant adverse environmental impacts), SCAG approved the mixed infill/greenfield plan instead of the all-infill alternative. CARB then approved SCAG's plan—first in 2012 and then again in 2016—as meeting California's applicable statutory GHG reduction mandates.[109]

235. The Scoping Plan's GHG Housing Measures now direct an infill only (or mostly infill) outcome, which SCAG's 2012 PEIR assessed and concluded caused far worse environmental impacts, even though it would result in fewer GHG emissions. In other words, SCAG's PEIR—and the other regional land use and transportation plan PEIRs prepared under SB 375—all disclosed a panoply of adverse non-GHG environmental impacts of changing California's land use patterns, and shaped both their respective housing plans and a broad suite of mitigation measures to achieve California's GHG reduction mandates while minimizing other adverse environmental impacts to California.

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[107] See SB 375 "Sustainable Communities Strategies" review page at https://www.arb.ca.gov/cc/sb375/sb375.htm, which includes links to the regional land use and transportation plans for multiple areas (which then further link to the PEIRs).

[108] SCAG, Final PEIR for the 2012-2035 RTP/SCS (April 2012), http://rtpscs.scag.ca.gov/Pages/Final-2012-PEIR.aspx.

[109] CARB Executive Order accepted the SCAG determination that its regional plan that balanced infill and greenfield housing development, and increased transit investments to encourage greater transit use without any VMT reduction mandate, would meet the GHG reduction targets mandated by law. See generally https://www.arb.ca.gov/cc/sb375/sb375.htm.

236. CARB's willful refusal to acknowledge, let alone analyze, the numerous non-GHG environmental impacts of its GHG Housing Measures in the 2017 Scoping Plan EA is an egregious CEQA violation.

237. Based on the greater specificity and the significant unavoidable adverse non-GHG environmental impacts identified in regional SB 375 plan PEIRs, the EA here clearly did not fully analyze the potential adverse environmental impacts from creating high-density, transit-oriented development that will result from the measures in the 2017 Scoping Plan, such as:

- Aesthetic impacts such as changes to public or private views and character of existing communities based on increased building intensities and population densities;
- Air quality impacts from increases in GHG, criteria pollutants, and toxic air contaminant emissions due to longer commutes and forced congestion that will occur from the implementation of the VMT limits in the 2017 Scoping Plan;
- Biological impacts from increased usage intensities in urban parks from substantial infill population increases;
- Cultural impacts including adverse changes to historic buildings and districts from increased building and population densities, and changes to culturally and religiously significant resources within urbanized areas from increased building and population densities;
- Urban agriculture impacts from the conversion of low intensity urban agricultural uses to high intensity, higher density uses from increasing populations in urban areas, including increasing the urban heat island GHG effect;
- Geology/soils impacts from building more structures and exposing more people to earthquake fault lines and other geologic/soils hazards by intensifying land use in urban areas;
- Hazards and hazardous materials impacts by locating more intense/dense housing and other sensitive uses such as schools and senior care facilities near freeways, ports, and stationary sources in urbanized areas;

- Hydrology and water quality impacts from increasing volumes and pollutant loads from stormwater runoff from higher density/intensity uses in transit-served areas as allowed by current stormwater standards;
- Noise impacts from substantial ongoing increases in construction noise from increasing density and intensity of development in existing communities and ongoing operational noise from more intensive uses of community amenities such as extended nighttime hours for parks and fields;
- Population and housing impacts from substantially increasing both the population and housing units in existing communities;
- Recreation and park impacts from increasing the population using natural preserve and open space areas as well as recreational parks;
- Transportation/traffic impacts from substantial total increases in VMT in higher density communities, increased VMT from rideshare/carshare services and future predicted VMT increases from automated vehicles, notwithstanding predicted future decrease in private car ownership;
- Traffic-gridlock related impacts and multi-modal congestion impacts including noise increases and adverse transportation safety hazards in areas of dense multi-modal activities;
- Public safety impacts due to impacts on first responders such as fire, police, and paramedic services from congested and gridlocked urban streets; and
- Public utility and public service impacts from substantial increases in population and housing/employment uses and demands on existing water, wastewater, electricity, natural gas, emergency services, libraries and schools.

238. CARB failed to complete a comprehensive CEQA evaluation of these and related reasonably foreseeable impacts from forcing all or most development into higher densities within existing urban area footprints, intentionally increasing congestions and prohibiting driving, and implementing each of the many measures described in the "Vibrant Communities" appendix. The

EA failed to identify, assess, and prescribe feasible mitigation measures for each of the significant unavoidable impacts identified above.

F. CARB's Insufficient Fiscal Analysis and Failure To Comply with the APA's Cost-Benefit Analysis Requirements

239. The APA sets out detailed requirements applicable to state agencies proposing to "adopt, amend or repeal any administrative regulation." Gov. Code § 11346.3.

240. CARB is a state agency with a statutory duty to comply with the rulemaking laws and procedures set out in the APA.

241. The APA requires that CARB, "prior to submitting a proposal to adopt, amend, or repeal a regulation to the office [of Administrative Law], shall consider the proposal's impact on business, with consideration of industries affected including the ability of California businesses to compete with businesses in other states. For purposes of evaluating the impact on the ability of California businesses to compete with businesses in other states, an agency shall consider, but not be limited to, information supplied by interested parties." Gov. Code § 11346.3(a) (2).

242. The APA further requires that "[a]n economic assessment prepared pursuant to this subdivision for a major regulation proposed on or after November 1, 2013, shall be prepared in accordance with subdivision (c), and shall be included in the initial statement of reasons as required by Section 11346.2." Gov. Code § 11346.3(a)(3).

243. CARB's new GHG Housing Measures will have an economic impact on California business enterprises and individuals in an amount exceeding fifty million dollars ($50,000,000) and therefore constitute a "major regulation" within the meaning of the APA and the California Department of Finance regulations incorporated therein. Gov. Code § 11346.3(c); 1 C.C.R. § 2000(g).

244. In adopting its 2017 Scoping Plan, CARB has failed to comply with these and other economic impact analysis requirements of the APA.

245. The 2017 Scoping Plan continues CARB's use of highly aggregated macroeconomic models that provide almost no useful information about potential costs and

impacts in industries and households. The LAO, an independent state agency, has consistently pointed out the flaws in CARB's approach since the first Scoping Plan was developed in 2008.

246. CARB's disregard of the APA's economic impact analysis requirements in issuing the 2017 Scoping Plan is only the latest example of a repeated flouting of the APA's requirements in pursuit of its pre-determined regulatory goals. The inadequacy of CARB's compliance with APA requirements has been documented in multiple LAO documents, including the following:

- In a November 17, 2008 letter to Assembly Member Roger Niello,[110] the LAO found that "ARB's economic analysis raises a number of questions relating to (1) how implementation of AB 32 was compared to doing BAU, (2) the incompleteness of the ARB analysis, (3) how specific GHG reduction measures are deemed to be cost-effective, (4) weak assumptions relating to the low-carbon fuel standard, (5) a lack of analytical rigor in the macroeconomic modeling, (6) the failure of the plan to lay out an investment pathway, and (7) the failure by ARB to use economic analysis to shape the choice of and reliance on GHG reduction measures."
- In a March 4, 2010 letter to State Senator Dave Cogdill,[111] the LAO stated that while large macroeconomic models used by CARB in updated Scoping Plan assessments can "capture some interactions among broad economic sectors, industries, consumer groupings, and labor markets," the ability of these models to "adequately capture behavioral responses of households and firms to policy changes is more limited. Additionally, because the data in such models are highly aggregated, they capture at best the behavioral responses of hypothetical "average" households and firms and do not score well in capturing and predicting the range of behavioral responses to policy changes that can occur for individual or subgroupings of households or firms. As a result, for example, the adverse jobs impacts—including job losses associated with those firms that are especially negatively impacted by the Scoping Plan—can

[110] LAO, http://www.lao.ca.gov/2008/rsrc/ab32/AB32_scoping_plan_112108.pdf.

[111] LAO, http://www.lao.ca.gov/reports/2010/rsrc/ab32_impact/ab32_impact_030410.aspx.

be hard to identify since they are obscured within the average outcome." The letter further noted multiple ways that the SP could affect jobs.

- Similarly, in a June 16, 2010 letter to Assembly Member Dan Logue,[112] the LAO found that CARB's revision to CARB's 2008 Scoping Plan analysis "still exhibits a number of significant problems and deficiencies that limit its reliability. These include shortcomings in a variety of areas including modeling techniques, identification of the relative marginal costs of different SP measures, sensitivity and scenario analyses, treatment of economic and emissions leakages, identification of the market failures used to justify the need for the regulations selected, analysis of specific individual regulations to implement certain Scoping Plan measures, and various data limitations." As a result, the LAO concluded that, contrary to CARB's statutory mandates, "The SP May Not Be Cost-Efficient." Given these and other issues, it is unclear whether the current mix and relative importance of different measures in the Scoping Plan will achieve AB 32's targeted emissions reductions in a cost-efficient manner as required."
- In a June 2017 presentation to the Joint Committee on Climate Change Policies, *Overview of California Climate Goals and Policies,*[113] and after the draft 2017 Scoping Plan had been released for public review, the LAO concluded that "To date, there have been no robust evaluations of the overall statewide effects—including on GHG reductions, costs, and co-pollutants—of most of the state's major climate policies and spending programs that have been implemented."

247. CARB's persistent failure to address the APA's economic analysis requirements, and its penchant for "jumping the gun" by taking actions without first complying with CEQA and other rulemaking requirements, also has drawn criticism from the courts.

[112] LAO, http://www.lao.ca.gov/reports/2010/rsrc/ab32_logue_061610/ab32_logue_061610.pdf.

[113] LAO, http://lao.ca.gov/handouts/resources/2017/Overview-California-Climate-Goals-Policies-061417.pdf.

248. In *Lawson v. State Air Resources Board* (2018) 20 Cal.App.5th 77, 98, 110-116 ("*Lawson*"), the Fifth District Court of Appeal, in upholding Judge Snauffer's judgment, found both that CARB "violated CEQA by approving a project too early" and that it also violated the APA. The Court explained the economic impact assessment requirements of the APA "granularly" to provide guidance to CARB for future actions and underscored that "an agency's decision to include non-APA compliant interpretations of legal principles in its regulations will not result in additional deference to the agency", because to give weight or deference to an improperly-adopted regulation "would permit an agency to flout the APA by penalizing those who were entitled to notice and opportunity to be heard but received neither." *Id.* at 113. Despite these recent warnings, CARB has chosen to proceed without complying with CEQA or the APA.

249. CARB's use of the improper "cumulative gap" methodology to determine the GHG reductions it claims are necessary for the 2017 Scoping Plan to meet the 2030 Target means that the inputs for the CARB FA were improper. The FA, which is supposed to inform policymakers and the public about the cost-effectiveness and equity of the Scoping Plan measures, is based on meeting the 621 $MMTCO_2e$ GHG "cumulative gap" reduction requirement invented by CARB.

250. In fact, the final FA adopted by CARB indicates that an earlier version was based on the asserted "need" to fill an even larger "cumulative gap" of 680 $MMTCO_2e$. This improper analysis renders the FA and the cost analysis required under the APA invalid.

G. The Blatantly Discriminatory Impacts of CARB's 2017 Scoping Plan

251. CARB has recognized that "[i]t is critical that communities of color, low-income communities, or both, receive the benefits of the cleaner economy growing in California, including its environmental and economic benefits." Scoping Plan, p. 15.

252. The GWSA specifically provides, at H&S Code § 38565, that: "The state board shall ensure that the greenhouse gas emission reduction rules, regulations, programs, mechanisms, and incentives under its jurisdiction, where applicable and to the extent feasible, direct public and private investment toward the most disadvantaged communities in California and provide an opportunity for small businesses, schools, affordable housing associations, and other community

institutions to participate in and benefit from statewide efforts to reduce greenhouse gas emissions."

253. CARB's standards, rules, and regulations also must, by statute, be consistent with the state goal of providing a decent home and suitable living environment for every Californian. H&S Code § 39601(c). This includes affordable housing near jobs for hard working, low-income minority families.

254. California produces less than one percent of global GHG emissions, and has lower per capita GHG emissions than any other large state except New York, which unlike California still has multiple operating nuclear power plants to reduce its GHG emissions.[114]

255. As Governor Brown and many others have recognized, California's climate change leadership depends not on further mass reductions of the one percent of global GHG emissions generated within California, but instead on having other states and nations persuaded to follow the example already set by California.

256. In any event, as recently demonstrated in a joint study completed by scholars from the University of California at Berkeley and regulators at the Bay Area Air Quality Management District ("BAAQMD")[115], high wealth households cause far more global GHG emissions than middle-class and poor households. The Scoping Plan ignores this undisputed scientific fact and unfairly, and unlawfully, seeks to burden California's minority and middle-class households in need of affordable housing with new regulatory costs and burdens that do not affect existing, wealthier homeowners who "already have theirs".

257. California has the nation's highest poverty rate, highest housing prices, greatest housing shortage, highest homeless population—and highest number of billionaires.[116] While it is

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[114] U.S. Energy Information Agency, State Carbon Dioxide Emissions Data, October 2017, https://www.eia.gov/environment/emissions/state/.

[115] BAAQMD and Cool Climate Network at UC Berkeley, Consumption Based GHG Emissions Inventory (2016), http://www.baaqmd.gov/research-and-data/emission-inventory/consumption-based-ghg-emissions-inventory.

[116] David Friedman, Jennifer Hernandez, California's Social Priorities, Holland & Knight, Chapman University Press (2015), https://perma.cc/XKB7-4YK4; Liana Fox, The Supplemental Poverty Measure: 2016, U.S. Census Bureau Report Number: P60-261, Table A-5 (Sept. 21, 2017), https://www.census.gov/library/publications/2017/demo/p60-261.html.

not the function of the courts to address economic inequalities, the federal and state Constitutions prohibit the State from enacting regulatory provisions that have the inevitable effect of unnecessarily and disproportionately disadvantaging minority groups by depriving them of access to affordable housing that would be available in greater quantity but for CARB's new GHG Housing Measures.

258. Members of hard working minority families, in contrast to wealthier white elites, currently are forced to "drive until they qualify" for housing they can afford to own, or even rent.[117] As a result, long-commute minority workers and their families then suffer a cascading series of adverse health, educational and financial consequences.[118]

259. It is well-documented and undisputed, in the record that the current housing shortage—which CARB's regulations would unnecessarily exacerbate—falls disproportionately on minorities. As stated in a United Way Study, "Struggling to Get By: The Real Cost Measure in California 2015" [119]: "Households led by people of color, particularly Latinos, disproportionately are likely to have inadequate incomes. Half (51%) of Latino households have incomes below the Real Cost Measure,[120] the highest among all racial groups. Two in five (40%) of African American households have insufficient incomes, followed by other races/ethnicities (35%), Asian Americans (28%) and white households (20%)." Put simply, approximately 80% of the poorest households in the State are non-white families.

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[117] Mike McPhate, *California Today: The Rise of the Super Commuter,* N.Y. Times (Aug. 21, 2017), https://www.nytimes.com/2017/08/21/us/california-today-super-commutes-stockon.html; Conor Dougherty, Andrew Burton, *A 2:15 Alarm, 2 Trains and a Bus Get Her to Work by 7 A.M.*, N.Y. Times (Aug. 17, 2017), https://www.nytimes.com/2017/08/17/business/economy/san-francisco-commute.html.

[118] Rebecca Smith, Here's the impact long commutes have on your health and productivity, *Business Insider* (May 22, 2017), http://www.businessinsider.com/long-commutes-have-an-impact-on-health-and-productivity-2017-5.

[119] Betsy Block et al, Struggling to Get By: The Real Cost Measure in California 2015 (2016), p. 10, https://www.norcalunitedway.org/sites/norcalunitedway.org/files/Struggling_to_Get_By_3.pdf.

[120] The United Way study uses the "Real Cost Measure" to take account of a family budget to meet basic needs, composed of "costs all families must address such as food, housing, transportation, child care, out-of-pocket health expenses, and taxes." *Id.*, p. 8.

260. As noted in the same report: "Housing costs can consume almost all of a struggling household's income. According to Census Bureau data, housing (rent, mortgage, gas/electric) makes up 41% of household expenses in California. . . . Households living above the Federal Poverty Level but below the Real Cost Measure spend almost half of their income on rent (and more in many areas), and households below the Federal Poverty Level, however, report spending 80% of their income on housing, a staggering amount that leaves precious little room for food, clothing and other basics of life." *Id.*, p. 65.[121]

261. As further documented in the United Way report presented to CARB: "Recognizing that households of all kinds throughout the state are struggling should not obscure one basic fact: race matters. Throughout Struggling to Get By, we observe that people of Latino or African American backgrounds (and to a lesser extent Asian American ones) are less likely to meet the Real Cost Measure than are white households, even when the families compared share levels of education, employment backgrounds, or family structures. While all families face challenges in making ends meet, these numbers indicate that families of color face more obstacles in attempting to achieve economic security."[122]

262. Against this background, CARB's new GHG Housing Measures, which disproportionately harm housing-deprived minorities while not materially advancing the cause of GHG reductions, cannot be justified. CARB's new GHG Housing Measures, facially and as applied to the housing sector in particular, are not supported by sound scientific analysis and are in fact counterproductive. CARB's new GHG Housing Measures establish presumptive legal standards under CEQA that currently impose, as a matter of law, costly new mitigation obligations that apply only to housing projects proposed now and in the future to meet

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[121] In addition, family wealth of homeowners has increased in relation to family wealth of renters over time and a homeowners' net worth is 36 times greater than a renters' net worth. Jesse Bricker, et al., Changes in US Family Finances from 2010 to 2013: Evidence from the Survey of Consumer Finances, 100 Fed. Reg. Bull. 4 (Sept. 2014), https://www.federalreserve.gov/pubs/bulletin/2014/articles/scf/scf.htm.

[122] *Id.* p. 75. Studies predict that the 2014-2016 dataset will show a wealth differential between homeowners and renters of 45 times. Lawrence Yun, *How Do Homeowners Accumulate Weath?*, Forbes (Oct. 14, 2015), https://www.forbes.com/sites/lawrenceyun/2015/10/14/how-do-homeowners-accumulate-wealth/#7eabbecd1e4b.

California's current shortfall of more than three million homes that experts and the Governor-elect agree are needed to meet current housing needs. Two specific examples are provided below.

263. By establishing a new "net zero" GHG CEQA significance threshold for all new projects, CARB has created a new legal obligation for such new projects to "mitigate" to a "less than significant" level all such GHG impacts. The California Air Pollution Control Officers Association ("CAPCOA"), which consists of the top executives of all of the local and regional air districts in California, has developed a well-established model for calculating GHG emissions from such new projects called The California Emissions Estimator Model ("CalEEMod").[123] This model is in widespread use throughout the state, and has been determined by the California Supreme Court to be a valid basis for estimating GHG emissions from residential projects for purposes of CEQA. *Newhall,* supra, 62 Cal.4th at 217-218.

264. CalEEMod calculates GHG emissions for 63 different types of development projects, including multiple types of residential projects. The scientific and legal framework of CalEEMod is the foundational assumption that all GHG project emissions are "new" and would not occur if the proposed project was not approved or built.

265. Within this overall framework, CalEEMod identifies GHG emissions that occur during construction (e.g., from construction vehicles and construction worker vehicular trips to and from the project site), and during ongoing project occupancy by new residents. GHG occupancy or "operational" emissions include GHG emissions from offsite electricity produced to serve the project, from onsite emissions of GHG from natural gas appliances, from on- and off-site GHG emissions associated with providing drinking water and sewage treatment services to the project, from vegetation removal and planting, and from vehicular use by project occupants on an ongoing basis. *See, e.g.*, Appendix A of CalEEMod[124]; South Coast Air Quality Management District User's Guide to CalEEMod[125].

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[123] Available at: http://www.caleemod.com/.

[124] CalEEMod Appendix A: Calculation Details for CalEEMOd, available at: http://www.aqmd.gov/docs/default-source/caleemod/caleemod-appendixa.pdf.

[125] CalEEMod User's Guide, available at: http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4.

266. Under the CalEEMod CEQA compliance framework, if the project does not occur then the GHG emissions do not occur—notwithstanding the practical and obvious fact that people who cannot live in new housing they can afford must still live somewhere, where they will still engage in basic activities like consuming electricity, drinking water, and driving cars.

267. Under CEQA, a "significant" environmental impact is required to be "mitigated" by measures that avoid or reduce the significance of that impact by all "feasible" means. Pub. Res. Code § 21102. The CEQA Guidelines define "feasible" as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal , social and technological factors." 14 C.C.R. § 15364.

268. The first of two examples of immediate and ongoing harm relates to the increased cost of housing caused by the "net zero" threshold. Before the 2017 Scoping Plan was approved, no agency or court had ever required a "net zero" GHG threshold. The only example of a residential project that met this target involved a voluntary commitment by the project applicant to a "net zero" project, in which 49% of the project's GHG emissions were "offset" by GHG reductions to be achieved elsewhere (e.g., funding the purchase of cleaner cook stoves in Africa) and paid for by higher project costs.

269. There is no dispute that funding these types of GHG reduction measures somewhere on Earth is "feasible" taking into account three of CEQA's five "feasibility" factors (environmental, social and technological). With housing costs already nearly three times higher in California than other states, home ownership rates far lower, and housing-induced poverty rates the highest in the nation, it remains possible – in theory – to demonstrate that in the context of a given housing project, adding $15,000-$30,000 more to the price of a home to fund the purchase of cleaner cook stoves in Africa, for example, would not be "legally" or "economically" feasible.

270. This theoretical possibility of demonstrating that any particular mitigation cost results in "economic infeasibility" has not succeeded, however, for any housing project in the nearly-50 year history of CEQA. A lead agency decision that a mitigation measure is infeasible must be supported by substantial evidence in the record—effectively the burden is placed on the project applicant to prove this latest "net zero" increment of mitigation costs is simply too

expensive and will make the project "infeasible." No court has found that a housing project has met this burden. *See, e.g.*, *Uphold our Heritage v. Town of Woodside* (2007) 147 Cal.App.4th 587. Further, this infeasibility evaluation applies to the applicant for the housing project, not prospective future residents—simply raising housing prices affordable only to wealthier buyers.

271. The CEQA mitigation criterion of legal infeasibility is likewise illusory when applied to the GHG mitigation measures required to achieve a "net zero" significance threshold. Although there is some judicial precedent recognizing that lead agencies cannot impose CEQA mitigation obligations outside their jurisdictional boundaries (e.g, in adjacent local jurisdictions), this precedent—like OPR's definitive regulatory conclusion that CEQA cannot be used to impose a "net zero" threshold even and specifically within the context of GHG—is directly challenged by the 2017 Scoping Plan, which cited with approval the one "net zero" GHG residential project that relied in part on offsite (off-continent) GHG reduction measures.

272. This "legal infeasibility" burden of proof also is extremely high under CEQA. For example, the California Supreme Court considered in *City of San Diego, et al. v. Board of Trustees of California State University* (2015) 61 Cal.4th 945, the University's "economic infeasibility" argument in relation to making very substantial transfer payments to local government to help fund local highway and transit infrastructure, which would be used in part by the growing student, faculty and staff for the San Diego campus. Although the Court acknowledged that the Trustees had expressly requested, and been denied, funding by the Legislature to help pay for these local transportation projects, the Court did not agree this was adequate to establish economic infeasibility under CEQA since the Trustees could have sought alumni donations or funding from other sources, or elected to stop accommodating new students in San Diego and instead grown other campuses with potentially lower costs. When CARB's "net zero" GHG measures are coupled with the "legal infeasibility" burden of proof, the result is a legal morass that frustrates the efforts of local governments to implement the Legislature's pro-housing laws and policies, to the detriment of under-housed minorities, including Petitioners.

273. The second example of immediate and ongoing harm is CARB's direct intervention in projects already in CEQA litigation by opining on the acceptable CEQA

mitigation for GHG emissions from fuel use, which typically create the majority of GHG emissions from new housing projects. In a long series of evolving regulations including most recently the 2018 adoption of new residential Building Code standards[126], and in compliance with the consumer protection and cost-effectiveness standards required for imposing new residential Building Code requirements established by the Legislature (Pub. Resources Code §§ 25402(b)(3), (c)(1); 25943(c)(5)(B)), California law requires new residences to be better insulated, use less electricity, install the most efficient appliances, use far less water (especially for outdoor irrigation), generate electricity (from rooftop solar or an acceptable alternative), and transition to future electric vehicles. These and similar measures have substantially reduced the GHG emissions from ongoing occupancy of new housing.

274. Under the CalEEMod methodology, however, gasoline and hybrid cars used by new residents are also counted as "new" GHG emissions attributed to that housing project – and these vehicular GHG emissions now account for the vast majority of a typical housing project's GHG emissions.[127]

275. In 2017, the Legislature expanded its landmark "Cap and Trade" program establishing a comprehensive approach for transitioning from fossil fuels to electric or other zero GHG emission technologies, which already includes a "wells to wheels" program for taxing oil and natural gas extraction, refinement, and ultimate consumer use.[128] CARB has explained that the Cap and Trade Program requires fuel suppliers to reduce GHG emissions by supplying low

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[126] See California Building Standards Commission, 2018 Triennial Code Adoption Cycle, available at: http://www.bsc.ca.gov/Rulemaking/adoptcycle/2018TriennialCodeAdoptionCycle.aspx. *See also* California Energy Code, California Code of Regulations, Title 24, Part 6; Building Energy Efficiency Standards (2019 update).

[127] In the Northlake project challenged in a comment letter citing noncompliance with the 2017 Scoping Plan discussed *supra* ¶ 42, for example, total project GHG emissions after mitigation were 56,722 metric tons, of which mobile sources from vehicles comprised 53,863 metric tons. Los Angeles County, Draft Supplemental EIR (May 2017), Table 5.7-3 (p. 5.7-26), available at https://scvhistory.com/scvhistory/files/northlakehills_deir_0517/northlakehills_deir_0517.pdf

[128] A.B. 398, 2017 (California Global Warming Solutions Act of 2006: market-based compliance mechanisms: fire prevention fees: sales and use tax manufacturing exemption).

carbon fuels or purchasing allowances to cover the GHG emissions produced when the conventional petroleum-based fuels they supply are burned.

276. Specifically, as part of the formal rulemaking process for the Cap and Trade Legislation, CARB staff explained in its *Initial Statement of Reasons for the Proposed Regulation to Implement the California Cap and Trade Program*, that:

> To cover the emissions from transportation fuel combustion and that of other fuels by residential, commercial, and small industrial sources, staff proposes to regulate fuel suppliers based on the quantifies of fuel consumed by their customers. … Fuel suppliers are responsible for the emissions resulting from the fuel they supply. In this way, a fuel supplier is acting on behalf of its customers who are emitting the GHGs … Suppliers of transportation fuels will have a compliance obligation for the combustion of emissions from fuel that they sell, distribute, or otherwise transfer for consumption in California. … [B]ecause transportation fuels and use of natural gas by residential and commercial users is a significant portion of California's overall GHG emissions, ***the emissions from these sources are covered indirectly through the inclusion of fuel distributers [in the Cap and Trade program]***."(emphasis added).[129]

277. CARB's express recognition of the fact that the Cap and Trade program "covers" emissions from the consumption of fossil fuels in the Cap and Trade regulatory approval process, in marked contrast with the challenged Housing Measures in the 2017 Scoping Plan, was subject to its own comprehensive environmental and economic analysis – which in no way disclosed, analyzed, or assessed the impacts of forcing residents of new housing to pay for GHG emission reductions from their fossil fuel uses at the pump (and in electricity bills) like their already-housed neighbors, and then paying *again – double-paying* – in the form extra GHG mitigation measures for the *same emissions*, resulting in higher housing costs.

278. The 2017 Scoping Plan likewise entirely omitted any analysis of the double-charging of residents of new homes for GHG emissions from the three million new homes the state needs to build to solve the housing crisis. Simply put, CARB should not now be permitted to use what purports to be only an "advisory" 2017 Scoping Plan to disavow and undermine its

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[129] CARB. October 2011. California's Cap-And-Trade Program Final Statement of Reasons, p. 2: https://www.arb.ca.gov/regact/2010/capandtrade10/fsor.pdf; (incorporating by reference CARB. October 28, 2010. Staff Report: *Initial Statement of Reasons for the Proposed Regulation to Implement the California Cap-and-Trade Program Part 1, Vol. 1,* pp. II-10, II-20, II-21, 11-53: https://www.arb.ca.gov/regact/2010/capandtrade10/capisor.pdf)

formal rulemaking statement for the Cap and Trade regulations, nor can CARB use this asserted "advisory" document to invent the new CEQA GHG mitigation mandates (and preclude use of Cap and Trade as CEQA mitigation) without going through a new regulatory process to amend its Cap and Trade program.

279. Whether compliance with Cap and Trade for fossil fuels used to generate electricity or power cars used by a particular project is an adequate mitigation measure for GHG under CEQA has been hotly contested in past and pending CEQA lawsuits. In *Newhall*, *supra*, 62 Cal.4th 204, one of the approved GHG compliance pathways for CEQA identified by the Court was compliance with applicable laws and regulations. That case was extensively briefed by numerous advocates (*see* Opening Brief on the Merits, *Center for Biological Diversity v. California Department of Fish and Game* (2015) 62 Cal.4th 204 (No. 5-S217763), and Consolidated Reply Brief, *Center for Biological Diversity v. California Department of Fish and Game*, (2015) 62 Cal.4th 204 (No. 9-S217763), which urged the Court to conclude as a matter of law that CEQA requires "additive" mitigation beyond what is otherwise required to comply with applicable environmental, health and safety laws.

280. Neither the appellate courts nor Supreme Court have imposed this novel interpretation of the GHG mandates imposed by CEQA as a newly discovered legal requirement lurking within this 1970 statute. As noted above, the Supreme Court declined to do so by expressly recognizing that compliance with law was one of several compliance "pathways" for addressing GHG impacts under CEQA. (*Newhall, supra,* 62 Cal.4th at 229). (*See also, Center for Biological Diversity et al. v. Department of Fish and Game* (2014) 224 Cal.App.4th 1105.)[130]

281. Consistent with this Supreme Court directive, and informed by both the Legislative history of the Cap and Trade program and by CARB's contemporaneous explanation that compliance with Cap and Trade is indeed the sole GHG mitigation required for fossil fuel use, several projects have mitigated GHG emissions from fossil fuel by relying on the legislated,

[130] This appellate court decision, which was reversed and remanded by the Supreme Court decision in the same case, is cited as evidence for the proposition that what constitutes adequate mitigation for GHG impacts under CEQA has been hotly contested in the courts.

and regulated, Cap and Trade program and similar legislative as well as regulatory mandates to reduce GHG emissions from fossil fuel. This has been accomplished through measures such as the Low Carbon Fuel Standards, which collectively and comprehensively mandate prescribed reductions in GHG emissions from fossil fuel use.

282. This approach has been expressly upheld by the Fifth District Court of Appeal in *Association of Irritated Residents v. Kern County Bd. of Supervisors* (2017) 17 Cal.App.5th 708 ("*AIR"*). Although the project at issue was a refinery source that was itself clearly included within the category of industrial operations directly regulated by the Cap and Trade Program, opponents challenged that project's reliance on the Cap and Trade program for non-refining GHG emissions such as GHG emissions produced offsite by the electricity producers that provided power to the consumer power grid, and by vehicles used by contractors and employees engaged in refinery construction and operational activities. *See, e.g*., Appellants' Opening Brief, *AIR*, *5th Dist. Case No. F073892 (December 9, 2016) at 29 (arguing that "[c]ap-and-trade does not apply to greenhouse gas emissions from trains, trucks, and building construction . . . .") and at 34-35 (arguing that participation in the cap and trade program is inadequate mitigation for project emissions). The CEQA lead agency and respondent project applicant argued that reliance on Cap and Trade as CEQA mitigation was lawful and sufficient under CEQA. *See* Joint Respondents' Brief, *AIR*, 5th Dist. Case No. F073892 (March 10, 2017), at 52-56 (arguing that "The EIR Properly Incorporated GHG Emission Reductions Resulting From Cap-and-Trade In The Environmental Analysis").

283. The Fifth District concluded that compliance with the Cap and Trade program for the challenged project were adequate CEQA GHG mitigation. That case was then unsuccessfully challenged, and unsuccessfully petitioned for depublication, by numerous advocates that continued to assert that CEQA imposes an "additive" GHG mitigation obligation that could not be met by paying the higher fuel costs imposed by the Cap and Trade program.[131]

[131] *See* Letter from CARB to City of Moreno Valley regarding Final Environmental Impact Report for World Logistics Center, available at: https://www.arb.ca.gov/toxics/ttdceqalist/logisticsfeir.pdf.

284. California already has the highest gasoline prices of any state other than Hawaii. CARB has consistently declined to disclose how much gasoline and diesel prices would increase under the 2017 Cap and Trade legislation. The non-partisan LAO completed an independent analysis of this question, and in 2017 concluded that under some scenarios, gasoline would increase by about 15¢ per gallon – and in others by about 73¢ per gallon. The LAO also noted that these estimated increases in gasoline prices "are an intentional design feature of the program."[132]

285. By using CEQA mitigation mandates created by the Scoping Plan to require only the disproportionately minority occupants of critically needed future housing to double-pay (both at the pump and in the form of higher housing costs imposed as a result of CEQA mitigation for the same fuel consumption), CARB has established a disparate new financial burden that is entirely avoided by those generally whiter, wealthier, and older Californians who have the good fortune of already occupying a home.

286. Both CARB and the Attorney General have acted in bad faith, and unlawfully, in their public description of and subsequent conduct regarding the immediate effectiveness and enforcement of the 2017 Scoping Plan.

287. First, in a written staff report distributed at the December 17, 2017 hearing at which the CARB Board approved the Scoping Plan, CARB staff misled the public and its Board by pretending that the challenged Housing Measures are simply not part of the Scoping Plan at all, and thus need not be considered as part of the environmental or economic study CARB was required to complete as part of the Scoping Plan approval process. This assertion flatly contradicted an earlier description of the immediately-implementing status of these Housing Measures made in a public presentation by a senior CARB executive.

288. Next, the Attorney General repeatedly advised this Court that the challenged Housing Measures were merely "advisory" and explained "the expectation that new measures proposed in the [Scoping] plan would be implemented through subsequent legislation or

[132] LAO, https://lao.ca.gov/letters/2017/fong-fuels-cap-and-trade.pdf.

regulations." (Memorandum of Points and Authorities in Support of Demurrer to Plaintiff's Verified Petition for Writ of Mandate, Case No. 18-CECG-01494 (August 31, 2018), p. 8:18-19 ("AG Memo")). The AG Memo argued that the disparate harms caused by such measures are not ripe because such subsequent implementing legislative or regulatory actions "have yet to be taken" (Reply Memorandum in Support of Defendants California Air Resources Board and Richard Corey's Demurrer to Plaintiffs' Verified Petition for Writ of Mandate *etc.*, Case No. 18-CECG-01494(October 16, 2018), p. 2:6-7 ("AG Reply Memo"), and that Petitioners' assertions that the challenged Housing Measures would result in litigation disputes aimed at stopping or increasing the cost of housing was "wildly speculative" (AG Memo, p. 10:7). Further the Attorney General argued that the 2017 Scoping Plan "cannot be reasonably viewed as providing a valid basis for filing suit under CEQA." (AG Memo, p. 14:15) The same arguments were advanced in this Court's hearing on October 26, 2018.

289. Meanwhile, however, and virtually simultaneously with making contrary assertions to this Court, both the Attorney General and CARB were filing comment letters (precedent to CEQA lawsuits), and the Attorney General filed an amicus brief in a CEQA lawsuit, to challenge the legality of a CEQA lead agency's mitigation measure (in one case) and proposed General Plan element approval (in another case) *based on alleged failure to comply with applicable Housing Measures in the Scoping Plan.*

290. CARB's (and the Attorney General's) claims that the 2017 Scoping Plan is merely "advisory" and that its future effects are merely "speculative" (as well as its express denial at the December 2017 hearing on the 2017 Scoping Plan that the four challenged GHG Housing Measures are even part of the Plan), have been belied by the actual use of the 2017 Scoping Plan by CARB and the Attorney General themselves, as well as by third party agencies and anti-housing project CEQA litigants. Among the recent examples of the use of the Scoping Plan are the following:

A. **CARB September 7, 2018 Comment Letter:** Before even completing its Demurrer briefing to this Court, on September 7, 2018, CARB filed a comment letter criticizing the revised Final Environmental Impact Report for the World

Logistics Center project. A copy of this letter can be found at https://www.arb.ca.gov/toxics/ttdceqalist/logisticsfeir.pdf. CARB's comment letter opines that as an absolute and unambiguous matter of law, compliance with the Cap and Trade program is not a permissible mitigation under CEQA. CARB's comment dismisses as "novel" the contention that compliance with laws and regulations requiring reductions in GHG can be, and is in fact, a permissible and legally sufficient mitigation measure under CEQA. Strikingly, CARB's letter simply ignores the *Newhall* decision. As for the Fifth District's on-point decision in *AIR*, CARB's letter states (at p. 11, note 23) that, "*[i]n CARB's view this case was wrongly decided as to the Cap-and-Trade issue* . . . ." Thus, CARB in its public comments is urging permitting agencies to *disregard* court decisions on GHG issues and instead to follow CARB's supposedly "advisory" Scoping Plan policies, which it cites extensively . This type of CEQA "expert agency" letter can be used by the agency itself, if it chooses to file a lawsuit against an agency approving a project in alleged noncompliance with CEQA, or it can be used for its evidentiary value (and expert agency opinions are presumptively entitled to greater deference) by any other third party filing a CEQA lawsuit against that project, or even in another lawsuit raising similar issues provided that the CARB comment letter is submitted in the agency proceeding that is targeted by such second and subsequent lawsuits.

B. **Attorney General's September 7, 2018 Comment Letter:** Also on September 7, 2018, the Attorney General ("AG") joined CARB in criticizing the World Logistics Project's GHG analysis in a comment letter that prominently featured the 2017 Scoping Plan. A copy of this letter can be found at https://oag.ca.gov/sites/all/files/agweb/pdfs/environment/comments-revised-sections-feir.pdf. Like CARB, the AG relied on the Scoping Plan to measure the adequacy of GHG measures under CEQA. Also like CARB, the AG sought to sidestep the Fifth District's *AIR* decision, but did so "[w]ithout commenting on

whether or not that case was rightly decided" in the AG's opinion (p. 6). The Attorney General's comment letter relies on the 2017 Scoping Plan in opining that "CEQA requires" the CEQA lead agency to "evaluate the consistency of the Project's substantial increases in GHG emissions with state and regional plans and policies calling for a dramatic reduction in GHG emissions" The AG goes on to conclude that the lead agency engaged in a "failure to properly mitigate" impacts as required by CEQA because the project's "increase in GHG emissions conflicts with the downward trajectory for GHG emissions necessary to achieve state climate goals." The AG again cites the 2017 Scoping Plan text in explaining that, unless they mandate CEQA GHG mitigation measures that go beyond compliance with applicable GHG reduction laws and regulations, "local governments would . . . not be doing their part to help the State reach its ambitious, yet necessary, climate goals." [AG letter at p. 7-11]

C. **Attorney General's November 8, 2018 Amicus Filing:** A third example is provided by the AG's November 8, 2018 filing of an "Ex Parte Application of People of the State of California for Leave to File Amicus Curiae Brief in Support of Petitioners" in *Sierra Club, et al. v. County of San Diego* (Nov. 8, 2018) No. 37-2018-00014081-CU-TT-CTL (San Diego Superior Court). A true copy of this Ex Parte Application and accompanying AG memorandum is attached hereto as **Exhibit 1**. A copy of the underlying Sierra Club petition, into which the AG has sought to inject the Scoping Plan, is attached hereto as **Exhibit 2**. In the amicus filing (Exhibit 1), the Attorney General asserts that he "has a special role in ensuring compliance with CEQA", and that he "has actively participated in CEQA matters raising issues of greenhouse gas ("GHG") emissions and climate change." (Application at 3:16, 24-25.) The challenged San Diego County Climate Action Plan actually includes and requires implementation of the 2017 Scoping Plan's "recommended" Net Zero GHG CEQA threshold for new projects, but was nevertheless challenged in this lawsuit the grounds that it did not also mandate a

reduction in Vehicle Miles Traveled because it allowed the County to approve new housing projects that fully mitigated ("Net Zero GHG") all GHG emissions but still resulted in an increase in VMT from residents living in this critically needed new housing. Petitioners in the consolidated proceedings in this case have claimed that based on the state's climate laws including the 2017 Scoping Plan, the County could not lawfully approve any amendment to its General Plan to accommodate any of the state's three million home shortfall unless such housing was higher density (e.g., apartments) and located inside or immediately adjacent to existing urban areas served by transit, because only that type of housing and location could result in the required reduction in VMT. Petitioners in these cases further identified the pending housing projects they believed could not be approved by the County. Petitioners sought (and obtained) injunctive relief to prevent such housing projects from relying on this "Net Zero" GHG Climate Action Plan as allowed by one of the CEQA compliance pathways identified by the Supreme Court in its *Newhall* decision, and identified by the Legislature itself in CEQA compliance provisions set forth in SB 375. In his amicus brief, the Attorney General repeatedly cites CARB's 2017 Scoping Plan as the legal basis for a new mandate that allegedly prohibits San Diego County (and all other counties) from meeting any part of the housing shortfall with more traditional homes (e.g., small "starter" homes and duplexes, which cost less than a third to build than higher density apartment units), or from locating these new homes anywhere other than an existing developed city or unincorporated community. The Attorney General also falsely argues that VMT reductions are mandated by other state laws; however, no law enacted by the California Legislature mandates any VMT reduction, and the Legislature has repeatedly rejected enacting such a mandate.[133]

[133] The Attorney General further argues that VMT reductions are required by SB 375, which is designed to reduce GHG (not VMT) with land use and transportation plans, even though SB 375 specifically directs CARB to develop compliance metrics and CARB has

291. CARB cannot have it both ways: it cannot coyly claim that the 2017 Scoping Plan is merely "advisory" and then fire into the end of a second round of CEQA documentation for a single project a new legal conclusion that upends the published judicial precedents of our courts. The AG similarly cannot assure this Court that it is "wildly speculative" for a CEQA lawsuit to be filed in reliance on the challenged measures in the 2017 Scoping Plan, and then six days later file an amicus in a CEQA lawsuit that does just that. If CARB wants to change Cap and Trade laws and regulations, and other GHG reduction laws and regulations applicable to fossil fuels, to make those not already fortunate enough to have housing pay both at the pump, and in their down-payment/mortgage and rent check, for "additive" GHG reductions above and beyond what their more fortunate, generally whiter, wealthier and older well-housed residents have to pay, then that is first and foremost a new mandate that can only be imposed by the Legislature given direct court precedent on this issue.

292. If such a mandate were proposed by the Legislature, a full and transparent debate about the disparate harms such a proposal would confirm that those most affected by the housing crisis, including disproportionately our minority communities, would suffer the equivalent of yet another gasoline tax on those least able to pay, and most in need of new housing. Petitioners are confident that the Legislature would not approve such a proposal.

293. Even these few examples of direct CARB and Attorney General implementation actions of the 2017 Scoping Plan to require more mitigation or block new housing demonstrate the immediate and ongoing harm of the 2017 Scoping Plan's challenged Housing Measures, which CARB and the Attorney General have opined impose higher CEQA "mitigation" costs on housing under a "net zero" GHG mitigation framework, and block otherwise lawful new housing altogether under the Scoping Plan's "VMT reduction" framework. The harms caused by these Housing Measures is not "wildly speculative"— they are already underway. They already disproportionately affect California minority communities not already blessed with wealth and

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itself repeatedly declined to require VMT reduction compliance metrics under SB 37 as late as December of 2017 and March of 2018.

homeownership, and they are already the subject of both administrative and judicial proceedings. They are properly and timely before this Court. The following paragraphs provide additional evidence of ripeness in the context of the three other challenged Housing Measures, beyond the "Net Zero" GHG threshold and corresponding mitigation mandates described above.

294. The 2017 Scoping Plan's new numeric thresholds for local climate action plans present similarly immediate and ongoing harms to Petitioner/Plaintiffs. In its *Newhall* decision, the California Supreme Court concluded that one of the "pathways" for CEQA compliance was designing projects that complied with a local Climate Action Plan ("CAP") having the then-applicable GHG statutory reduction mandate of reducing GHG emissions to 1990 levels by 2020.

295. Housing projects that complied with a local CAP had been duly approved by the same local governments responsible for planning and approving adequate housing for our minority communities. This provided a judicially streamlined pathway for GHG CEQA compliance for housing. Local CAPs include community-scale GHG reduction strategies such as pedestrian, bicycle and transit improvements that are beyond the ability of any single housing project to invent or fully fund, and thus CAP compliance is a known and legally-defensible CEQA GHG compliance pathway. The Scoping Plan destroyed that pathway, and accordingly caused and is causing immediate harm to new housing projects that could otherwise rely on the CAP compliance pathway for CEQA.

296. There is no statutory obligation for a city or county to adopt a CAP, nor are there any regulations prescribing the required contents of a CAP; instead, a CAP's primary legal relevance to proposed new housing projects occurs within the CEQA compliance context.

297. There has been a flurry of unresolved and ongoing CEQA interpretative issues with respect to CAPs that have been and remain pending in courtrooms throughout California. For example, in the City of San Diego and the County of Sonoma, multi-year lawsuits have resulted in two judicial decisions that make clear that any jurisdiction electing to voluntarily approve a CAP must assure that the CAP has clear, adequate and enforceable measures to achieve the GHG reduction metric included in the CAP. *See Sierra Club v. County of San Diego* (2014) 231 Cal.App.4th 1152; *California Riverwatch v. County of Sonoma* (July 20, 2017) Case No.

SCV-259242 (Superior Court for the County of Sonoma)[134]; *see also Mission Bay Alliance, et. al. v. Office of Community Investment and Infrastructure, et. al.* (2016) 6 Cal.App.5th 160 (upholding the adequacy of a CAP as CEQA compliance for a new professional sports facility).

298. The new numeric GHG per capita metric that the 2017 Scoping Plan prescribes as the presumptively correct GHG reduction target for CAPs places the entire burden of achieving the state's legislated 40% reduction target by 2030, and the unlegislated 80% reduction target by 2050, on local governments, with for example a numeric GHG reduction target of 2 tons per person per year by 2050. However, as the 2017 Scoping Plan itself makes clear, the vast majority of GHG emissions derive from electric power generation, transportation, manufacturing, and other sectors governed by legal standards, technologies, and economic drivers that fall well beyond the land use jurisdiction and control of any local government. The Scoping Plan does not even quantify the GHG reductions to be achieved by local governments, in their voluntary caps or otherwise: it seeks to define and achieve the state's GHG reduction mandates with measures aimed at specific GHG emission sectors.

299. The 2018 San Diego County CAP, adopted after the County lost its first CEQA lawsuit, adopts both CARB's numeric GHG targets—and the mandate that new housing projects entirely absorb the additional cost of fully offsetting GHG emissions in compliance with the "net zero" standard by paying money to fund GHG reduction projects somewhere on earth. The San Diego CAP both proves the immediacy of the disparate mitigation cost harms of the Scoping Plan's imposition of even higher costs to housing critically needed by California's minority communities, and provides a case study in the anti-housing legal morass created by the 2017 Scoping Plan's ambiguous—and unexamined from an equity, environmental, economic disclosure or public review process—new CEQA "net zero" threshold and CAP per capita numeric standards.

[134] The trial court order in *California Riverwatch v. County of Sonoma* is cited herein as evidence for the existence of CEQA litigation challenges to local climate action plans and not as legal precedent. The order is available at: http://transitionsonomavalley.org/wp-content/uploads/2017/07/Order-Granting-Writ-7-20-17.pdf.

300. San Diego County faces its third round of CAP litigation (with the prior two rounds still ongoing in various stages of judicial remand and review) in a lawsuit filed in 2018, in which the same group of petitioners allege that the County again failed to include sufficient mandatory measures to achieve the 2017 Scoping Plan per capita GHG reduction metric because it continued to allow new housing to be built if offsetting GHG reductions were funded by the housing project in or outside the County. A copy of one such lawsuit (consolidated with others) is attached for reference as Exhibit 2. This lawsuit seeks a blanket, County-wide writ of mandate that would block "processing of permits for development projects on unincorporated County lands" unless these new housing-blocking measures are included. (See Exhibit 2 at p. 17:3-7.) The petitioners in these consolidated cases against San Diego County have further made clear that their ongoing objections to the County's CAP were so severe that they had also been compelled to file CEQA lawsuits *against individual housing projects*, and in their lawsuit, they have included a list of nearly a dozen pending housing projects that in their judgment should not be allowed to proceed. As described above, the Attorney General filed a request for leave to file an amicus brief in this case, accompanied by an amicus brief. See Exhibit 1. Based on CARB's 2017 Scoping Plan, the AG has sought to bolster to the petitioners' anti-housing CEQA lawsuits, including their claims that designated housing projects in unincorporated San Diego County cannot lawfully be approved or built based on VMT impacts, even if all GHG impacts are mitigated to "net zero."

301. This CEQA morass of extraordinary GHG reduction costs imposed only on residents of newly constructed housing, with still pending and unresolved CEQA lawsuit challenges against the CAP and specific housing projects, for GHG reductions that are not even quantified, let alone critical to California's climate leadership, is itself an ample demonstration of the disparate harms of CARB's poorly-conceived and discriminatory GHG Housing Measures.

302. The Scoping Plan's VMT reduction measure is likewise causing immediate, ongoing, and disparate harm to California's minority communities who are forced to drive ever-greater distances to find housing they can afford to buy or rent. As in the case of local climate action plans, there is no statewide statutory or regulatory mandate for reducing VMT. The

Legislature considered and rejected imposing a VMT reduction mandate, and CARB considered and rejected imposing a VMT reduction mandate as part of the regional land use and transportation planning mandated under SB 375 (first postponing its decision in December of 2017, at the same hearing CARB approved the Scoping Plan – and then definitively rejecting it in March of 2018).

303. At these hearings, CARB was informed that VMT had increased in California while transit utilization had fallen dramatically notwithstanding billions of dollars in new transit system investments. VMT reduction thus could not appropriately be included as SB 375 compliance metrics and with increases in electric and high efficiency hybrid vehicles, the correlation between VMT and GHG emissions is increasingly weak.

304. Even more than CARB's other GHG Housing Measures, the VMT reduction mandate is uniquely targeted to discriminate against minority workers. The American Community Survey ("ACS") is a project of the U.S. Census Bureau and tracks a wide range of data over time—including the ethnicity, transportation mode, and times of California commuters. The ACS data demonstrate that in the 10 year period between 2007 and 2016, 1,117,273 *more* Latino workers drove to their jobs, 377,615 *more* Asian workers drove to their jobs, and 18,590 *more* African American workers drove to their jobs.[135] During the same period, 447,063 *fewer* white workers drove to their jobs. Transit utilization increased for white and Asian workers, but fell for Latino and African American workers. During the same period, commute times lengthened substantially as more people—again disproportionately minorities—were forced to commute longer distances to housing they could afford.

305. By 2016, about 445,000 people in the Bay Area were commuting more than an hour each direction—an increase of 75% over the 2006 count of long distance Bay Area commuters. Anyone driving between the Bay Area and Central Valley during commute times vividly experiences the gridlock conditions, adverse personal health (e.g., stress, high blood

[135] David Friedman, Jennifer Hernandez, California, Greenhouse Gas Regulation, and Climate Change, Holland & Knight, Chapman University Press (2018), Table 3.7, p. 84, https://www.chapman.edu/wilkinson/_files/ghg-fn.pdf.

pressure, back pain), and adverse family welfare (e.g., missed dinners, homework assistance, and exhaustion) consequences of these commutes.

306. CARB (and the Attorney General) also have no support for their argument disputing the fact that the challenged Housing Measures disproportionately affect minority community members. As early as 2014, CARB received a comprehensive report from NextGen, a firm closely aligned with the strongest supporters of California's climate leadership, urging CARB to restructure its electric car subsidy program, which was found to be disproportionately benefitting those in Marin County and other wealthier and whiter areas that could afford to purchase costly new electric vehicles. In "No Californian Left Behind," Next Gen noted the obvious: "the overwhelming majority of Californians still use cars to get to work," including 77% who commute alone and 12% who carpool. Further, "[i]n less densely developed and rural areas like California's San Joaquin Valley, commuters often have long distances to drive between home, school, work and shopping; as a result, car ownership is often not a choice, but a necessity." Even more specifically, the report found that in Fresno County, even for workers earning less than $25,000, fewer than 3 percent of commuters take public transportation to work; in Madera County, only 0.3% of low-income workers took transit, and the results were comparable in in the rest of the San Joaquin Valley. Next Generation, *No Californian Left Behind: Clean and Affordable Transportation Options for all through Vehicle Replacement*, *http://www.thenextgeneration.org/files/No_Californian_Left_Behind_1.pdf (February 27, 2014) at p. 9. NextGen advocated a restructured vehicle program designed to equitably retire and replace the oldest most polluting cars, and to shift subsidy and incentive programs to help those who are either low income or need rural transport to obtain cleaner, lower-GHG emitting cars. (*Id.* p. 5) NextGext noted:

> "California is already a leader in advanced and high tech transportation and transit solutions. It is time we also became a leader in pragmatic solutions for a population that is sometimes left behind in these discussions: non-urban, low-income, car-dependent households."

The VMT reduction mandate in the 2017 Scoping Plan was specifically identified as CARB was fully on notice of the disparate harms caused to minority communities by its approach. In a report submitted to CARB by the climate advocacy group NextGen in February 2014, CARB was informed that Central Valley Latinos drive longer distances than any other ethnic group in any other part of California—and live in communities and households with the highest poverty rates.

307. Notwithstanding CARB's express acknowledgement in March of 2018 (and preview in December of 2017) that even the regional transportation and housing plans required by SB 375 cannot attain a VMT reduction target, CARB and its fellow "Vibrant Communities Appendix" agencies, remain committed to using CEQA to require new projects—including housing that is affordable and critically needed for California's minority communities—to pay higher costs to fund VMT reductions through CEQA.

308. As with the "net zero" GHG mitigation mandate, the immediate and ongoing effect of this VMT reduction measure is to increase housing costs to even less affordable and attainable levels for California's minority communities.

309. Even before enactment of the 2017 Scoping Plan, OPR (the Vibrant Communities agency that has the responsibility for adopting regulatory updates to CEQA) had been proposing to regulate the act of driving a car (even an electric vehicle or carpool) one mile (one VMT) as a new CEQA "impact" requiring "mitigation"— independent of whether the mile that was driven actually caused any air quality, noise, GHG, safety, or other impacts to the physical environment.

310. This expansion of CEQA was prompted in 2013, when OPR was directed by the Legislature in SB 743 to adopt a metric other than congestion-related traffic delay in transit-served "infill" areas as the appropriate transportation impact required to be evaluated and mitigated under CEQA, since these neighborhoods were intentionally being planned for higher density, transit/bike/pedestrian rather than automobile-dependent, neighborhoods. Pub. Res. Code § 21099(b).

311. In SB 743, the Legislature authorized but did not require the state Office of Planning and Research (OPR) to use VMT as the replacement metric for transit-served areas, and authorized but did not require OPR to apply an alternate transportation impact metric outside

designated urban infill transit neighborhoods. OPR responded with three separate rounds of regulatory proposals, each of which proposed expanding CEQA by making VMT a new CEQA impact, and requiring new mitigation to the extent a VMT impact was "significant." OPR further proposed a series of VMT significance thresholds, analytical methodologies, and potential mitigation measures, which varied over time but included a "road diet" and measures to discourage reducing congestion, on the theory that such congestion could somehow "induce" transit use and VMT reductions.

312. Under all three sets of OPR proposals, projects would be required to do more mitigation to reduce significant VMT impacts—by reducing VMT (i.e., reducing GHG or other air pollutants is not a valid CEQA mitigation approach for a new VMT impact). OPR received scores of comments objecting to expanding CEQA by making driving a mile a new "impact" requiring "mitigation," particularly given the disparate impact such a metric has on minority communities and the many adverse impacts to the environment, and public health and welfare, caused by the housing crisis and the state's worst-in-the-nation commutes.

313. OPR, again and repeatedly citing to the asserted need to reduce VMT to meet California's GHG reduction and climate leadership commitments, held a recent round of workshops on VMT mitigation strategies, working in close coordination with CARB's earlier and since-abandoned proposal to include VMT reductions as a required SB 375 regional transportation plan compliance measures.

314. At these workshops, OPR and its outside experts from an Oregon university conceded that VMT could likely not be "mitigated" by reducing miles driven by the future residents of any particular housing project (e.g., by adding secure bike racks or charging extra for parking), since whether people drive a mile or call an Uber—or hop on a bike or bus—is a function of available, cost- and time-effective transportation modes as well as the incomes and planned destinations of future residents. Agency workshop participants expressly acknowledged that VMT had increased 6% over 2011 levels, even though California's primary climate statutes (including many programs designed to promote transit and higher density development, and many

billions of dollars in completed transit systems improvements) were in effect during this same period.

315. These experts also conceded that with the success of on-demand ride services like Uber and Lyft, including the increasing cost-effectiveness and popularity of voucher-based on-demand rides by transit agencies in lieu of operating fixed route buses with low and still-declining utilization levels, there was *no evidence* that VMT could be substantially reduced by a particular project in a particular location as part of the CEQA review process for that project.

316. Instead, the VMT mitigation proposals shared during the workshops required that new housing pay others to operate school buses, bikeshare, and make improvements to bike and pedestrian pathways to the extent these measures could be demonstrated to reduce VMT. The suggested VMT mitigation measures had in common the payment of substantial fees (with some options suggested requiring annual payments, in perpetuity, of $5000 per apartment or home).

317. A recent academic study of VMT mitigation under CEQA likewise concedes the difficulty of a particular project achieving VMT reductions, and endorses the concept of adding to housing and other project costs payments to VMT "banks" or "exchanges" to fund third party VMT reductions – VMT reductions that occur somewhere, by someone.

318. This OPR VMT saga, like CARB's ultimate decision not to require a VMT compliance metric under SB 375, further demonstrates that the 2017 Scoping Plan's VMT reduction mandate measure – which CARB's senior executive expressly acknowledged was intended to be "self-executing" - is a fundamentally flawed "throw-away" measure that was neither acknowledged nor given an equity, environmental, or economic evaluation before being included in CARB's 2017 Scoping Plan.

319. The last of the challenged GHG Housing Measures is the Vibrant Communities Appendix, in which eight state agencies (including OPR) join with CARB in committing to undertake a series of actions to implement the approved Scoping Plan. Some of these agencies already have begun implementing the Scoping Plan, to the immediate and ongoing harm of California minority communities who are already disproportionately suffering from the housing crisis.

320. The Vibrant Communities appendix is an "interagency vision for land use, **and** for discussion" (emphasis added) of "State-Level Strategies to Advance Sustainable, Equitable Communities and Reduce Vehicles Miles of Travel (VMT)." 2017 Scoping Plan Appendix C, p. 1.

321. **First,** all of disparate and unlawful current and ongoing harms described in connection with the Scoping Plan's VMT Reduction measure apply equally to the actions of other State agencies based on the Vibrant Communities appendix measures. None have a rational basis for claiming any actual success in reducing VMT through their respective direct regulatory activities.

322. **Second,** there is no constraint in the "Vibrant Communities Appendix" preventing any of the eight state agency signatories from taking immediate steps to directly enforce these "land use" policies, while claiming to "work together to achieve this shared vision and to encourage land use and transportation decisions that minimize GHG emissions." 2017 Scoping Plan Appendix C, p. 2.

323. OPR's VMT expansion of CEQA, discussed above, is an example of an agency action to reduce VMT and GHG that is at least subject to formal rulemaking procedures and is thus not yet being "implemented."

324. In contrast, in June of 2018, a combination of four Vibrant Communities Appendix implementing agencies joined by one other agency[136] announced that they would henceforth implement – without benefit of any further Legislative or regulatory action –the "December 2017 Scoping Plan directive". This announcement was made at the San Francisco Bay Area Regional Meeting announcing the "California's 2030 Natural and Working Lands Climate Change Implementation Plan." Consistent with the anti-housing bias built into CARB's GHG Housing Measures, these agencies collectively promised to avoid "conversion of land for development."

[136] The five agencies are: the California Environmental Protection Agency, the California Natural Resources Agency, CARB, the California Department of Food and Agriculture, and the Coastal Conservancy.

325. These five agencies made no exception for developing housing, even for housing that CARB has already concluded as part of the SB 375 regional plan process meets California's legislated GHG emission reduction requirements. These agencies likewise made no exception for transportation or other critical infrastructure, even if consistent with local and regional plans, even if approved by federal or state agencies other than this five-agency consortium, even if within an approved city limit, and even if approved by voters. *Simply put, these agencies – which have combinations of funding, permitting, planning and enforcement obligations – have signaled that they are not going to approve new development on land that is not already developed.*

326. The sole reed upon which this vast new legal prohibition rests is the 2017 Scoping Plan, and more specifically the Vibrant Communities Appendix. See SF Bay Area Regional Meeting, *California's 2020 Natural and Working Lands Climate Change Implementation Plan*, available at http://resources.ca.gov/wp-content/uploads/2018/08/SF-Bay-Area-NWL-meeting-presentation-6.18.pdf.

327. Less than 6% of California is urbanized, and each city and county is charged by state law with adopting a General Plan that must accommodate the housing, transportation, and infrastructure needs of its existing and planned future residents. Under SB 375, these local land use plans are effectively consolidated into regional transportation and land use plans that must accommodate future population and economic growth as well as meet CARB targets for reducing GHG from the land use sector. Every regional Sustainable Communities Strategy ("SCS") plan includes some combination of housing, infrastructure (including transportation improvements), schools and other land uses that are carefully and deliberatively sited within each jurisdiction's boundaries – and adopted only after each local government first complies with CEQA and completes an extensive public notice, comment, and hearing process before appointed and elected officials.

328. The decision of the California Department of Fish & Wildlife ("CDFW") to simply stop issuing permits for housing and related infrastructure projects that have already been approved by local elected officials, after community input, in compliance with all applicable laws—and have further already been approved by CARB, as part of the SB 375 regional plan

approval process—is a blatant example an announced harm being committed against housing by a state agency in furtherance of CARB's 2017 Scoping Plan.

329. **Third**, consistent with normal practice for lawsuits that include a claim that the respondent agency has failed to comply with CEQA, Petitioners elected to prepare the administrative record that is relevant to the disposition of this CEQA cause of action. The Legislature has specifically prescribed the content of the CEQA administrative record, which includes in part: "Any other written materials relevant to the respondent public agency's compliance with this division or to its decision on the merits of the project" and "all . . . internal agency communications, including staff notes and memoranda relating to the project." Pub. Res. Code § 21167.6(c)(10).

330. Petitioners timely sought the administrative record from CARB, and in another normal practice for CEQA lawsuits submitted requests filed under the California Public Records Act ("CPRA") to each of the Vibrant Communities Appendix agencies in relation to each agency's Scoping Plan and Vibrant Communities Appendix, and VMT or other Scoping Plan documents.

331. Many months later, only incomplete responses have been provided by CARB (which sought to limit the administrative record in this case to select excerpts from its Scoping Plan docket).

332. Several of the Vibrant Communities Appendix agencies, including CDFW, OPR, parent and affiliated agencies of each (Natural Resources Agency and Strategic Growth Council), and CalSTA, responded with minimal documents and instead asserted that the requested documents were exempt from disclosure under the CPRA because they could result in public "controversy."

333. One of these partially-responsive agencies admitted that the withheld documents involved the highest level of state government, and included legislative proposals. All of these partially-responsive agencies declined a second letter request to disclose the withheld documents, or provide a privilege log describing each withheld document and the reason for its concealment.

334. There is no centralized or otherwise public repository of Vibrant Communities Appendix agency documents that disclose to the public their current, planned, or future activities with respect to implementing the Scoping Plan. There is likewise no centralized or otherwise public repository of which implementing activities are being (or will be) directly undertaken, and which will not be undertaken without future rulemaking or authorizing legislation.

335. From just the "direct" implementation activities noted above—and in particular CARB's intervention in an ongoing CEQA project-level review to opine on GHG mitigation requirements in a manner that is contrary to published judicial opinions, and CDFW's announced intention to cease authorizing activities that would convert land to development with no exception for new housing or related infrastructure that is already included in approved General Plans, infrastructure plans, voter-approved bonds, or CARB-approved Sustainable Communities Strategies implementing SB 375, is ample evidence of the immediate and ongoing new costs and regulatory obstacles already being imposed by these agency Scoping Plan implementing actions.

336. CARB's GHG reduction compliance metric is arbitrary, not supported by science, has no rational basis, and is racially discriminatory. In California's GHG and climate leadership laws, the Legislature did not prescribe any specific measurement methodology or compliance metric for meeting California's GHG reduction goals. The methodology and metrics that CARB has chosen completely ignore massive GHG emissions that occur when California's forests burn, as has tragically occurred at a large scale for several of the past years, notwithstanding estimates that just one major forest fire wipes out an entire year of GHG reductions achieved by CARB's regulatory actions.[137]

337. Similarly, CARB does not count—or require reductions of—GHG emissions associated with imported foods or other goods, or with a multitude of other activities such as airplane trips. However, every time a California resident (or job) leaves California, CARB counts that as a GHG reduction—even though the top destinations for the hundreds of thousands of

[137] David Friedman, Jennifer Hernandez, California, Greenhouse Gas Regulation, and Climate Change, Holland & Knight, Chapman University Press (2017), p. 60-61, https://www.chapman.edu/wilkinson/_files/ghg-fn.pdf.

Californians who have migrated to lower cost states in recent years, notably including Texas, Arizona and Nevada—have per capita GHG emissions that are more than double the emissions those same individuals would have if they remained in California.

338. Climate change and GHG emissions are a global challenge, and nearly tripling the GHG emissions of a California family that needs to move to Texas or Nevada to find housing they can afford to rent or buy, increases global GHG.

339. It may be that there are other environmental priorities favored by CARB and its allies that justify policies that are in fact resulting in the displacement and relocation of California's minority communities, that reduce the state's population, and that eliminate higher energy production jobs like manufacturing that traditionally provided a middle class income (and home ownership) to a hard worker without a college degree. These discriminatory anti-minority policies cannot, however, be scientifically, politically, or legally justified in the name of global reductions of GHG.

340. CARB's International Policy Director on climate, former Obama administration senior climate team Lauren Sanchez, admitted that the GHG reduction metrics used by CARB – that simply and completely ignores the increased global GHG emissions from forcing Californians to live in high GHG states to find housing they can afford to buy with commute times that did not damage driver health, family welfare, and the environment - were "flawed" at the recent (October 2018) Environmental Law Conference in Yosemite. This admission rebuts the politically shocking and legally invalid assertion that it is constitutional for CARB to implement racially discriminatory measures (because CARB's discriminatory objective is merely to force minority Californians to either try to live in housing they cannot afford located nowhere near their job, or migrate to another state).

341. The 2017 Scoping Plan is required to reduce California's share of *global* GHG emissions, but it completely ignores massive emission sources that are controversial within the environmental community (e.g. managing California's massive wildfire risks which result in GHG emissions that dwarf CARB's regulatory GHG reductions, based on what the non-partisan

Little Hoover Commission reported in February 2018 as a century of forest mismanagement including clashes between environmental agencies). [138]

342. The 2017 Scoping Plan also completely ignores other massive GHG emissions attributed to the behavior of wealthier Californians (e.g., airplane rides, and consumption of costly imported consumer products).[139] Instead, as summarized a Chapman University Research Brief, CARB has administered California's climate laws with actions such as the 2017 Scoping Plan that drive up the fundamental costs of living for ordinary Californians—housing, electricity, transportation—and thereby drive more people (and disproportionately minorities) into poverty, and out of the state.[140]

343. The 2017 Scoping Plan fails even the most rudimentary "rational basis" constitutional test, and it is being implemented today by organizations and agencies including CARB that are driving up housing costs and blocking housing projects today. To cause this much pain and hardship to this many people, and to place the greatest burdens on those already disparately harmed by the housing crisis, is unconscionable. It is also ongoing, illegal, and unambiguously intentional, for CARB to impose these "flawed" GHG reduction metrics that cause disparate harms to racial minorities living in California.

344. The foregoing paragraphs describe agency actions that are exacerbating the State's extreme poverty, homelessness and housing crisis while *increasing* global GHG emissions by driving Californians to higher per capita GHG states.[141]

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[138] Little Hoover Commission, *Fire on the Mountain: Rethinking Forest Management in the Sierra Nevada* (February 2018), available at https://lhc.ca.gov/report/fire-mountain-rethinking-forest-management-sierra-nevada.

[139] Bay Area Air Quality Management District and Cool Climate Network at UC Berkeley, *Consumption-Based GHG Emissions Inventory: Prioritizing Climate Action for Different Locations* (December 15, 2015), available at https://escholarship.org/uc/item/2sn7m83z

[140] Friedman, Id., Summary at p. 7-9.

[141] Philip Reese, *California Exports Its Poor to Texas, Other States, While Wealthier People Move In*, The Sacramento Bee (Mar. 5, 2017), available at http://www.sacbee.com/news/state/california/article136478098.html; Drew Lynch, *Californians Consider Moving Due to Rising Housing Costs, Poll Finds*, Cal Watchdog (Sept. 21, 2017), available at https://calwatchdog.com/2017/09/21/californians-consider-moving-due-rising-

345. CARB's new GHG Housing Measures, individually and collectively, on their face and as applied, deprive Petitioners, including but not limited to RODRIGUEZ, MURILLO and PEREZ, and other historically-disadvantaged minorities, of the fundamental right to live in communities that are free from arbitrary, government-imposed standards whose inevitable effect is to perpetuate their exclusion from participation in the housing markets in or near the communities in which they work. CARB's new GHG Housing Measures, individually and collectively, on their face and as applied, have a disparate adverse impact on Petitioners, including but not limited to RODRIGUEZ, MURILLO and PEREZ, and other historically-disadvantaged minorities, as compared to similarly-situated non-minorities who currently enjoy affordable access to housing near their workplaces.

346. CARB's new GHG Housing Measures, on their face and as applied to the sorely-needed development of new, affordable housing, are arbitrary and not rationally related to the furtherance of their purported regulatory goal of reducing overall GHG emissions.

H. CARB'S GHG Housing Measures Are "Underground Regulations" and Ultra Vires

347. A regulation is defined as "every rule, regulation, order, or standard of general application or the amendment, supplement, or revision of any rule, regulation, order, or standard adopted by any state agency to implement, interpret, or make specific the law enforced or administered by it, or to govern its procedure." Gov. Code § 11342.600.

348. State agencies are required to adopt regulations following the procedures established in the APA and are prohibited from issuing and enforcing underground regulations. Gov. Code § 11340.5. Under the APA, an underground regulation is void.

349. Each of CARB's new GHG Housing Measures are being implemented by CARB, and other state and local agencies, without further rulemaking or compliance with the APA. The GHG Housing Measures are underground regulations requiring APA compliance, and cannot be

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housing-costs-poll-finds/; U.S. Energy Information Agency, State Carbon Dioxide Emissions Data, October 2017, available at https://www.eia.gov/environment/emissions/state/.

lawfully implemented absent authorizing Legislation or formal rulemaking (inclusive of environmental and economic review as required by the APA).

350. CARB's new GHG Housing Measures infringe on areas reserved for other State agencies in two ways:

A. Senate Bill ("SB") 97 directs OPR to develop CEQA significance thresholds via the CEQA Guidelines. OPR's update does not include the Scoping Plan's presumptive CEQA GHG threshold. CARB was expressly allowed by the Legislature in SB 97 to adopt a CEQA significance threshold only in the context of updates to the CEQA Guidelines, which must undergo a rigorous rulemaking process. CARB has acted *ultra vires* and contrary to the express command of the Legislature in adopting its recommended CEQA significance threshold in the Scoping Plan.

B. California has adopted new building standards, which are designed to assure that new building code requirements are cost effective (with payback to the consumer). "Net zero" new home building standards were not included. CARB has no Legislative authority to bypass and frustrate this consumer protection law by using CEQA as a workaround to require "net zero".[142]

351. In articulating and publishing its new GHG Housing Measures, CARB has not complied with the APA's rulemaking procedures and requirements. As a consequence, CARB's new GHG Housing Measures are unlawful underground regulations, and should be held to be void and of no effect.

FIRST CAUSE OF ACTION

(Fair Employment and Housing Act, Gov. Code § 12955 *et seq.*)

352. Petitioners hereby re-allege and incorporate herein by reference the allegations contained in paragraphs 1-351 above, as well as in paragraphs 358-458.

[142] See generally California Department of Housing and Community Development, State Housing Law Program Laws and Regulations, http://www.hcd.ca.gov/building-standards/state-housing-law/state-housing-laws-regulations.shtml.

353. The Fair Employment and Housing Act (Gov. Code , § 12955 *et seq.*) ("FEHA") provides, *inter alia*, that: "It shall be unlawful . . . (l) To discriminate through public or private land use practices, decisions, and authorizations, because of race, color, . . national origin, source of income or ancestry."

354. CARB's new GHG Housing Measures, on their face and as applied, constitute public land use practices decisions and/or policies subject to the FEHA.

355. CARB's new GHG Housing Measures actually and predictably have a disparate negative impact on minority communities and are discriminatory against minority communities and their members, including but not limited to Petitioners RODRIGUEZ, MURILLO, and PEREZ.

356. CARB's new GHG Housing Measures and their discriminatory effect have no legally sufficient justification. They are not necessary to achieve (nor do they actually tend to achieve) any substantial, legitimate, nondiscriminatory interest of the State, and in any event such interests can be served by other, properly-enacted standards and regulations having a less discriminatory effect.

357. Because of their unjustified disparate negative impact on members of minority communities, including Petitioners, CARB's new GHG Housing Measures violate the FEHA, and should be declared unlawful and enjoined.

SECOND CAUSE OF ACTION

(Federal Housing Act and HUD Regulations, 42 U.S.C. § 3601 *et seq.*; 24 C.F.R. Part 100)

358. Petitioners hereby re-allege and incorporate herein by reference the allegations contained in paragraphs 1-357 above, as well as paragraphs 368-458.

359. The Federal Housing Act (42 U.S.C. § 3601 *et seq.*) ("FHA") was enacted in 1968 to combat and prevent segregation and discrimination in housing. The FHA's language prohibiting discrimination in housing is broad and inclusive, and the purpose of its reach is to replace segregated neighborhoods with truly integrated and balanced living patterns.

360. In formal adjudications of charges of discrimination under the FHA over the past 20-25 years, the U.S. Department of Housing and Urban Development ("HUD") has consistently

concluded that the FHA is violated by facially neutral practices that have an unjustified discriminatory effect on the basis of a protected characteristic, regardless of intent.

361. Pursuant to its authority under the FHA, HUD has duly promulgated and published nationally-applicable federal regulations implementing the FHA's Discriminatory Effects Standard at 24 C.F.R. Part 100 (*see* 78 Fed.Reg. 11460-01 (February 15, 2013)) ("HUD Regulations"). These HUD Regulations continue to apply, and have the force and effect of law.

362. HUD Regulations provide, *inter alia*, that liability under the FHA may be established "based on a practice's discriminatory effect . . . even if the practice was not motivated by a discriminatory intent." 24 C.F.R. § 100.500.

363. HUD Regulations further provide that: "A practice has a discriminatory effect where it actually or predictably results in a disparate impact on a group of persons or perpetuates segregated housing patterns because of race, color, . . . or national origin."

364. CARB's GHG Housing Measures actually and predictably result in a disparate impact on members of minority communities, including but not limited to Petitioners, and perpetuates segregated housing patterns because of race, color, and/or national origin within the meaning of the FHA and HUD Regulations.

365. Because of the discriminatory effect of CARB's GHG Housing Measures, CARB has the burden of proving that these GHG Housing Measures do not violate the FHA as interpreted and implemented through the HUD Regulations.

366. CARB has not met, and cannot meet, its burden of trying to justify the discriminatory effect of its challenged GHG Housing Measures, which are not necessary to achieve the stated goals, which could and should be pursued through other measures having a less discriminatory effect.

367. Because CARB's GHG Housing Measures have an unjustified discriminatory effect on members of minority communities, including Petitioners, they violate the FHA as implemented though HUD Regulations. Consequently, CARB's GHG Housing Measures should be declared unlawful and enjoined, and Petitioners are entitled to other and further relief pursuant to 42 U.S.C. § 1983.

THIRD CAUSE OF ACTION

(Denial of Due Process, Cal. Const. Art. I, § 7; U.S. Const. Amd. 14, § 1)

368. Petitioners hereby re-allege and incorporate herein by reference the allegations contained in paragraphs 1-367 above, as well as paragraphs 373-448.

369. Petitioners have a right to be free of arbitrary State regulations that are imposed without having first been presented to the public through duly-authorized rulemaking processes by Legislatively-authorized State agencies.

370. CARB's new GHG Housing Measures, individually and collectively, will inevitably cause serious harm to the ability of Petitioners and other members of disadvantaged minority communities to gain access to affordable housing, and have a disproportionate adverse impact on them.

371. CARB's new GHG Housing Measures are not rationally calculated to further the State's legitimate interest in reducing GHG emissions, on their face or as applied to housing projects in California. Instead, CARB's new GHG Housing Measures are both arbitrary and counterproductive in terms of actually achieving their purported goals of GHG emission reductions.

372. For these reasons, CARB's GHG Housing Measures have been issued in violation of, and constitute substantive violations of, the Due Process Clauses of the California and United States Constitutions. (Cal. Const. Art. 1, § 7; U.S. Const. Amd. 14, § 1,)

FOURTH CAUSE OF ACTION

(Denial of Equal Protection, Cal. Const. Art. I, § 7, Art. IV § 16; U.S. Const. Amd. 14, § 1)

373. Petitioners hereby re-allege and incorporate herein by reference the allegations contained in paragraphs 1-372 above, as well as 382-458.

374. Non-discriminatory access to housing is a fundamental interest for purposes of evaluating regulations under the equal protection provisions of the California Constitution. Art. I, § 7 and Art. IV, § 16.

375. Non-discriminatory access to housing is a fundamental interest for purposes of evaluating regulations under the equal protection clause of the United States Constitution. U.S. Const. Amd. 14, § 1.

376. CARB's GHG Housing Measures disproportionately affect members of minority communities, including Petitioners RODRIGUEZ, MURILLO and PEREZ, by making affordable housing unavailable to them, as compared with non-minority homeowners unaffected by the new GHG regulations, while imposing arbitrary, counter-productive State regulations and standards.

377. Race and ethnicity are suspect classes for purposes of evaluating regulations under the equal protection provisions of the California Constitution. Art. I, § 7 and Art. IV, § 16.

378. Race and ethnicity are suspect classes for purposes of evaluating regulations under the equal protection clause of the United States Constitution. U.S. Const. Amd. 14, § 1.

379. Petitioners warned CARB about the racially discriminatory aspects of the Scoping Plan prior to CARB's finalizing and issuing the Scoping Plan. Despite Petitioners' warning, CARB disregarded these impacts and issued the Scoping Plan without changes. On information and belief, CARB did so with the intent to disproportionately cause harm to racial minorities, including minority communities of which Petitioners are members.

380. CARB's GHG Housing Measures violate the equal protection provisions of the California Constitution because they make access to new, affordable housing a function of race.

381. CARB's GHG Housing Measures violate the equal protection clause of the United States Constitution because they make access to new, affordable housing a function of race.

FIFTH CAUSE OF ACTION

(Violations of CEQA, Pub. Res. Code § 21000 *et seq.* and CEQA Guidelines, 14 C.C.R. § 15000 *et seq.*)

382. Petitioners hereby re-allege and incorporate herein by reference the allegations contained in paragraphs 1-381 above, as well as paragraphs 395-458.

383. CARB violated CEQA by approving the 2017 Scoping Plan in violation of the Act's requirements and by certifying a legally deficient environmental analysis.

384. CARB did not write its Final EA in plain language so that members of the public could readily understand the document.

385. CARB did not assess the "whole of the project" as required by CEQA. The GHG Housing Measures are included in the 2017 Scoping Plan and thus the "project" for CEQA purposes should have included potential direct and indirect impacts on the environment from the four GHG Housing Measures. CARB did not include an analysis of the four GHG Housing Measures in the EA.

386. CARB did not base its Final EA on an accurate, stable, and finite project description. The EA did not include the four GHG Housing Measures in its project description. For this reason CARB applied an unreasonable and unlawful "project" definition and undermined CEQA's informational and decision-making purposes. The project description was misleading, incomplete, and impermissibly vague.

387. CARB did not properly identify the Project objectives in its EA.

388. CARB's unlawful use of the "cumulative gap" methodology created multiple legal deficiencies in the EA, including in the project description, project objectives, and impact analysis. Had CARB used the appropriate project objective—reducing GHG 40% below the 1990 California GHG inventory by 2030—the estimated 1% of GHG reductions (1.79 tons per year) achieved by the GHG Housing Measures would have been entirely unnecessary, and all disparate and unlawful adverse civil rights, environmental, housing, homelessness, poverty, and transportation consequences of the GHG Housing Measures could have been avoided.

389. At most, CARB could have clearly identified its "cumulative gap" methodology as an alternative to the project that would have further reduced GHG emissions beyond the SB 32 statutory mandate, to further inform the public and decisionmakers of the comparative impacts and consequences of SB 32's legislated GHG reduction mandate, and the more substantial GHG reductions sought by CARB staff. CARB's failure to use the SB 32 statutory mandate of achieving 40% GHG reduction from 1990 levels as of 2030 is a fatal legal flaw.

390. CARB also failed to adequately evaluate the direct, indirect, and cumulative environmental impacts of the 2017 Scoping Plan in its Final EA, even after commenters identified

numerous review gaps in their comments on the Draft EA. As discussed above, CARB was fully on notice of the scale and nature of the impacts associated with the GHG Housing Measures based on CARB's review and approval of more than a dozen regional plans to intensify housing densities near transit, and improve public transit, from all of California's most significant population centers; each of these regional plans identified multiple unavoidable significant adverse environmental impacts from implementation of current plans. The deficiencies in the Final EA include but are not limited to the following:

- Aesthetic impacts such as changes to public or private views and character of existing communities based on increased building intensities and population densities;
- Air quality impacts from increases in GHG, criteria pollutants, and toxic air contaminant emissions due to longer commutes and forced congestion that will occur from the implementation of the VMT limits in the 2017 Scoping Plan;
- Biological impacts from increased usage intensities in urban parks from substantial infill population increases;
- Cultural impacts including adverse changes to historic buildings and districts from increased building and population densities, and changes to culturally and religiously significant resources within urbanized areas from increased building and population densities;
- Urban agriculture impacts from the conversion of low intensity urban agricultural uses to high intensity, higher density uses from increasing populations in urban areas, including increasing the urban heat island GHG effect;
- Geology/soils impacts from building more structures and exposing more people to earthquake fault lines and other geologic/soils hazards by intensifying land use in urban areas;
- Hazards and hazardous materials impacts by locating more intense/dense housing and other sensitive uses such as schools and senior care facilities near freeways, ports, and stationary sources in urbanized areas;

- Hydrology and water quality impacts from increasing volumes and pollutant loads from stormwater runoff from higher density/intensity uses in transit-served areas as allowed by current stormwater standards;
- Noise impacts from substantial ongoing increases in construction noise from increasing density and intensity of development in existing communities and ongoing operational noise from more intensive uses of community amenities such as extended nighttime hours for parks and fields;
- Population and housing impacts from substantially increasing both the population and housing units in existing communities;
- Recreation and park impacts from increasing the population using natural preserve and open space areas as well as recreational parks;
- Transportation/traffic impacts from substantial total increases in VMT in higher density communities, increased VMT from rideshare/carshare services and future predicted VMT increases from automated vehicles, notwithstanding predicted future decrease in private car ownership;
- Traffic-gridlock related impacts and multi-modal congestion impacts including noise increases and adverse transportation safety hazards in areas of dense multi-modal activities;
- Public safety impacts due to impacts on first responders such as fire, police, and paramedic services from congested and gridlocked urban streets; and
- Public utility and public service impacts from substantial increases in population and housing/employment uses and demands on existing water, wastewater, electricity, natural gas, emergency services, libraries and schools.

391. As stated above, although the Scoping Plan's CEQA threshold is not binding on a lead agency, it nevertheless has immediate evidentiary weight as the expert conclusion of the state's expert GHG agency. Thus, the Scoping Plan's CEQA threshold is appropriately justiciable, and should be vacated for the reasons set forth herein.

392. As a result of these defects in the Final EA, CARB prejudicially abused its discretion by certifying an EIR that does not comply with CEQA and by failing to proceed in the manner required by law.

393. Petitioners objected to CARB's approvals of the GHG Housing Measures prior to the close of the final public hearings on CARB's 2017 Scoping Plan and raised each of the legal deficiencies asserted in this Petition.

394. Petitioners have performed all conditions precedent to the filing of this Petition, including complying with the requirements of Pub. Res. Code section 21167.5 by serving notice of the commencement of this action prior to filing it with this Court.

SIXTH CAUSE OF ACTION

(Violations of APA, Gov. Code § 11346 *et seq.*)

395. Petitioners hereby re-allege and re-incorporate herein by reference the allegations of paragraphs 1-394 above, as well as paragraphs 405-458.

396. Under the APA and other applicable law, CARB is required to comply with regulations issued by the Department of Finance ("DOF") before issuing a "major regulation." Specifically, the APA (Gov. Code § 11346.3(c)) requires that CARB prepare a standardized regulatory impact assessment ("SRIA") in a form, and with content, that meets requirements set by the DOF in its separate regulations (1 C.C.R. § 2000 *et seq.*).

397. CARB's GHG Housing Measures constitute a major regulation subject to the APA's requirement that such regulations be promulgated in compliance with DOF regulations.

398. Section 2003 of DOF regulations (1 C.C.R. § 2003(a)) ("Methodology for Making Estimates") provides that, "[i]n conducting the SRIA required by Section 11346.3", CARB "shall use an economic impact method and approach that has all of the following capabilities:

(1) Can estimate the total economic effects of changes due to regulatory policies over a multi-year time period.

(2) Can generate California economic variable estimates such as personal income, employment by economic sector, exports and imports, and gross state product, based on inter-

industry relationships that are equivalent in structure to the Regional Industry Modeling System published by the Bureau of Economic Analysis.

(3) Can produce (to the extent possible) quantitative estimates of economic variables that address or facilitate the quantitative or qualitative estimation of the following.

(A) The creation or elimination of jobs within the state;

(B) The creation of new businesses or the elimination of existing businesses within the state;

(C) The competitive advantages or disadvantages for businesses currently doing business within the state;

(D) The increase or decrease of investment in the state;

(E) The incentives for innovation in products, materials, or processes; and

(F) The benefits of the regulations, including but not limited to benefits to the health, safety, and welfare of California residents, worker safety, and the state's environment and quality of life, among any other benefits identified by the agency."

399. DOF regulations require that DOF's "most current publicly available economic and demographic projections, which may be found on the department's website, shall be used unless the department approves the agency's written request to use a different projection for a specific proposed major regulation." 1 C.C.R. § 2003(b).

400. DOF regulations also provide that: "An analysis of estimated changes in behavior by businesses and/or individuals in response to the proposed major regulation shall be conducted and, if feasible, an estimate made of the extent to which costs or benefits are retained within the business and/or by individuals or passed on to others, including customers, employees, suppliers and owners." 1 C.C.R. § 2003(f).

401. In grafting its new GHG Housing Measures onto the 2017 Scoping Plan, CARB has failed to comply with the APA, including DOF regulations applicable to CARB.

402. More significantly, and consistent with the LAO's repeated findings that the CARB analysis methodology fails to provide sufficiently detailed information about impacts to individuals, households and businesses, CARB's 2017 Scoping Plan completely ignores the fact

that California has the greatest inequality in the United States, and that energy costs, loss of energy-intensive jobs and housing costs related to Scoping Plan policies play a major role in that unwanted outcome. To fulfill its statutory mandates, CARB must start by recognizing that, as meticulously documented in a United Way Study, more than 30% of all California households lack sufficient means to meet the real cost of living in the state.

403. In addition, as described above, by using the unlawful "cumulative gap" methodology to calculate the GHG reductions it claims are needed in the 2017 Scoping Plan, CARB improperly created inputs for the FA that render the entire document invalid.

404. In its present form, the Scoping Plan embodies multiple violations of the APA and should be set aside as unlawful and void.

SEVENTH CAUSE OF ACTION

(Violations of the California Global Warming Solutions Act, Health & Safety Code § 38500 *et seq.*)

405. Petitioners hereby re-allege and incorporate herein by reference the allegations contained in paragraphs 1-404 above, as well as paragraphs 413-458.

406. The GWSA provides in pertinent part that, in promulgating GHG regulations, CARB "shall do all of the following:

(1) Design the regulations, including distribution of emissions allowances where appropriate, in a manner that is equitable, seeks to minimize costs and maximize the total benefits to California, and encourages early action to reduce greenhouse gas emissions.

(2) Ensure that activities undertaken to comply with the regulations do not disproportionately impact low-income communities.

(3) Ensure that entities that have voluntarily reduced their greenhouse gas emissions prior to the implementation of this section receive appropriate credit for early voluntary reductions.

(4) Ensure that activities undertaken pursuant to the regulations complement, and do not interfere with, efforts to achieve and maintain federal and state ambient air quality standards and to reduce toxic air contaminant emissions.

(5) Consider cost-effectiveness of these regulations.

(6) Consider overall societal benefits, including reductions in other air pollutants, diversification of energy sources, and other benefits to the economy, environment, and public health."

407. In responses to Petitioners' comments on the 2017 Scoping Plan, CARB has acknowledged that Chapter 5 of the Scoping Plan (which sets out the new GHG Housing Measures) was not part of what it analyzed in issuing the Scoping Plan. In CARB's words, "These recommendations in the 'Enabling Local Action' subchapter of the Scoping Plan are not part of the proposed 'project' for purposes of CEQA review."[143] Thus, CARB admits that it did not even pretend to analyze the consequences of the provisions of Chapter 5 of the Scoping Plan.

408. CARB's assertion that the new GHG Housing Measures set out in Chapter 5 of the Scoping Plan do not constitute "major regulations" is belied by their content and the legal and regulatory setting in which they were issued, as described above.

409. Each scoping plan update must also identify for each emissions reduction measure, the range of projected GHG emission reductions that result from the measure, the range of projected air pollution reductions that result from the measure, and the cost-effectiveness, including avoided social costs, of the measure. H&S Code § 38562.7.

410. The 2017 Scoping Plan contains no such analysis for CARB's new GHG Housing Measures. The Plan lists potential emission reductions from the "Mobile Source Strategy" which includes the VMT reduction requirements, but does not analyze proposed emission reductions, projected air pollution reductions, or cost-effectiveness of the other measures.

411. CARB's new GHG Housing Measures, as set out in its 2017 Scoping Plan, were issued in violation of some or all of the specific statutory requirements set out in the GWSA, as described above.

[143] Supplemental Responses to Comments on the Environmental Analysis Prepared for the Proposed Strategy for Achieving California's 2030 Greenhouse Gas Target (Dec. 14, 2017), p. 14-16, https://www.arb.ca.gov/cc/scopingplan/final-supplemental-rtc.pdf.

412. As a consequence, CARB's new GHG Housing Measures were adopted in a manner that is contrary to law, and should be set aside.

EIGHTH CAUSE OF ACTION

(Violations of the Health & Safety Code, § 39000 *et seq.*, including the California Clean Air Act, Stats. 1988, ch. 1568 (AB 2595))

413. Petitioners hereby re-allege and incorporate herein by reference the allegations contained in paragraphs 1-412 above, as well as paragraphs 437-458.

414. California has ambient air quality standards ("CAAQS") which set the maximum amount of a pollutant (averaged over a specified period of time) that can be present in outdoor air without any harmful effects on people or the environment.

415. CAAQS are established for particulate matter ("PM"), ozone, nitrogen dioxide ("NO_2"), sulfate, carbon monoxide ("CO"), sulfur dioxide ("SO_2"), visibility-reducing particles, lead, hydrogen sulfide ("H_2S"), and vinyl chloride.

416. In California, local and regional authorities have the primary responsibility for control of air pollution from all sources other than motor vehicles. H&S Code § 39002.

417. Under the California Clean Air Act ("CCAA"), air districts must endeavor to achieve and maintain the CAAQS for ozone, carbon monoxide, sulfur dioxide, and nitrogen dioxide by the earliest practicable date. H&S Code § 40910. Air districts must develop attainment plans and regulations to achieve this objective. *Id.*; H&S Code § 40911.

418. Each plan must be designed to achieve a reduction in districtwide emissions of five percent or more per year for each nonattainment pollutant or its precursors. H&S Code § 40914(a). CARB reviews and approves district plans to attain the CAAQS (H&S Code § 40923; 41503) and must ensure that every reasonable action is taken to achieve the CAAQS at the earliest practicable date (H&S Code § 41503.5).

419. If a local district is not effectively working to achieve the CAAQS, CARB may establish a program or rules or regulations to enable the district to achieve and maintain the CAAQS. H&S Code § 41504. CARB may also exercise all the powers of a district if it finds the

district is not taking reasonable efforts to achieve and maintain ambient air quality standards. H&S Code § 41505.

420. Fresno County is part of the San Joaquin Valley Air Pollution Control District ("SJVAPCD"). The SJVAPCD is currently nonattainment/severe for the CAAQS for ozone and nonattainment for PM.

421. The vast majority of California is designated nonattainment for the CAAQS for ozone and PM.

422. Nitrogen oxides, including NO_2, CO, and volatile organic compounds ("VOCs") are precursor pollutants for ozone, meaning they react in the atmosphere in the presence of sunlight to form ozone.

423. PM is a complex mixture of extremely small particles and liquid droplets found in the air which can cause serious health effects when inhaled, including asthma and other lung issues and heart problems. Some particles are large enough to see while others are so small that they can get into the bloodstream. PM is made up of PM_{10} (inhalable particles with diameters 10 micrometers and smaller) and $PM_{2.5}$ (fine inhalable particles with diameters 2.5 micrometers and smaller).

424. PM emissions in California and in the SJVAPCD increased in 2016 as compared to prior years.

425. As detailed above, the VMT reduction requirements in the 2017 Scoping Plan will result in increased congestion in California.

426. Increasing congestion increases emissions of multiple pollutants including NO_x, CO, and PM. This would increase ozone and inhibit California's ability to meet the CAAQS for ozone, NO_2, and PM, among others.

427. Because CARB intends to achieve the VMT reduction standard by intentionally increasing congestion, which will increase emissions of criteria pollutants such as NO_2 and PM, CARB is violating its statutory duty to ensure that every reasonable action is taken to expeditiously achieve attainment of the CAAQS.

428. In addition to a responsibility under the CCAA to meet the CAAQS, CARB has a statutory duty under the Health & Safety Code to ensure that California meets the National Ambient Air Quality Standards ("NAAQS") set by the EPA.

429. Like the CAAQS, the NAAQS are limits on criteria pollutant emissions which each air district must attain and maintain. EPA has set NAAQS for CO, lead, NO_2, ozone, PM, and SO_2.

430. CARB is designated the air pollution control agency for all purposes set forth in federal law. H&S Code § 39602. CARB is responsible for preparation of the state implementation plan ("SIP") required by the federal Clean Air Act ("CAA") to show how California will attain the NAAQS. CARB approves SIPs and sends them to EPA for approval under the CAA. H&S Code § 40923.

431. While the local air districts have primary authority over nonmobile sources of air emissions, adopt rules and regulations to achieve emissions reductions, and develop the SIPs to attain the NAAQS (H&S Code § 39602.5), CARB is charged with coordinating efforts to attain and maintain ambient air quality standards (H&S Code § 39003) and to comply with the CAA (H&S Code § 39602).

432. CARB also must adopt rules and regulations to achieve the NAAQS required by the CAA by the applicable attainment date and maintain the standards thereafter. H&S Code § 39602.5. CARB is thus responsible for ensuring that California meets the NAAQS.

433. SJVAPCD is nonattainment/extreme for the ozone NAAQS and nonattainment for $PM_{2.5.}$

434. The vast majority of California is nonattainment for the ozone NAAQS and much of California is nonattainment for PM_{10}.

435. It is unlawful for CARB to intentionally undermine California's efforts to attain and maintain the NAAQS by adopting measures in the 2017 Scoping Plan that will increase NOx and PM by intentionally increasing congestion in an attempt to lower VMT to purportedly achieve GHG emission reductions.

436. In adopting the VMT reduction requirements in the 2017 Scoping Plan, CARB is violating its statutorily mandated duty in the Health & Safety Code to attain and maintain the NAAQS, and preventing the local air districts from adequately discharging their duties under law to do everything possible to attain and maintain the NAAQS.

NINTH CAUSE OF ACTION

(Violations of the APA - Underground Regulations, Gov. Code § 11340 – 11365)

437. Petitioners hereby re-allege and incorporate herein by reference the allegations contained in paragraphs 1-436 above, as well as paragraphs 442-458.

438. As explained above, the GHG Housing Measures are standards of general application for state agencies and standards to implement and interpret the 2017 Scoping Plan and the reductions in GHG emissions it is designed to achieve.

439. The four GHG Housing Measures in CARB's 2017 Scoping Plan are underground regulations in violation of APA standards requiring formal rulemaking.

440. As to the CEQA net zero GHG threshold specifically, the Legislature directed OPR to adopt CEQA guidelines as regulations and CEQA itself requires that public agencies that adopt thresholds of significance for general use must do so through ordinance, resolution, rule, or regulations developed through a public review process. CEQA Guidelines § 15064.7(b). Thus, any state agency that purports to adopt CEQA guidelines must do so via regulations, following the full formal rulemaking process in the APA.[144]

441. CARB has not adopted the GHG Housing Measures through a public review process and thus it violates the APA.

[144] *California Building Industry Ass'n v. Bay Area Air Quality Mgmt. Dist.* (2016) 2 Cal.App. 5th 1067 (stating that air district adoption of CEQA guidelines, including GHG thresholds of significance, must be adopted as regulations, including with public notice and comment, and are not mere advisory expert agency opinion).

TENTH CAUSE OF ACTION

(Ultra Vires Agency Action, Code of Civil Proc. §1085)

442. Petitioners hereby re-allege and incorporate herein by reference the allegations contained in paragraphs 1-441 above.

443. In adopting the 2017 Scoping Plan, including the GHG Housing Measures, CARB has acted beyond its statutorily delegated authority and contrary to law.

CEQA Net Zero GHG Threshold

444. The 2017 Scoping Plan would apply a CEQA net zero GHG emissions threshold to all CEQA projects. CEQA applies to the "whole of a project", which includes construction activities, operation of new buildings, offsite electricity generation, waste management, transportation fuel use, and a myriad of other activities.

445. This threshold is unlawful under *Newhall, supra,* 62 Cal.4th 204, and other current California precedent affirming that compliance with law is generally an acceptable CEQA standard. This includes, but is not limited to, using compliance with the cap-and-trade program as appropriate CEQA mitigation for GHG and transportation impacts. *Association of Irritated Residents v. Kern County Bd. of Supervisors* (2017) 17 Cal.App.5th 708.

446. This threshold is also unlawful under OPR's GHG CEQA rulemaking package which stated that there was not a CEQA threshold requiring no net increase in GHG emissions (i.e., no one molecule rule). *See* "Final Statement of Reasons for Regulatory Action", Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB 97, Dec. 2009, p. 25 ([n]otably, section 15064.4(b)(1) is not intended to imply a zero net emissions threshold of significance. As case law makes clear, there is no "one molecule rule" in CEQA. (CBE, *supra,* 103 Cal.App.4th 120)").

Regulating In An Attempt to Achieve the 2050 GHG Emission Reduction Goal

447. CARB also acted ultra vires by attempting to mandate GHG Housing Measures that purportedly would help California achieve the 2050 GHG reduction goal in Executive Order S-3-05.

448. CARB has no Legislative authority to regulate towards achieving the 2050 goal, a GHG emission reduction target which has not been codified and which the Legislature has repeatedly refused to adopt. Mandating actions in an attempt to reach the 2050 goal is outside CARB's statutory authority under the GWSA which only contains GHG emission reduction standards for 2020 and 2030.

449. The Legislative Analyst's Office has stated that, based on discussions with Legislative Counsel, it is unlikely that CARB has authority to adopt and enforce regulations to achieve more stringent GHG targets. LAO report, p. 7.

VMT Reduction Requirements

450. In addition, the VMT reduction standards mandated in the Scoping Plan are ultra vires and beyond CARB's statutory authority.

451. The Legislature rejected legislation as recently as 2017 requiring VMT reductions/standards.

452. The only agency authorized to consider VMT under CEQA is OPR under SB 743. OPR's proposed SB 743 regulations are going through a formal rulemaking process now and CARB cannot jump the gun and, with zero statutory authority, adopt VMT regulations in the 2017 Scoping Plan.

SB 97 and OPR Promulgation of CEQA Guidelines

453. Similarly, the only method by which the Legislature authorized OPR (with CARB's permissive but not mandatory cooperation) to adopt new CEQA significance thresholds is via updates to the CEQA Guidelines.

454. OPR has not included CARB's new GHG Housing Measures in its proposed new Guidelines, and CARB has no authority to make an "end run" around the rulemaking process established by the Legislature.

New Building Code Requirements

455. The Legislature has enacted new consumer protection requirements, including new building standards, designed to assure that new building code requirements are cost effective.

CARB's "net zero" new home building standard was not included in these new building standards.

456. CARB has no Legislative authority to impose new "net zero" building standards.

457. CARB's new "net zero" building standards are contrary to, and will substantially frustrate, the Legislature's purpose in adopting new building code requirements.

458. CARB's decision to adopt the 2017 Scoping Plan and the GHG Housing Measures within it was also fraught with procedural defects, including violations of the APA, CEQA, and GWSA, as explained above. These procedural defects are further actions that are *ultra vires* and were taken contrary to law.

PRAYER FOR RELIEF

WHEREFORE Petitioners THE TWO HUNDRED, including LETICIA RODRIGUEZ, TERESA MURILLO and EUGENIA PEREZ, request relief from this Court as follows:

A. For a declaration, pursuant to Code of Civil Procedure § 1060, that the following GHG regulations and standards, as set out in CARB's Scoping Plan, are unlawful, void, and of no force or effect:

- The Vehicle Miles Traveled ("VMT") mandate.
- The Net Zero CEQA threshold
- The CO2 per capita targets for local climate action plans for 2030 and 2050

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- The "Vibrant Communities" policies in Appendix C.

B. For a writ of mandate or peremptory writ issued under the seal of this Court pursuant to Code of Civil Procedure § 1094.5 or in the alternative § 1085, directing Respondents to set aside the foregoing provisions of the Scoping Plan and to refrain from issuing any further GHG standards or regulations that address the issues described in subsection A. above until such time as CARB has complied with the requirements of the APA, CEQA, and the requirements of the Due Process and Equal Protection clauses of the California and United States Constitutions;

C. For permanent injunctions restraining Respondents from issuing any further GHG standards or regulations that address the issues described in subsection A. above until such time as CARB has complied with the requirements of the APA, CEQA, and the requirements of the Due Process and Equal Protection clauses of the California and United States Constitutions;

D. For an award of their fees and costs, including reasonably attorneys' fees and expert costs, as authorized by Code of Civil Procedure § 1021.5, and 42 U.S. Code section 1988.

E. That this Court retain continuing jurisdiction over this matter until such time as the Court has determined that CARB has fully and properly complied with its Orders.

F. For such other and further relief as may be just and appropriate.

Dated November 21, 2018

Respectfully submitted,

HOLLAND & KNIGHT LLP

By: _____

Jennifer L. Hernandez
Charles L. Coleman III
Marne S. Sussman
David I. Holtzman

Attorneys for Plaintiffs/Petitioners
THE TWO HUNDRED, LETICIA RODRIGUEZ, TERESA MURILLO, GINA PEREZ, *et al.*

VERIFICATION

I, Jennifer L. Hernandez, am one of the attorneys for, and am a member of, THE TWO HUNDRED, an unincorporated association, Plaintiffs/Petitioners in this action. I am authorized to make this verification on behalf of THE TWO HUNDRED and its members named herein. I have read the foregoing FIRST AMENDED VERIFIED PETITION FOR WRIT OF MANDATE; COMPLAINT FOR DECLARATORY AND INJUNCTIVE RELIEF and know the contents thereof. I am informed and believe and on that ground allege that the matters stated therein are true. I verify the foregoing Petition and Complaint for the reason that Plaintiffs/Petitioners named in the Petition/Complaint are not present in the county where my office is located.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed this 21st day of November, 2018, at San Francisco, California.

JENNIFER L. HERNANDEZ

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December 3, 2018

CHAIRWOMEN INMAN AND NICHOLS, AND MEMBERS OF THE CALIFORNIA TRANSPORTATION COMMISSION AND CALIFORNIA AIR RESOURCES BOARD

Re: CARB 2018 Progress Report on California's Sustainable Communities and Climate Protection Act

Dear Chairwomen and Members:

We are honored to represent The 200, a distinguished group of California's civil rights leaders who have spent their entire careers – with some careers spanning more than 50 years – fighting racial discrimination by public agencies blind to the disparate harm to minority communities caused by the policy preferences advanced by the political elite of their day.

The 200 formed to respond to California's extreme poverty, homelessness, and housing crisis with a simple objective: homeownership must be attainable for California's minority workers and families. Homeownership has been recognized as the most effective means of entering and remaining in the middle class, but for decades minority communities were "redlined" – by discriminatory lending, insurance, zoning, and other government-imposed or sanctioned barriers – and denied access to the better health, education, economic security, and welfare benefits that derive from home ownership.

The California Air Resources Board (CARB) is the latest in a long line of public agencies to use purportedly race-neutral goals to unlawfully discriminate against California's minority communities. The 200 has filed a civil rights lawsuit against four anti-housing measures in CARB's 2017 Scoping Plan, including its expansion of CEQA, its mandated reduction in vehicle miles travelled (VMT), and its "Vibrant Communities Appendix C" which includes multiple new barriers to building housing that California's minority workers can actually afford to buy. A copy of that lawsuit, which includes a detailed description of CARB's discriminatory conduct, is included as Attachment A to this letter. That lawsuit seeks to compel CARB to rescind the four challenged housing measures, and to halt implementation of any Scoping Plan action not expressly required by legislation or existing regulations until a comprehensive environmental and economic assessment is completing that documents the cost and environmental consequences of Scoping Plan measures on existing Californians.

The 200 filed a second lawsuit against several of the other state agencies that comprise the "Vibrant Communities" implementing agencies (referenced in Footnote 9 of the above-referenced CARB report) declined to disclose documents responsive to our Public Records Act request, claiming that such documents would be too "controversial" and should thus be concealed under the deliberative process privilege, to compel disclosure of the withheld documents. A copy of this lawsuit is included as Attachment B to this letter.

CARB has distorted and mismanaged California's climate mandates into a regressive regime that has and will continue to worsen the state's poverty, homelessness, and housing crises. More than 1,000,000 Californians have moved out of California because of high housing costs, and most of them – our children, our grandchildren, and our treasured teachers and valued craftsmen – move to states like Texas, Nevada and Arizona, all of which have much higher per capita greenhouse gas emissions than California. With its unique brand of math and metrics, CARB has managed to achieve the twin objectives of harming our young minority workforce while actually increasing global GHG emissions. A one-page summary of the GHG "math" behind CARB's proposed agenda to engage in still more study of how and where to build critically needed housing and mandate reductions in VMT is included as Attachment C, and a detailed study of California's GHG reduction programs in relation to the GHG reduction progress made by other countries and states, as well as a focused examination on the disparate racial and regional impacts of CARB's GHG reduction programs, is included as Attachment D.

Because this is a joint meeting of the California Transportation Commission and the California Air Resources Board, we address our comments to each agency below:

California Transportation Commission.

We first take this opportunity to commend the staff of the California Transportation Commission, which timely and completely responded to our California Public Records Act (CPRA) request. We have not named CTC as a party to our CPRA lawsuit, but regret to report that CalSTA is a party based on that agency's decision to conceal responsive documents, including the fact that these issues were considered at the highest level of state government and consideration of potential legislation. Neither of these reasons is a lawful basis for concealing public records.

We next want to commend CTC for its work in managing California's complex transportation systems in compliance with your agency's statutory obligations, including support for voter-approved transportation projects and funding priorities, and for your tradition of working collaboratively with and respecting the legal obligations of the state's regional transportation authorities, as well as cities and counties.

California Air Resources Board.

First, CARB's 2018 Progress Report is a wish list of power over local land use generally, and mandating reductions in VMT in particular, that CARB sought, but did not receive, from the Legislature.

Second, the Report also demonstrates CARB's ongoing and intentional discrimination against California's minority communities.

The detailed reasons for both of these conclusions are set forth in the attachments to this letter, such as The 200's lawsuit against CARB, and are not repeated here.

Four points warrant highlighting for the combined attention of CTC/CARB.

1. CARB Has Zero Legal Authority to Mandate Reductions In Vehicle Miles Travelled (VMT), and Its Efforts to Do So Are Both Unlawful and Discriminatory

CARB and its environmental (open space and species protection, and more recently climate) allies have long sought legislative authority to mandate reductions in VMT. There is zero evidence, available anywhere in the world and anywhere in history, that a growing population with more jobs can ever be accommodated while reducing VMT. On the contrary, there is ample evidence, including in reports submitted to CARB by climate advocacy organizations like NextGen, that for lower income and rural workers – who are disproportionately minorities – public transit is not a practicable option, and cleaner automobiles – electric and fuel efficient cars, and equitable replacement of the state's oldest and most polluting cars – is the "right" climate solution for California's majority-minority workforce.

In sharp contrast to CARB's invented VMT reduction mandate "metric" dominating this SB 150 report, the Legislature has repeatedly, and expressly, rejected imposing a VMT mandate on California communities:

- The earliest versions of SB 375 included a VMT reduction mandate, which was quickly deleted in subsequent versions of that bill. SB 375 requires GHG reductions, not VMT reductions.

- The first versions of SB 743 also included a VMT reduction mandate, which was likewise deleted. Through the CEQA Guidelines, a different state agency was directed to develop a metric other than traffic delay in high quality transit-served areas – and one such possible metric was VMT. The CEQA Guidelines have in fact not been amended, and the Legislature did not direct that separate agency to adopt a VMT at all, or any alternative metric, outside such transit-served areas.

- The first version of SB 150, the Legislation directing CARB to develop this report, likewise started with a mandated VMT reduction that was separate and apart from CARB's GHG reduction mandate. VMT was again rejected in the enacted version of SB 150.

- In fact, SB 1014 is only Legislation requiring consideration of VMT, and it establishes a framework for evaluating GHG per VMT (with electric and more fuel-efficient cars having lower GHG per VMT), for app-based ride companies like Uber and Lyft. Neither this bill, nor any other, authorizes any California agency to mandate reductions in VMT.

- Similarly, the Legislature has repeatedly rebuffed "Vibrant Communities" top-down state land use mandates like imposing statewide urban growth boundaries, or directing one or more state agencies (other than the Coastal Commission) to assume responsibility for permitting local land use and transportation plans statewide. CARB does have an assigned role in reviewing regional Sustainable Communities Strategies under SB 375, and has as part of that statutory role itself declined to impose a VMT reduction target that is independent of a GHG reduction target just a few months ago, in March of 2018 – four months after approving the 2017 Scoping Plan CARB now cites as the basis for requiring a VMT reduction mandate. The SB 375 Target Update process included extensive and collaborative studies that showed, among other conclusions, why VMT was not a reliable or necessary metric for achieving GHG reduction targets. The SB 375 Target Update also included numerous studies, and scores of comments from stakeholders, explaining why VMT reductions were not feasible with a growing population and jobs base. (The 200 spoke in support of the updated GHG reduction SB 375 targets at the CARB meeting approving these standards, in March of 2018.)

It is not surprising that the Legislature has declined to mandate VMT reductions, or otherwise enshrine CARB or any other state agency as a new statewide Coastal Commission in charge of local land use and transportation approvals in California's complex and diverse communities.

Simply put, those who drive the farthest are priced out of more proximate homes, and are disproportionately minorities. Many live in poverty or near-poverty, and have – as NextGen reported to CARB – no option to driving to their jobs. NextGen urged CARB to reorient its electric car incentives that had disproportionately favored wealthy Tessla buyers in Marin and other coastal enclaves, who live closer to work – and in any event are wealthy enough to have food delivered and children shuttled by drivers who aren't part of their household. NextGen advocated incentives for getting more electric cars and infrastructure into lower income areas, and for accelerating equitable retirement/replacement of the oldest and most polluting vehicles on the road. CARB has made some progress toward achieving these goals, but is insisting on ever-escalating VMT reductions in a concealed math exercise that defies common sense given our emphasis on electric vehicle fleets. This "CARB Math" is discussed further in Part 4 below.

2. CARB's Transportation Vision is Infeasible, and Discriminatory

CARB's fixation on reducing VMT makes the act of being in a car for a mile – even in an electric car or a carpool – an assault on California's climate leadership. CARB wants to achieve its VMT reduction mandate by making people walk or bike, or ride a bus (or for a tiny fraction of California commuters, ride a ferry or rail).

CARB's Report shows that transit ridership is generally down in California regions, and transportation mode shifts continue to rapidly evolve. Electric scooters and bikes have become a viable business model in some of California's densest communities, while app-based and on-demand carpooling, rideshare, and driver options have emerged as a popular and effective (for at least some trips, some of the time) transportation option. None of these transportation options existed or had been deployed at scale when SB 375 was enacted and therein decreed that quality transit service meant four buses, operating at 15 minute intervals, on fixed routes during peak hours (with similar prescriptive mandates for weekend bus service).

Deployment of partially and eventually more fully automated vehicles, technology improvements that lower costs and increase ranges for electric vehicles, public private partnerships between transit agencies and hundreds of new transportation service and technology companies, and other evolutions in transportation, continue at a remarkable pace. Hostile to all VMT, however, CARB is attempting to lock in land use and transportation patterns for the next century with technology that existed two centuries ago – fixed-route buses, trains and boats.

Fixed route bus lines – especially the four-bus (and typically six or more bus driver shifts) routes required to provide the required SB 375 frequency of bus ridership – cost transit agencies (and taxpayers) millions of dollars to maintain. On-demand ride services, including carpool and other multi-passenger systems, provide more nimble, fast, and far less costly transportation options for those who cannot "walk or bike" between home and work. Transit agencies have begun using these evolving transportation services, including both agency-run services and public-private partnership voucher-based systems, with often excellent, effective, and equitable transportation service results; however, this actual and cost-effective transportation mode does not equate to a VMT reduction and has been openly and repeatedly scorned by CARB staff.

Rail (light and heavy) and ferry service have also expanded, but California's notoriously burdensome procedural requirements have typically resulted in a 20-year delay (and hundreds of millions of cost increases) in actually delivering substantial new transportation infrastructure. CARB's Report enthusiastically endorses yet another "study" of the daily transportation catastrophe suffered by our increasingly (and disproportionately minority) number of "supercommuters," while doing absolutely nothing to expedite the time or reduce the cost in delivering effective transportation solutions to today's suffering workers.

California's existing land use patterns, with or without evolving into greater density, also make fixed route transit systems exceptionally burdensome and impractical. Again as CARB well

knows, several studies have confirmed that riding transit takes nearly twice as long as a point-to-point car trip (single occupancy, carpool, or app-based car service). This is not to deny the critical role buses, and fixed rail and ferry service, play as effective transit solutions for some jobs for some residents some of the time. However, 6,000 times more jobs are accessible in a 30-minute commute by car than bus in the LA region, and that existing land use dispersal is a reality, and in a region with a growing population and jobs base that means more VMT.

CARB is a state air quality agency: it is not responsible for making transportation, housing, or employment solutions work for any people anywhere in California. CARB is clearly blind to the needs of working Californians in minority communities, although it periodically gives a nod to the poor and homeless with offers of modest direct funding for limited programs.

CARB ignores, however, the role that the automobile plays for working Californians. As noted by the University of Southern California's most experienced land use law professor, George Lefcoe, "Automobiles are the survival mechanism for low-income people." Numerous other studies, including poverty and housing segregation studies completed by the Obama administration and non-partisan think tanks like the Brookings Institute, confirm that families with a car have a much better future: cars make it easier to hold a job that pays for housing and other needs, cars make it easier to keep kids in school and get medical attention, and this housing, employment, health and educational security means a level of financial stability that families without cars simply cannot match – not in California, and not nationally.

If the Legislature wants to mandate VMT reductions, then it can sort through scores of racial, class, job type, regional, and transportation alternative considerations. Nearly 40% of our economy is linked to Port-related trade and transportation: is this sector slashed even if electric trucks become viable? A Stanford study confirmed that construction workers spend the highest percentage of their incomes on transportation: driving trucks to and from construction job sites, to and from locations and during work hours and with equipment that is simply not consistent with fixed route public transit – so are construction workers uniquely harmed, or do they get a total pass, from CARB's VMT reduction mandate? For urgently needed housing projects, CARB and other agencies have suggested imposing substantial and in-perpetuity new "VMT mitigation" fees – thousands of dollars per unit of housing, to be paid by new renters or homeowners every year, to help subsidize school buses and bike path construction as new CEQA mitigation mandates. Those without housing – disproportionately minorities – will pay even more for housing along with these remarkable new annual, in perpetuity new housing fees – conferring yet another fiscal windfall for the state's generally whiter, wealthier and older homeowners and piling on more housing fees for housing on top of the country club initiation equivalent of $150,000 per new housing unit already charged by some California agencies. Imposing extortionate fees and regulatory obstacles on housing is a proven winner for those seeking to block housing based on class or race: is inventing new VMT fees to impose on California's 3 million missing homes a policy choice made by our elected officials (or voters)?

CARB cannot, based on undisclosed math, impose a VMT reduction – or a disguised VMT reduction in the form of a VMT fee as noted in the Vibrant Communities Appendix - on any California agency, project or person based on any statutory authority granted to CARB by the Legislature. CARB's repeated attempts to do so, with failed legislation and its own abandoned effort to impose a VMT reduction mandate in the SB 375 Target Updates finally approved without that mandate in March of 2018, are unlawful and discriminatory.

3. CARB's Housing Vision is Infeasible, and Discriminatory

The Report also notes that most regions have fallen behind in housing production, and is particularly critical of the continued construction of single family homes – anywhere. However, just as CARB pretends that its VMT reduction mandate is based on non-existent legal authority, CARB pretends its housing vision is based on a high density housing economic fantasy.

As one of CARB's own advisors have documented, and has been well documented in numerous other studies, high density housing units cost 300-500% more to build than small-lot single family, duplex, quadplex and townhome housing units. California's new high density transit-oriented housing units cost far in excess of what middle income families can afford to rent or buy. Even 100% affordable housing units, built in the less costly mid-density (4-6 stories) rather than most costly high density (above 6 stories) range, cost in excess of $500,000 per unit in Los Angeles, and $700,000 per unit in San Francisco. As experts from the non-partisan Legislative Analyst Office and others have repeatedly noted, there is no way that public funding will pay for a 3 million home shortage where 40% of Californians need to make a monthly choice between paying for food and medicine. There is no option – none – to reducing the cost of housing to levels that are actually affordable to middle income families if California is serious about solving our housing crisis.

CARB also knows from its own experts that lower density housing – smaller single family homes, duplexes/quadplexes and townhomes – is the only available type of housing that has the level of substantially lower production costs that make this housing affordable.

In the most comprehensive examination of what it would take to build just under 2 million new homes entirely within existing urban areas that are actually affordable (e.g., small single family/duplex/quad/townhomes) to those earning normal salaries, scholars at UC Berkeley (one of whom was on the Report's advisory group) concluded that "tens if not hundreds of thousands" of single family homes would need to be demolished. Given our current shortfall of 3 million homes, CARB's infill-only, transit vision of California's climate future will require razing thousands of single family homes.

CARB's demand for the most costly form of urban housing - high density transit oriented housing units - isn't just infeasible for California's aspiring minority homeowners (and renters). Other studies have demonstrated that these high cost, dense new housing projects can displace low and middle income families (especially renters) who actually use transit but are forced to

relocate to more distant locations with less costly housing, where public transit is not as viable as it was from their more centrally-located original neighborhoods. Simply put, new residents of chic new high density housing urban projects near transit, who are able to afford $1 million condos or pay $5000 per month in rent, don't take the bus. In the Bay Area, and as documented in yet another comprehensive new study, the housing crisis has resulted in a racial diaspora, as African American and Latino populations have shrunk – substantially – in the region's wealthiest five counties closest to jobs, while these minority populations have grown substantially in the Central Valley and more distant East Bay counties. About 190,000 daily commuters enter the Bay Area from outside the 9-county region, and over 210,000 commute from the East Bay to Silicon Valley or San Francisco. CARB's prescription – to require even higher densities in costly urbanized areas, and prohibit lower density small "starter" homes and townhomes – could not be more perfectly tailored to worsen the housing options for our hard working minority families.

There is not a single Legislator who voted to approve CARB's new land use vision, or the related proposal in "Vibrant Communities" to impose a new "ecosystem services" tax on urban residents to pay for the open space lands they do not use or inhabit.

There is not a single Legislator who has proposed or voted to spend at least $500,000 per apartment to build 40% of the needed 3 million new housing units for the lower income Californians that United Way describes as unable to meet normal monthly expenses (1,200,000 new homes at $500,000 per home is $600,000,000,000 – that's billion.

There is not a single Legislator who has proposed or voted to end home ownership as a pathway to the middle class for Californians who work hard to earn median and above-median incomes.

Instead, the Legislature enacted SB 375 to ask each region to reduce GHG from the land use and transportation sectors – and directed CARB to establish GHG (not VMT) reduction targets. Regions, informed by cities and counties, have in turn spent tens of millions of dollars doing two (mostly completed) rounds of SB 375 plans, which CARB has in turn reviewed and approved.

Under SB 375, each regional transportation agency has carefully weighed density and transportation choices, and disclosed the substantial environmental impact tradeoffs between density and to make lower density and more financially feasible housing within the footprint of existing communities our only housing solution. Each Sustainable Communities Strategy, prepared by each region and approved by CARB, endorses far more transit and supports more density – but also documents scores of significant unavoidable impacts to the existing environment in affected communities that has created political and voter backlash against new housing. If CARB wants to pronounce SB 375 a failure, as indicated in the Report, then it's time to rethink practical housing and transportation solutions for actual Californians – but as a state air quality agency, CARB has not been charged – and is clearly not qualified – to lead this complex undertaking.

Instead, CARB's proposed solution to today's urgent poverty, homeless and housing crisis can only be invented by bureaucrats with secure employment, and special interest advocates paid to participate in endless "process" instead of actual "progress." The Report's prescription is to develop yet another "plan" – even though CARB the latest round of SB 375 targets in March of 2018!

CARB completely ignores the simple and ongoing, but politically inconvenient truths, of what experts from around the state agreed would be required to make SB 375 successful:

- More public funding would be needed, especially for housing and infrastructure. Instead, Governor Brown eliminated redevelopment, which was by far the most effective financing tool then in existence – and itself not sufficient – to make SB 375 work. CARB proposes no financing solutions.

- CEQA reform would be needed, especially for existing communities where the vast majority of CEQA lawsuits are filed and threatened. The top target statewide of CEQA lawsuits is high density infill housing, and abuse for non-environmental objectives – sometimes for openly racist NIMBY "redlining" of the type long ago recognized as illegal and immoral – is likewise ignored by CARB, which has instead decided to impose even higher housing costs with its recommended expansions of CEQA. Governor Brown took office championing CEQA reform, only to throw in the towel a few years later because "unions use CEQA to leverage project labor agreements." Even housing that complies with every single local, regional, and state law, ordinance, and mandate, can get stalled out for years by CEQA studies prepared in defense of threatened lawsuits – and then held up for even longer by CEQA lawsuits.

- Land use reform would be needed, to reduce the time and cost required to get new projects approved and contain runaway fees that in some communities have now hit $150,000 per single unit of housing (even a small apartment!). Here Governor Brown made a try with "by right" housing requiring only ministerial (non-CEQA) approvals, which failed to be endorsed by a single Legislator. The "housing package" approved in 2017 was important in recognizing and making incremental improvements, but all Legislators and the Governor conceded that far more was necessary to solve the housing crisis – and 2018 was effectively a time-out for the election. CARB in its Report at least acknowledges this problem, but its clear preference is a state agency takeover of land use approvals – a statewide equivalent of the Coastal Commission – with a leading role by, of course, CARB itself.

CARB's report demonstrates its total amnesia about what it would take for SB 375 to succeed, and its call for yet another "plan" with still more jargon about "action items" for future consideration, along with an ever-expanding mission creep of other policy preferences dear to some of CARB's allies (e.g., avoiding urban conversion of agricultural lands even within existing city limits, notwithstanding estimates that more than 500,000 acres of agricultural land

must be taken out of production to meet groundwater sustainability mandates), is yet another demonstration of the fundamental mismatch between an air agency and its environmentalist allies, and the housing and transportation needs of California's minority communities.

CARB did not, and should not, get legal authorization to forward its proposed "MAP" plan. This is an unlawful distraction from the urgent housing and transportation needs of the state, and the state's minority communities in particular.

4. CARB Climate Math

In these highly partisan times, too often those challenging anything CARB proposes have been pilloried as climate denier – or worse, Trumpites! However, enforcing hard-won civil rights protections, including equal access to housing and homeownership, have nothing to do with denying climate change – or criticizing California's commitment to climate leadership. But like other powerful bureaucrats in other times, CARB and its allies are advancing their own version of climate policies which are blind to the needs of our communities, while intentionally concealing its own inconvenient truths.

For example, one of CARB's most vexing habits is its refusal to "show its work" on math. Even third graders are trained that getting the answer right isn't enough: in math, you must show your work.

Scores of commenters have – for many years, and in many different proceedings - asked CARB, "How much GHG reduction do you need to get from VMT reductions to meet the AB 32 (and now SB 32) GHG reduction target?" CARB has adamantly and repeatedly declined to answer this question, and instead insisted that high density housing and reliance on public transit is absolutely necessary for California to meet its GHG reduction target. Even the most basic examination of CARB's math demonstrates that this is patently false, and a land use power grab that harms those most hurt by California's housing and poverty crisis.

From the earliest days of AB 32, CARB's own scientists questioned how much GHG reduction could be achieved from the land use sector, given how established land uses and transit modes established patterns that would take decades to change – if they could be changed at all. Lowering fossil fuel emissions from power plants and other manufacturing/refining facilities, increasing renewable power production, and reducing emissions from vehicles, were clear GHG "big" reduction opportunities. When pressed, CARB's scientists – and the Legislature – agreed that retrofitting older buildings with energy and water conservation features (e.g., LED lighting, insulation, more efficient HVAC systems, modern appliances, etc.) would result in the biggest GHG reductions from this sector. Ignoring science and the Legislature, CARB has never prioritized or committed meaningful funding levels needed to retrofit the vast majority of California's built environment – preferring instead to weigh in on sexier decisions about where new housing should be located that already must meet the most GHG efficient standards in the United States.

The revolution in transportation technology and services has also not been allowed to interfere with CARB's anti-VMT agenda, even as huge strides are made with electric and other clean transportation modes like electric bikes and scooters, and even with the advent of carshare and app-based ride services that reduce reliance on owned – and mostly parked – private cars. CARB does not even have an established methodology for calculating how many trips (or how much VMT) does not occur based on the exploding use of these new transportation technologies or services. These types of trips are not even counted in CARB-approved models – yet CARB remains adamant that VMT reductions are required.

Why does CARB refuse to convert its VMT reduction demand into GHG? Simply put, CARB refuses to accept that there very likely are far less intrusive, far less costly, and far less damaging to minority communities, ways to reduce GHG than mandating reductions in VMT.

CARB knows very well how to "rank" potential emission reduction strategies, and this transparent approach has a remarkably successful track record in the Clean Air Act. If CARB needs to get 10 tons, or 10,000 tons, of GHG reductions from VMT reductions, then other potential GHG reduction sources can be evaluated on the basis of relative environmental, equity, and economic consequences. As the Obama administration documented, tailpipe emissions from 1960's-era cars were reduced by nearly 99% as of 2016 – a remarkable regulatory success under the Clean Air Act that required a careful combination of technology-forcing regulations, accompanied by technical and economic analyses, that preserved the functionality and affordability of cars with technological advances in engines and fuels that were not conceivable when this regulatory effort began in the early 1970's.

CARB is clearly no fan of this Clean Air Act regulatory model, or the transparency and accountability that comes with "showing its math." In fact, there is not a single location, in either the Report or in the 2017 Scoping Plan, where CARB "shows its math" by explaining how much GHG this desired new VMT reduction mandate will achieve.

Attachment 3 to this letter "shows the math" – which, shockingly – shows that building even two-thirds of the needed housing units will require the demolition of "tens if not hundreds of thousands" of single family homes, must be done in far less dense housing types (e.g., duplexes/quadplexes) than the high densities demanded by CARB because of the exceptionally high cost of high density housing, will mean that average new housing units will be about 800 square feet instead of about 2100 square feet (and will of course have no private back yard), and then – ready the drumroll – GHG from VMT will be reduced by less than 2 million metric tons per year, which is itself less than 1% of CARB's Scoping Plan target of reducing GHG by 260 tons per year by 2030. Since CARB agrees that the California economy produces about 1% of the world's GHG, CARB's VMT reduction/high density housing agenda will result in reducing GHG by less than 1% of what CARB believes is needed - which will have statistically zero effect in reducing the GHG emissions worldwide for this global pollutant.

To worsen California's housing and poverty crisis, and disparately harm California's minority communities, chasing 1% of 1% of global GHG is quite simply an outrageous regulatory abuse of the sincere support that Californians have for leading the world on climate change.

There are a myriad suite of options to get 1% - less than 2 MMT - of GHG out of the California GHG inventory. CARB can do what its scientists and the Legislature told it to do and retrofit existing buildings (and save struggling residents money on power and water bills), or it can reduce what the Little Hoover Commission called "catastrophic" conditions in the 33% of California that is forested to avoid even a single forest fire, and generate stable levels of electricity from dead forest vegetation when it is dark and not windy (England's base load replacement for coal as a carbon neutral power production source), or it can equitably retire the oldest and dirtiest cars that have the highest GHG and other emissions in California's vehicle (which are most often owned and absolutely relied on by low income workers and their families), or it can choose to "lead the world" in developing and deploying new production methods that produce consumer products with less GHG and avoid GHG emissions from ocean-crossing exporters (and provide middle income job opportunities to Californians). These are all "win-win" strategies that reduce GHG and achieve other very important goals for California, and actually help rather than harm California's minority communities. Instead, CARB and its Vibrant Community state agency allies appear intent on using climate to make California look like and be as expensive and exclusive as Manhattan in NYC.

We urge CTC and all other California agencies and stakeholders to demand "math transparency" by CARB.

Stop CARB's Voter Disenfranchisement

Finally, we note that CARB missed its statutory deadline of September 2018 for publishing this report – thereby conveniently avoiding accountability to the majority of California voters who dutifully supported the state leaders by rejecting Measure 6 and paying higher fuel taxes to repair and maintain existing roadway infrastructure, while directing substantial future spending on transit instead of road expansions. CARB, now free of voter oversight or accountability, attacks our transportation agencies for spending money on road maintenance – by far the biggest existing transportation system infrastructure – even while voters have decided that the vast majority of new transportation projects funded by the gasoline tax will be transit and pedestrian/bicycle projects. CARB's conflation of maintenance funding with new project funding intentionally distorts California's commitment to direct most new money away from roads, and is another example of "CARB math."

CARB also provided less than 7 days, inclusive of a weekend and right after the Thanksgiving holiday, and with zero advance notice, for review and comment on this remarkable new Report. If there was a more effective way to suppress input from other state, regional and local agencies – and virtually every other California person and enterprise since all of us are dependent on

either housing or transportation – we would need to travel to a totalitarian country or dictatorship rather than a democracy to find it. This is, however, typical of CARB: for example, its "Vibrant Communities" appendix was released after the Legislative session without notice and with only a few days for comments, and the resulting hailstorm of criticism was entirely ignored by CARB and its aligned agencies. It is also the case that CARB will intone that its desired next step – it's "MAP Plan" for taking over housing and transportation decisionmaking – assuming the CARB Board allows staff to further squander taxpayer dollars and obstruct progress in solving the housing crisis or spending voter-approved housing and transportation dollars in the current housing emergency, was merely the inevitable outcome of this Report – which was, after all, the subject of a public notice and comment, and Board hearing, process.

CARB is an air agency, and it has been directed to reduce GHG. It should do so based on the tried and true transparency requirements of the Clean Air Act. There is no question that the CARB Board, and a properly managed staff, can find other opportunities achieving 1% of California's SB 32 GHG reduction goal.

In conclusion, we strongly oppose CARB's continued planning and work to mandate VMT reductions unaffordable-by-design high density housing. Global climate change creates no excuse for violating the civil rights of Californians.

Sincerely yours,

HOLLAND & KNIGHT LLP

Jennifer L. Hernandez
Equity Partner

JLH:mlm

Community Development
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949-724-6000

February 22, 2019

via email: 2020PEIR@scag.ca.gov

Mr. Roland Ok
Senior Regional Planner
Southern California Association of Governments
900 Wilshire Boulevard, Suite 1700
Los Angeles, California 90017

Subject: **Comments on the Notice of Preparation of a Program Environmental Impact Report for Connect SoCal (Southern California Association of Governments 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy)**

Dear Mr. Ok:

The City of Irvine appreciates the opportunity to provide comments on the Notice of Preparation (NOP) of a Program Environmental Impact Report (PEIR) for Connect SoCal, the Southern California Association of Governments' 2020 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS).

The City of Irvine respectfully requests the following clarifications and considerations during the preparation of the PEIR.

1. Alternative Planning Strategy: Page 5 of the NOP identifies the year 2020 and year 2035 regional greenhouse gas emission reductions targets that the SCAG Sustainable Communities Strategy (SCS) must achieve through a combination of land use, housing, and transportation strategies. The NOP further states that if the SCS is not capable of meeting the regional targets, SCAG must then prepare a separate "Alternative Planning Strategy" (APS) that is capable of meeting the regional greenhouse gas emission reduction targets.

   The City of Irvine recommends language in the PEIR that clearly identifies that an Alternative Planning Strategy, if developed, is statutorily not subject to CEQA provisions (as clarified by SCAG staff at the January 17, 2019 SCAG Technical Working Group meeting), and would therefore not be addressed or analyzed in the Connect SoCal Program EIR.

2. Comparative Analysis of the Connect SoCal Preferred Plan and the PEIR Alternatives: To enable the reader to clearly understand the distinct differences in strategy and policy between the Preferred Plan and the PEIR Alternatives, the City of Irvine recommends that the PEIR include a comparative table matrix that highlights the key similarities and differences between the components of the Preferred Plan and PEIR Alternatives. The matrix should also include the amount of greenhouse gas emission reductions achieved by the Preferred Plan and the PEIR Alternatives. Examples of the comparative components could include:

    - Land Use
    - Growth Scenario
    - Open Space Conservation
    - Transportation Network
    - Public Transit
    - Non-Motorized Transportation
    - Local/Regional Pricing
    - Transportation Demand Management
    - Vehicle Technology/Innovation
    - Greenhouse Gas Emission Reduction (automobiles and light-duty trucks)

    Within the land use component, the PEIR matrix (as recommended above) should specify if the Preferred Plan and each of the PEIR Alternatives:
    - Does or does not maintain each jurisdiction's control totals for population, housing, and employment;
    - Does or does not maintain individual county control totals for population, housing, and employment;
    - Does or does not maintain the regional control totals for population, housing, and employment.

3. Additional New PEIR Alternative: The NOP states on page 7 that the growth scenario included in the No Project Alternative and all the PEIR alternatives would include the same **regional** totals for population, housing, and employment. However, while regional totals for population, housing, and employment are maintained, there could be alternatives that redistribute growth in a manner where a jurisdictional total could be greater than the original input provided by the local jurisdictions.

    The City of Irvine recommends that an additional PEIR Alternative be developed and analyzed that maintains local jurisdictional control totals in

population, housing, and employment, but shifted in intensity or location within the jurisdiction. This new PEIR Alternative would provide local jurisdictions and stakeholders with an assessment of the degree to which local growth would need to be intensified or relocated within its jurisdiction to strive to achieve the State required regional greenhouse gas emissions reduction targets and allow local jurisdictions the opportunity to assess the degree to which such an alternative meets community goals and objectives. The addition of the proposed new PEIR Alternative would also allow for the PEIR to include an assessment of the environmental impacts of this Alternative, if the full range of impacts exceeds that of the Intensified Land Use Alternative.

4. Local Jurisdiction Review of TAZ-Level Population, Housing, and Employment Datasets: As all PEIR Alternatives are developed, there could be distinct differences in growth forecast numbers for population, housing, and employment at the local jurisdiction level and traffic analysis zone level, from that submitted by local jurisdictions as part of the Connect SoCal Local Input process.

   The City of Irvine recommends that any shifts in growth that differ from Local Input, are actively coordinated and communicated between SCAG and the applicable local jurisdictions, to ensure that any proposed redistribution of growth are, in fact, reasonable, achievable, and do not require any General Plan or zoning amendments.

Sincerely,

Pete Carmichael
Director of Community Development

cc: Timothy Gehrich, Deputy Director of Community Development
Kerwin Lau, Manager of Planning Services
Steve Holtz, Manager of Neighborhood Services
Bill Jacobs, Principal Planner
Melissa Dugan, Supervising Transportation Analyst
Marika Poynter, Senior Planner

City of Mission Viejo

Office of the City Manager

Greg Raths
Mayor

Brian Goodell
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Wendy Bucknum
Council Member

Trish Kelley
Council Member

Edward Sachs
Council Member

Electronic Transmittal: 2020PEIR@scag.ca.gov

February 20, 2019

Mr. Roland Ok
Senior Regional Planner
Southern California Association of Governments
900 Wilshire Boulevard, Suite 1700
Los Angeles, CA 90017

Subject: **City of Mission Viejo Comments: SCAG Notice of Preparation of a Program Environmental Impact Report for Connect SoCal (2020 – 2045 Regional Transportation Plan/Sustainable Communities Strategy)**

Dear Mr. Ok,

The City of Mission Viejo appreciates the opportunity to provide comments on the Notice of Preparation (NOP) of a Program Environmental Impact Report (PEIR) for SCAG's 2020 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), referred to as Connect SoCal, or the Plan.

The City of Mission Viejo respectfully requests the following clarifications and considerations, to enable the Connect SoCal PEIR to provide a clear and full consideration of environmental factors that have the potential to generate significant impacts.

The City of Mission Viejo comments are as follows:

1) Alternative Planning Strategy: Page 5 of the NOP identifies the Year 2020 and Year 2035 regional greenhouse gas emissions reduction targets that the SCAG Sustainable Communities Strategy (SCS) must achieve, through a combination of land use, housing and transportation strategies. The NOP further states that if the SCS is not capable of meeting the regional targets, that SCAG must then prepare a separate "Alternative Planning Strategy" that is capable of meeting the regional greenhouse gas emission reduction targets.

   The City of Mission Viejo recommends language in the PEIR that clearly identifies that an Alternative Planning Strategy, if developed, is statutorily not subject to CEQA provisions (as clarified by SCAG staff at the January 17, 2019 SCAG Technical Working Group meeting), and would therefore not be addressed nor analyzed in the Connect SoCal Program EIR.

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http://www.cityofmissionviejo.org

949/470-3051
FAX 949/859-1386

2) Comparative Analysis of the Connect SoCal Preferred Plan and the PEIR Alternatives: To enable the reader to clearly understand the distinct differences in strategy and policy between the Preferred Plan and the PEIR Alternatives, the City of Mission Viejo recommends that the PEIR include a comparative table matrix that highlights the key similarities and differences among the components of the Preferred Plan and PEIR Alternatives, and the amount of greenhouse gas emissions reductions that the Preferred Plan and each of the PEIR Alternatives would achieve. Examples of the comparative components could include:

- Land Use
- Growth Scenario
- Open Space Conservation
- Transportation Network
- Public Transit
- Non-Motorized Transportation
- Local/Regional Pricing
- TDM
- TSM
- Vehicle Technology/Innovation
- Greenhouse Gas Emissions Reduction (automobiles and light-duty trucks)

Within the land use component, the PEIR matrix (as recommended above) should specify if the Preferred Plan and each of the PEIR Alternatives:

- does or does not maintain each jurisdiction's control totals for population, housing and employment;
- does or does not maintain individual county control totals for population, housing and employment;
- does or does not maintains the regional control totals for population, housing and employment.

3. Additional New PEIR Alternative: The NOP (page 7) states that the growth scenario included in the No Project Alternative and all the PEIR alternatives, would include the same **regional** totals for population, housing and employment. However, while regional totals for population, housing and employment are maintained, there could be alternatives where the growth scenario re-distributes growth such that jurisdictional totals could be greater than the original input provided by the local jurisdictions.

The City of Mission Viejo recommends that an additional PEIR Alternative be developed -- above and beyond the No Project, Local Input, and Intensified Land Use Alternatives -- if the 2020 Local Input Alternative is quantified to not be capable of achieving the region's greenhouse gas emissions reduction target, and if the Preferred Plan and the PEIR Intensified Land Use Alternative both shift land use growth away from county unincorporated areas and instead re-directs some of the unincorporated county growth into individual local jurisdiction growth priority areas, and through such shifts, causes an

increase in growth above and beyond the jurisdictional totals in population, housing and employment and correspondingly reduces unincorporated county totals in population, housing and employment, in order to maintain countywide control totals.

The proposed new PEIR Alternative would analyze the degree to which local jurisdictional control totals in population, housing and employment could be maintained, but be shifted in intensity or location within the jurisdiction. This new PEIR Alternative would provide local jurisdictions and stakeholders with an assessment of the degree to which local growth would need to be intensified or re-located, to strive to achieve regional greenhouse gas emissions reductions targets, and allow local jurisdictions the opportunity to assess the degree to which such an alternative meets community goals and objectives. The addition of the proposed new PEIR Alternative would also allow for the PEIR to include an assessment of the environmental impacts of this Alternative, if the full range of impacts exceeds that of the Intensified Land Use Alternative.

4. Local Jurisdiction Review of TAZ-Level Population, Housing and Employment Datasets: As all PEIR Alternatives are developed, there could be distinct differences in growth forecast numbers for population, housing and employment at the local jurisdiction level and traffic analysis zone level, from that submitted by local jurisdictions as part of the 2020 RTP/SCS Local Input process.

   The City of Mission Viejo recommends that any shifts in growth that differ from Local Input, are actively coordinated and communicated between SCAG and applicable local jurisdictions, to ensure that any proposed re-distributions of growth are, in fact, reasonable, achievable and do not require any General Plan or zoning amendments, to effect.

Respectfully,

DENNIS WILBERG
City Manager

c: City of Mission Viejo City Council
Keith Rattay, Assistant City Manager/Director of Public Services
Elaine Lister, Director of Community Development
Mark Chagnon, Director of Public Works
Larry Longenecker, Planning & Economic Development Manager
Rich Schlesinger, City Engineer
Philip Nitollama, Traffic/Transportation Engineer
Gail Shiomoto-Lohr, GSL Associates
Marnie O'Brien Primmer, OCCOG Executive Director
Marika Poynter, OCCOG TAC Chair

Anita Au

From: Claudia Manrique <claudiam@moval.org>
Sent: Friday, February 22, 2019 3:35 PM
To: 2020 RTP/SCS PEIR
Cc: Nevins, Patty
Subject: PEIR Comments

Roland:

Moreno Valley wishes to be placed on the notification list for the Connect SoCal Plan PEIR.

Thank you.

Sincerely,

Claudia Manrique
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City of Moreno Valley
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STATE OF CALIFORNIA — Gavin Newsom, Governor

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February 12, 2019

Ping Chang
Southern California Association of Governments
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RE: SCH#2019011061 Connect SoCal (2020-2045 Regional Transportation Plan/Sustainable Communities Strategy), Ventura, Los Angeles, Orange, San Bernardino, Riverside and Imperial Counties.

Dear Mr. Chang:

The Native American Heritage Commission (NAHC) has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code §21000 et seq.), specifically Public Resources Code §21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource, is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, §15064.5 (b) (CEQA Guidelines §15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) shall be prepared. (Pub. Resources Code §21080 (d); Cal. Code Regs., tit. 14, § 5064 subd.(a)(1) (CEQA Guidelines §15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources within the area of potential effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code §21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code §21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code §21084.3 (a)). **AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements.** If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. §800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments.

Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.

AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:
   a. A brief description of the project.
   b. The lead agency contact information.
   c. Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code §21080.3.1 (d)).
   d. A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code §21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code §21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or Environmental Impact Report. (Pub. Resources Code §21080.3.1(b)).
   a. For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code §65352.4 (SB 18). (Pub. Resources Code §21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:
   a. Alternatives to the project.
   b. Recommended mitigation measures.
   c. Significant effects. (Pub. Resources Code §21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:
   a. Type of environmental review necessary.
   b. Significance of the tribal cultural resources.
   c. Significance of the project's impacts on tribal cultural resources.
   d. If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code §21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code §6254 (r) and §6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code §21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:
   a. Whether the proposed project has a significant impact on an identified tribal cultural resource.
   b. Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code §21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code §21082.3 (b)).

7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:
    a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or
    b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).

9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:
    a. Avoidance and preservation of the resources in place, including, but not limited to:
        i. Planning and construction to avoid the resources and protect the cultural and natural context.
        ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.
    b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
        i. Protecting the cultural character and integrity of the resource.
        ii. Protecting the traditional use of the resource.
        iii. Protecting the confidentiality of the resource.
    c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.
    d. Protecting the resource. (Pub. Resource Code §21084.3 (b)).
    e. Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).
    f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:
    a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.
    b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.
    c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code §65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code §65352.3 (a)(2)).
2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.
3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code §65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code §5097.9 and §5097.993 that are within the city's or county's jurisdiction. (Gov. Code §65352.3 (b)).
4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:
    a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
    b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (http://ohp.parks.ca.gov/?page_id=1068) for an archaeological records search. The records search will determine:
    a. If part or all of the APE has been previously surveyed for cultural resources.
    b. If any known cultural resources have already been recorded on or adjacent to the APE.
    c. If the probability is low, moderate, or high that cultural resources are located in the APE.
    d. If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
    a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
    b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:
    a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
    b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.
    a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, §15064.5(f) (CEQA Guidelines §15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
    b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
    c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code §7050.5, Public Resources Code §5097.98, and Cal. Code Regs., tit. 14, §15064.5, subdivisions (d) and (e) (CEQA Guidelines §15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions or need additional information, please contact me at my email address:

Steven.Quinn@nahc.ca.gov.

Sincerely,

for Steven Quinn
Associate Governmental Program Analyst

cc: State Clearinghouse

Roland Ok, Senior Regional Planner
Southern California Association of Governments
900 Wilshire Blvd., Ste. 1700
Los Angeles, CA 90017

February 22, 2019

RE: Scoping Connect SoCal - 2020-2045 Regional Transportation Plan / Sustainable Communities Strategy

Dear Mr. Ok,

Thank you for the opportunity to comment on the scoping of the environmental analysis that will underpin the 2020-2045 Regional Transportation Plan / Sustainable Communities Strategy.

The 2020-2045 time frame of this plan takes us solidly into the the point of no return on climate action. This plan must guide our region towards an aggressive shift in land use and transportation patterns to radically reduce climate emissions.

The EIR should examine as part of its alternatives analysis an alternative that describes a future in which the land use and transportation systems of Southern California meet the necessary trajectory to reach California's ambitious and necessary climate goals. By that, we mean aiming for the full 25% reduction in per capita greenhouse gas emissions from transportation (relative to 2005 levels by 2035) that is identified as necessary in the ARB scoping plan, and not simply the 19% mandated by SCAG's SB 375 target.

An incremental approach that merely entertains existing commitments, which are bound to fail us in reaching our climate goals, is not appropriate or adequate.

We ask SCAG to include in its alternatives analysis at least one scenario that includes all of the following elements:

1) A halt to sprawl, greenfield development that increases per-capita VMT;
2) A robust prioritization of infill development near jobs and destinations -- especially near transit and including affordable housing -- that reduces per capita VMT in line with the ARB scoping plan and includes anti-displacement measures;
3) No new road or highway capacity projects;
4) A reprioritization of existing road and highway capacity to more equitable and efficient modes of transportation, including bus only lanes, bicycle lanes and high-occupancy vehicle lanes;
5) A robust system of roadway pricing, including cordon tolling, VMT/VHT pricing and corridor pricing throughout the SCAG geography as appropriate, with a priority on improving transportation equity through revenue investment;
6) An extensive electrification of our passenger and goods movement systems.

The plan's environmental review should also provide an equity analysis, incorporating best practices, that includes: an accounting of investment in disadvantaged communities that addresses discrepancies in access to transportation options; a neighborhood-scale impact analysis in these communities; a tracking of displacement of low-income residents that has occurred; and an anticipation of future displacement risk to vulnerable communities associated with these investments.

This analysis should aim to provide guidance to jurisdictions for mitigating disproportionate air quality impacts, and protecting against displacement of vulnerable residents. In addition, the analysis should disaggregate data as much as possible to lift up race/ethnicity, age, and low-income exposure to poor air quality and other health hazards from all of SCAG's six counties.

Thank you for your consideration.

Sincerely,

Carter Rubin, Mobility and Climate Advocate
Natural Resources Defense Council

Christopher Escárcega, Acting Co-Director
ClimatePlan

Bryn Lindblad, Deputy Director
Climate Resolve

Matthew Baker, Policy Director
Planning and Conservation League

Demi Espinoza, Senior Equity & Policy Manager
Safe Routes to School National Partnership

Jared Sanchez, Senior Policy Advocate
California Bicycle Coalition

Anita Au

From: Robert dale <robertdaleplanning@gmail.com>
Sent: Wednesday, February 13, 2019 2:58 PM
To: nader.ghobrial@ocpw.ocgov.com
Subject: OC BikeLoop

Nader Ghobrial
Bike Trail Planner
OC Public Works

Hello Nader,

Thanks for taking my phone call today.

Also, thanks again for your help completing the 66 mile OC BikeLoop & expanding recreational opportunities in park poor north OC. The proposed La Habra Centennial Rail Trail is the largest gap in the plan.

I agree with you, the lower Coyote Creek Bike Trail is a difficult situation. From our ride in 1996,
most of the gates were locked, & it looked like several bridges were needed. Also the 5 Fwy was a major obstruction.
We ended up riding in the storm channel to get to the San Gabriel River Trail.

I am hopeful the La Habra Centennial RailTrail will be completed by our town's, 1/20/2025, Centennial Celebration! A recent study found La Habra has the fattest kids in the county.
Also, 50% of our young adults are pre-diabetic. Expanding recreational opportunities is vital to the sustainability of our town.

Keep up your great work!

Robert Dale
La Habra Bike Club
La Habra 2025 Centennial Celebration Committee
1401 Sierra Vista Dr.
La Habra, CA. 90631
Ph. (562) 697-8953

Cc La Habra Bike Club; La Habra 2025 Centennial Celebration Committee

Anita Au

From: Robert dale <robertdaleplanning@gmail.com>
Sent: Wednesday, February 13, 2019 2:18 PM
To: Roland H. Ok; 2020 RTP/SCS PEIR
Cc: Ho, Andrew; Al.Jabbar@ocgov.com; Angela Lindstrom; Assemblymember.Chen@Outreach.assembly.ca.gov; Bill Ballinger; Bob Henderson; Jim Brewer; Barbara Ballinger; Banning Ranch Conservancy; Bicycle Club; bwwhitaker@live.com; Chuck Buck; RoslynL@ci.brea.ca.us; Stacy.Blackwood@ocparks.com; Douglas Cox; chris.jepsen@rec.ocgov.com; Chris Johansen; Carlos Jaramillo; Chamber; Claire Schlotterbeck; chuy51@aol.com; Gordon cox; davidd@lahabracity.com; David Whiting; Debbie Presley; Dave Larson; Teri Daxon; Dr. David Nilson; everprop@gmail.com; Rusty Elliot; Rose Espinoza; Jose Medrano; Jack Miller; Mike Foley; Sandi.fp@gmail.com; Fullerton Observer; Surfrider Foundation; sue gaede; Jim Gomez; greenvision@fhbp.org; mplotnik@lahabraca.gov; Nord, Gregory; TShaw@lahabraca.gov; Lynton Hurdle; heather mcRea; honk@ocregister.com; Jane Noltensmeir; jwilliams90631@gmail.com; Jean Watt; Les Knight; Lou Salazar; Dave Larson; mustangthompson; Schlotterbeck, Melanie; nsantana@voiceofoc.org; ecarpenter@octa.net; nwheadon@octa.net; pmartin@octa.net; TheTracks@cityofbrea.net; Scott.Thomas@ocparks.com; Theresa Sears; Tuan.Richardson@ocparks.com; rory.paster@ocparks.com; nader.ghobrial@ocpw.ocgov.com; kathied@cityofbrea.net; Sadro, Jim; Eric Johnson
Subject: So Cal Assoc. of Gov.; Connect SoCal Project, EIR Public Comments

2/13/19

To: Roland Ok, Senior Planner
SCAG, "ConnectSoCal", PEIR
From: Robert Dale, La Habra 2025 Centennial Committee
1401 Sierra Vista Dr.
La Habra, Ca 90631

Re: Public Comments.

Subject: Connect SoCal, PEIR.

Topic: Orange County Bike Path Planning

Please consider the proposed 2040 Orange County Regional Bike Path Plan in your environmental assessment.

Also, please consider the completion of the proposed, 66 mile, "OC BikeLoop", from downtown La Habra to the Pacific Ocean. Completion of the proposed La Habra Centennial RailTrail, the largest gap in the plan, is vital to the sustainability of our region.

Thanks,
Robert Dale
La Habra, CA

"Connect SoCal Project" - The 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy is a long-range visioning plan that balances future mobility and housing needs with economic, environmental and public health goals.

Connect SoCal embodies a collective vision for the region's future and is developed with input from local governments, county transportation commissions (CTCs), tribal governments, non-profit organizations, businesses and local stakeholders within the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino and Ventura.

What is the Program Environmental Impact Report,(PIER)?
SCAG's PEIR is an environmental report that will analyze and disclose potential impacts of the Connect SoCal plan on the environment.

Please send comments related to the Environmental Impact Report: "Notice of Preparation" to:

Southern California Association of Governments
Attn: Mr. Roland Ok
900 Wilshire Blvd., Ste 1700
Los Angeles, CA 90017

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

All responses must be sent no later than **5:00 p.m. on Friday, February, 22, 2019.**

IN THIS SECTION

What is the PEIR?

What will the PEIR Analyze?

Notice of Preparation

Participate

Submitting Comments

ORANGE COUNTY
BUSINESS COUNCIL

2 Park Plaza, Suite 100 | Irvine, CA 92614| P 949.476.2242 | F 949.476.0443 | www.ocbc.org

February 21, 2019

Southern California Association of Governments
Attn: Mr. Roland Ok
900 Wilshire Blvd., Ste. 1700
Los Angeles, CA 90017

RE: Comments on the Prospective Scope of the Draft Program Environmental Impact Report (PEIR) Concerning "Connect SoCal" (SCAG's 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy)

Dear Mr. Ok,

Orange County Business Council (OCBC) is an influential advocate for business in Southern California, promoting the economic development and prosperity of not only Orange County, but the interconnected region as a whole. Pursuant to obligations outlined in Senate Bill 375 (SB 375), the Southern California Association of Governments (SCAG) must update its federally required regional transportation plan and prepare a sustainable communities strategy (SCS). The California Air Resources Board (CARB) is mandated to establish greenhouse gases (GHG) reduction targets for SCAG to aim for when adopting an SCS; however, CARB is attempting to force SCAG and other metropolitan planning organizations (MPOs) to demonstrate their projected reductions in vehicles miles traveled (VMT). **Because this a problematic measurement for MPOs, OCBC is opposed to the method CARB is pushing to reach reduction targets.**

The Legislature instructed CARB to ensure that emissions reduction targets are "achievable" and carefully consider population growth, economic factors, and the need for housing. VMT reductions is not an appropriate gauge for demonstrating GHG emissions reductions. Despite CARB's emphasis on per capita VMT reductions, VMT has generally been increasing slightly—not decreasing. This is in line with evidence that no region with a growing population has been successful in significant VMT reductions. The Legislature has acted accordingly with these facts, removing VMT from SB 375 and rejecting efforts by CARB to authorize the imposition of a VMT reduction metric. Each MPO is required only to attempt to meet a CARB-prescribed GHG emissions reduction target, while SB 375 permits MPOs to adopt SCSs that reduce GHG emissions but are not foreseeably able to achieve CARB-prescribed targets. SCAG's 2016 RTP/SCS assumed a 10 percent decrease in VMT between 2005 and 2035; now, at the halfway point in this timeline, there has been no decrease in VMT. Every MPO in the state reported an increase, not a decrease, in VMT since SB 375 was enacted in 2008.

Each of these telling signs serves as a warning that CARB's strategy is misguided. In order for SCAG to meet the targets expected by CARB, it would need to undertake a dramatic effort that would disastrously harm the Southern California economy and undermine local land use decision-making by democratically elected officials. CARB justifies this approach as necessary to mitigate climate change impacts, but despite

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2 Park Plaza, Suite 100 | Irvine, CA 92614| P 949.476.2242 | F 949.476.0443 | www.ocbc.org

California's prestigious ranking as the fifth-largest economy in the world, the state emits less than one percent of global GHG. The economic damage of drastic and sweeping changes to the state's infrastructure and housing availability caused by CARB's mandate would be far more destructive than beneficial for Californians. The Bay Area region has attempted to reduce VMT vehemently, but has failed as commuting times increase and public transit ridership falls. This demonstrates that even earnest efforts by MPOs in similarly congested areas will not be met with success.

CARB's vision of exclusively high-density, transit-oriented development patterns have not proven successful for any MPO to date. OCBC appreciates SCAG's efforts to assure that SB 375 can be implemented consistent with its statutory protections for a healthy economy and growing population. Ultimately, VMT is a flawed metric for achieving GHG reduction targets. **OCBC respectfully urges SCAG to reject CARB's continued push to impose a VMT reduction scenario in our region as part of its effort to achieve climate and/or air quality goals.**

Sincerely,

Alicia Berhow
Senior Vice President of Government Affairs

AFFILIATED AGENCIES

Orange County Transit District

Local Transportation Authority

Service Authority for Freeway Emergencies

Consolidated Transportation Service Agency

Congestion Management Agency

February 22, 2019

Mr. Roland Ok
Senior Regional Planner
900 Wilshire Blvd
Suite 1700
Los Angeles, CA 90017

Re: **Notice of Preparation for the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy Program Environmental Impact Report**

Dear Mr. Ok:

The Orange County Transportation Authority (OCTA) appreciates the opportunity to review and comment on the Notice of Preparation (NOP) for the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (2020 RTP/SCS) Program Environmental Impact Report (PEIR). OCTA thanks you in advance for considering the comments below.

Scope of PEIR Analysis

OCTA understands that the PEIR is a broad-level analysis of the program of projects, policies, and strategies considered in the financially constrained 2020 RTP/SCS. However, alternatives whose implementation are remote or speculative and whose effects cannot be reasonably ascertained, do not require consideration, as noted in the California Environmental Quality Act Guidelines (Section 15126.6). Based on our understanding of the purpose of the PEIR, and to be consistent with past PEIR practice, OCTA makes the following request:

> The 2020 RTP/SCS financially constrained alternatives should accurately reflect the projects submitted by the county transportation commissions. Furthermore, financially unconstrained project submittals (Strategic Plan) should not be modeled, or otherwise analyzed for performance or impacts, as part of the 2020 RTP/SCS or PEIR. This is because they are conceptual in nature and would require further substantial study prior to modeling, and implementation is remote and speculative.

Alternatives Development
The NOP indicates that alternatives, "except the No Project Alternative, will vary in terms of policies and projects including, but not limited to, variations in land use development patterns or transportation network." OCTA understands that the Southern California Association of Governments (SCAG) must perform scenario planning and consider stakeholder input to develop a reasonable range of alternatives that enable the 2020 RTP/SCS to conform with air quality emission budgets, financial constraints, greenhouse gas emission reduction targets, and system preservation goals, among other requirements. However, if potential variations in transportation projects, policies, and networks deviate from any projects submitted by OCTA, please coordinate closely with OCTA. This will ensure alternatives are feasible and appropriate.

Once again, thank you for the opportunity to provide comments on the NOP for the 2020 RTP/SCS PEIR. In addition, OCTA appreciates SCAG's willingness to discuss and consider suggestions from partner agencies in the 2020 RTP/SCS development process. If you have any questions regarding the comments above, please contact Greg Nord, Section Manager II, at (714) 560-5885 or gnord@octa.net.

Sincerely,

Kia Mortazavi
Executive Director, Planning

KM:ww

February 22, 2019

Comments regarding the scope of the PEIR for the SCAG RTP SCE Connect SoCal Plan

Dear Planners,

I am a member of the coordinating team for 350 Ventura County Climate Hub that we founded over six years ago. I have done climate action advocacy to every city in Ventura County during those years. I am writing for myself because there has not been time to inform our members and get their thoughts, but I believe that hundreds in the county concur with most of my comments, if not every detail of suggested policies. Our group lacks understanding of the relationship between Ventura County and SCAG. We will learn because we are interested in the implications for climate action.

OUR GOAL IS CLIMATE MITIGATION THAT MUST COME WITH SOCIAL JUSTICE IN A FRAMEWORK OF MAXIMIZING RESILIENCE TO CLIMATE IMPACTS, AND JUST TRANSTION FROM A FOSSIL FUEL TO A CLEAN ENERGY ECONOMY

Climate change adaptation is listed as the 12th of 12 challenges in the opening of the SCAG-RTP-SCS. Climate mitigation doesn't appear to be a stated goal. 350 Ventura County Climate Hub is aligned with the California Sierra Club in declaring a climate emergency and measures to mitigate climate change. We have launched a campaign asking jurisdictions to start implementing every possible measure to reduce GHG emissions. The campaign is described here: https://www.sierraclub.org/california/cnrcc/ecc-support-climate-emergency-actions

Neither Ventura County nor any of its ten cities has a Climate Action Plan (CAP). The General Plans of the largest jurisdictions are outdated with no climate action goals. There was an attempt by Ventura County Regional Energy Alliance published in 2015 using GHG inventories from 2012. The inventory for energy was provided by SCE and the Gas Co and the transportation and other emissions measures are sketchy. We have no better GHG inventory than that for any jurisdiction. The county plans to integrate our CAP into the General Plan Update for 2020-2040 to which we have offered extensive detailed input, some of which will be shared here, but that is only for the unincorporated area. Our request is that our county lead us in doing our part to keep global temperature from rising 1.5 degrees C by 2030. We think we need an inventory and transparent tracking to be able to work on such a goal. Our Board of Supervisors pledged last year to be "In with Paris", but we lack a plan for how to do that.

"No Program" is not an option nor is "202 Local Input Alternative" due to our experience with our local governments falling far short in developing responsible policy. Policy and implementation at the scale of the problem appears unlikely by the jurisdictions in Ventura County. Therefore, we pin our hopes on the "Intensified Land Use Alternative Scenario".

WE NEED A GHG INVENTORY AND CLIMATE ACTION PLANS TRUE TO CURRENT SCIENCE WITH PARTICIPATION OF A WIDE RANGE OF STAKEHOLDERS INCLUDING CLIMATE ACTION ADVOCATES

The mandates currently in use in Ventura County's CAP background document are not acceptable to us, i.e. the last Governor's Executive Order, the latest ARB draft plans, and certainly not AB 32 and SB 32 that do not compute to keep the world below 1.5 degrees C. You must anticipate continuous foreshortening of climate goals to match the increasingly dire warnings from scientists. The political will for action is accelerating so fast that we can assure you there will be a federal rising price on carbon in the coming decade that will be a major disruptor of any scenario. We suggest hiring REMI to run the

data for an economy under an upstream steadily rising price on carbon starting in mid-2020 to exceed $110 per ton of CO2e by 2030.

Scientific reports will keep forecasting worse and worse impacts for life on earth, for agriculture and forests, biological resources and open space, soils, hydrology and wildfires, and land use and planning. The examples of catastrophic impacts from no or inadequate action are countless. For example, we are told that within three years of having no more pollinators that it won't be possible to grow food. Therefore, you need to work out a scenario for when people start to finally do something about the pollinators going extinct (all insects have declined by about 70% from 30 years ago). Then imagine what new federal and state mandates will force the immediate cessation of atmospheric and pest management pollution along with a World War II scale mobilization for biological carbon sequestration and revegetation for drawdown of CO2 to try to save insects from going extinct.

There are goals in the plans that are disguised as "co-benefits" but we agree serious climate mitigation goals are embedded in the plan. Obvious examples are the way neighborhoods can change under implementation of SB 743 and the climate mitigation from being aligned with the 2030 Implementation Plan for Natural and Working Lands.

From my observation, the elected in Ventura County will continue to vote pretty much for business as usual until the climate emergency is unveiled. We need the help of planners who will stop sugar-coating the situation and make it harder for the elected to hide from our future. Also, planners who do not open up the window by the common sense forecasting of policy scenarios are blinding themselves to valid insights for imagining scenarios that many top experts present.

ASSUMPTIONS IN CHALLENGES 4-9 ABOUT COSTS AND REGIONAL AND INTERNATIONAL TRADE MAKE QUESTIONABLE ASSUMPTIONS ABOUT THE CONTINUATION OF GROWTH AND ARE BLIND TO A SCENARIO WITH AN ECONOMIC DOWNTURN

There are currently weaknesses in the national and regional economy, especially when one forecasts a steadily rising price on upstream fossil fuels. Fossil fuel dependent industries and methods of transportation will quickly collapse or localize or otherwise recreate their business model. The bottom could fall out of the fossil fuel market or the whole economy in a more sudden and disruptive way if policy continues to be impossible of enactment for an easier transition. A scenario would be prudent that imagines a 10-30% drop in the value of the US dollar with many already debt-ridden oil and gas companies going bankrupt in an economic recession.

Challenge number 11 alludes to the sky-rocketing health care costs but does not mention how it makes our economy vulnerable. You say it is because of poor air quality and inactivity but you need to add in the cumulative toxic load from food, water and other kinds of exposure at home and work. You should invest in a forecast for the region based on the data that 46% of the US population has at least one chronic disease, and that health care costs have been rising 6-8% per year (higher each year since 1992 with the introduction of much more toxic inputs to the food supply). The annual cost by 2025 in the US is estimated to be $5 Trillion. You mention the aging population but not that the cancer among the elderly is 70%. Every third child is forecast to be autistic requiring the other two to help with caregiving; this is not due to the air quality and inactivity that you cite. It is from cumulative toxic load in our environment. Include all the other debt besides medical debt. Think about how Russia and France will be entirely organic nations by 2025.

Another point to be made about the economy is that federal carbon tax will no doubt include a border adjustment such that no trade will be possible with another nation that does not have a comparable

price on carbon, otherwise they will pay a commensurate tariff to the US. This is expected to be a powerful motivator. It should also be possible to prevent the dumping of polluting vehicles. equipment and industries to Mexico as is now happening. Businesses that are slow to transition will hit harder times.

We have asked Ventura County to include at least a presentable calculation of an estimate of the GHG inventory for the phase 3 cross-boundary emissions related to goods moving in and out of the Port of Hueneme to China, Japan, Australia, etc. We need to know this in order to forecast the impact on the local economy of a carbon tax and to think about how to put a fair price on imports and exports.

Varied and serious weaknesses and fossil fuel related costs in the economy suggest a need for ambitious goals to steadily eliminate dependence on fossil fuels, a 100% green energy infrastructure with community microgrids and food hubs in order to localize food and energy sources for resilience in a potentially contracting or collapsing economy.

DECARBONIZING ELECTRICITY IS ESSENTIAL

Your 10th challenge among 12 is the requirement for "updated planning to smoothly integrate these new travel options [electric cars, real-time traveler information, car sharing and ridesourcing with smart phones, etc] into the overall transportation system."

Ventura County is off to a good start with most of our ratepayers belonging to Clean Power Alliance and the majority at the 100% renewable energy default. We want to see specific goals for the rest of the cities to join and maximize participation at the Green Tier.

SB 743 PROTOCOL AND ENFORCEMENT IS ESSENTIAL

It has been stated that reduction of VMT is necessary, likely somewhere between 20 and 35%. However, your plan says it will achieve reductions of "more than seven percent and Vehicle Hours Traveled (VHT) per capita by 17 percent (for automobiles and light/medium duty trucks) as a result of more location efficient land use patterns and improved transit service". This might be enough to meet the goal of AB 32, but I do not understand it to be enough to seriously want to prevent global warming from exceeding 1.5 degrees C.

If the transition to EVs accelerates, the energy supply cannot be de-carbonized fast enough to de-carbonize the transportation system. Not even if there were effective consumer education leading to all the right choices . Unfortunately, we understand that people are driving more and buying less fuel efficient vehicles. Congress will enact an effective tax on fossil fuels as the only way to set in motion the steady reduction of VMT in fossil-fueled vehicles among many outcomes throughout the economy that will dramatically affect your plan.

Please provide the calculations for how much VMT must decrease in each jurisdiction to de-carbonize the transportation system by 2030. Frame this calculation to meet the climate goals dictated by science to stay under 1.5 degrees C. We estimate a decrease between 20% to 35%. You cannot begin to work on alternatives without this calculation.

WE NEED TO PROMOTE SOME HIGH-DENSITY INFILL PROJECTS

While not popular in the areas around Thousand Oaks and Ventura and possibly other spheres of influence, you must present this to the decision-makers as an opportunity to demonstrate how quality of life can be enhanced by project designs that meet the requirements of SB 743. They probably need

help with outside experts giving community workshops to show why VMT has to decrease by a lot as well as the quality of life benefits from high-density infill at major transportation corridors.

The projected growth in the VC unincorporated area and the goals for provision of affordable housing are low compared to what the county is expecting the cities to take up. However, there are places in the unincorporated areas where ALL of the growth through 2040 could be provided through the development of Demonstration Projects compliant with SB 743 and maximizing very low income units on major bus routes that need to be more frequent. Designs can provide benefits to residents similar to those provided for adult living centers near transit centers where basic shopping and services are in walking distance and people do not need cars and enjoy reliable shared or public transportation to the more distant places they want to go. The building height restrictions need to be considered case by case where there would not be a significant negative visual impact from five-story mixed use structures. There appear to be no developers for this type of project, so SCAG needs to help Ventura County find partners.

I would like to see such a demonstration project in each of the five districts anchoring a community microgrid using the facility's 100% solar generation and electric minibus batteries as part of an energy storage bank. I imagine live-work zoning to balance the energy load, parks and community garden beds designed to hold all storm water onsite for landscaping and urban forests to sequester carbon.

There is far too much zoning in Ventura County that is restricted to single family residences. I suggest that there should be no areas in the unincorporated area that are restricted to single family residences, because there is too much of that zoning throughout the jurisdictions and the county can make this kind of transition more easily than most of the cities politically. The cities are going to have to be told a maximum amount in what areas can remain with that single family residence restriction. There will be loud and angry complaints and it would help to find some really fantastic designers for these Demonstration Projects so that those who fear this type of change will be able to change their minds.

EMERGENCY EVACUATION PLANNING AND EDUCATION OR 'DRILLS' FROM HIGH DENSITY PROJECTS WHERE PEOPLE DON'T HAVE CARS IS ESSENTIAL

The benefits of projects that support the goals of SB 743 can be hard to sell to people in areas with just one main corridor who experienced the Thomas fire or this year's wildfires. There has to be a great plan for all people and animals and high-value critical tools and materials for people's livelihoods to be capable of evacuation in case of a wildfire or flood, debris flow or tsunami. This can be overcome with ingenuity on a site by site basis. For example in West Ventura the bike trail should become an emergency route for a shuttle and there needs to be another emergency route paralleling the east side of Ventura Avenue. The Ventura River Masterplan has three bridges from the Ventura Bike Trail over Highway 33 to the Ventura River one at Stanley Ave and one at Westpark Recreation Center. If these were built then massive congestion that happened on Ventura Avenue during the Thomas fire might have been avoidable by people knowing they could drive or walk on a sidewalk one way over Hwy 33 to the road on the levee where there is nothing burnable. That would have been another safe exit from the valley besides Ventura Ave and Hwy 33. I do not think policy needs to promise everyone a way to evacuate with a carload of belongings, but all people have to be able to evacuate quickly from a vulnerable high-density project. More safe destinations for evacuation must be equipped with a self-contained microgrid with enough battery storage for minimum two weeks of cloudy days.

TO FURTHER REDUCE VMT THOSE WHO DRIVE SHOULD PAY-WHEN THEY DRIVE ALONE THEY SHOULD PAY MORE

Challenge 5 says that “many of us will continue to live in the suburbs and drive alone” and the plan ”will not change how everyone chooses to get around, but will offer residents more choices.” That is only ok if people who choose to get around alone in cars pay more than those who ride transit. This will happen systemically in the economy when the price of carbon reaches around $45-50 per ton. Meanwhile, another way to reduce VMT by a necessary amount is that cameras be set up on roads where people commonly drive alone and send a weekly or monthly bill that might be quadruple the bus fare per incident when the camera shows them alone in the car.

FREE PARKING FOR RESIDENTS, SHOPPERS, CLIENTS AND VISITORS SHOULD BE PHASED OUT

While extremely unpopular one of the best ways to reduce VMT is to stop rewarding those who drive cars to work, to shop, to public places and places they go regularly. The new tax on provision of parking by employers in the new IRS tax code is a step in the right direction, but it does not go far enough. Whatever is the mix of factors, the result must be that transit is favored economically over driving. To fix the IRS code it must be fair to employers that lease parking for employees by also charging all employers with parking lots the same equivalence per space used by the employees, i.e. the full cost of purchase, taxes, depreciation, and maintenance on those spaces used by employees.

To demonstrate various approaches for unbundled parking, every City Hall and County Government Center should be required to charge for parking. Employees should be given a raise commensurate with the value of a parking space and then be allocated a space that they will be charged for if they use it. They could also earn dividends for every day that they do not use a space. Once people are used to this type of system and understand the necessity to reduce VMT by whatever percent is required, then the largest employers should be helped to set up a similar type of system . If necessary the city or county might charge extra property tax to combine with whatever they must pay the IRS and recoup it with parking fees.

BIOLOGICALY CARBON SEQUESTRATION AND ELIMINATION OF TOXIC AG INPUTS ARE ESSENTIAL

ARB 2030 Implementation Plan for Natural and Working Lands goals and future plans include increasing the ambition and scope . The question is not whether land managers can sequester or at least stabilize soil carbon; the question should be what they think society should pay them to farm carbon as well as food, fiber, and flowers for the future of life on earth.

SCAG needs to prioritize a goal for carbon sequestration through programs to increase healthy soils, restore small water cycles to hold storm water on site to support vegetation, enlarge and increase the health of urban forest, wetlands, grasslands and even seagrass beds as appropriate in the context of sustainable communities. It must be clearn in the plan and to the jurisdictions that the best way to maximize forest carbon storage is to maximize protection of forests from logging, including logging conducted under the rubric of "thinning", which leads to a large net reduction in forest carbon storage and net increase in carbon emissions. We will not increase forest carbon storage by pulling more carbon out of the forests through logging. A CAP must include an inventory of the carbon sinks in all forest lands and use of GIS mapping software, such as Terra Count developed by the CA Department of Conservation and tested in Merced County. One way or another the technology must be required at the county level to set goals to increase sinks and the tracking of soil carbon in all land uses throughout the county in cooperation with the cities.

We particularly need an agreement between SCAG and CAL TRANS to stop using herbicide on easements. We need to be sequestering carbon in the easements instead.

BAN TOXIC PESTICIDES

Many parkland and landscaping as well as farm management practices unnecessarily deplete soil carbon, pollute air and surface and groundwater, and expose insects, fish, animals and humans to toxic chemicals. Some believe they are contributing to epidemic chronic diseases and infertility. It is easy to mitigate. Ban all degrading and polluting practices in land and farm management. The conclusion of the EIR of the Agriculture Chapter of the last VC General Plan has a shocking conclusion that these practices cannot be mitigated. I assure you this is a new day and a very different EIR.

There is a relationship between use of toxic pesticides and herbicides and GHG emissions. Roundup damages soil microbes that are the means for soil carbon sequestration. Aerosols from spraying causes illnesses that cause more car trips to get the doctor and pharmacy. Aerosols and herbicide –laden dust prevent some people from walking in their own neighborhoods or using bike trails. People will drive to the store when they would rather walk, but there is too much risk of exposure to agricultural or landscape management chemicals. People will not walk their dogs because of the widespread use of toxic herbicides beside sidewalks. Dachsunds have a high rate of pancreatic cancer. The health impacts from the failure to ban toxic pesticides is becoming more widely recognized.

OFFSETS FOR GHG EMISSIONS MUST BE WITHIN THE JURISDICTION AS RULED IN THE CASE AGAINST THE SAN DIEGO COUNTY CLIMATE ACTION PLAN

SUMMARY

We don't have 11 more years to reverse runaway climate catastrophe. We really only have whatever we plan to accomplish in the next few years. There is no respectable alternative to failure to achieve goals that represent our portion of the emissions reduction that keeps global warming under 1.5 degrees C. That includes a specific goal and target for reduction in VMT. There must also be a specific and measurable goal for biological carbon sequestration to draw down the legacy CO2 in the atmosphere to return the concentration to 350 ppm. There is no life within a plan that fails to cover all of the implications of the current climate science.

Sincerely yours,
Jan Dietrick, MPH, President
Rincon-Vitova Insectaries
108 Orchard Dr
Ventura, CA 93001
805-746-5365

Ventura County
Air Pollution
Control District

669 County Square Dr
Ventura, California 93003

tel 805/645-1400
fax 805/645-1444
www.vcapcd.org

Michael Villegas
Air Pollution Control Officer

VENTURA COUNTY
AIR POLLUTION CONTROL DISTRICT
Memorandum

TO: Roland Ok, Sr. Planner, SCAG DATE: February 20, 2019

FROM: Nicole Collazo

SUBJECT: Request for Review of Notice of Preparation of a Program Environmental Impact Report for SCAG Connect SoCal 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RMA 19-001)

Air Pollution Control District (APCD) staff has reviewed the subject Notice of Preparation (NOP) for the program environmental impact report (PEIR), which will identify any potential environmental impacts upon the adoption of the newly updated Southern California Association of Governments (SCAG) Regional Transportation Plan (RTP) for the six-county SCAG region. The RTP, also known as the Connect SoCal, will outline the region's 2020-2045 goals and policies for meeting current and future mobility needs, provide a foundation for transportation decisions by local/regional/ state officials, and identify the region's transportation needs and issues, including recommending actions, programs, and a list of projects for local and state jurisdictions to consider. The Project Location includes six neighboring Southern California counties, including Ventura County. The Lead Agency for the project is the Southern California Association of Governments (SCAG).

GENERAL COMMENTS

Connect SoCal will address topics and issues pursuant to its regional transportation network since the existing RTP was adopted in 2016. Of the topics listed in the NOP, the Air Quality and Greenhouse Gas Emissions sections will be reviewed by the Ventura County APCD as it pertains to the air quality in its air jurisdiction, as part of the South Central Coast Air Basin.

Air Quality Section

The air quality assessment should consider plan-consistency with the 2016 Air Quality Management Plan (AQMP) and transportation conformity. The 2016 AQMP presents Ventura County's strategy (including related mandated elements) to attain the 2008 federal 8-hour ozone standard by 2020, as required by the federal Clean Air Act Amendments of 1990 and applicable U.S. EPA clean air regulations. The 2016 AQMP uses an updated 2012 emissions inventory as baseline for forecasting data, SCAG RTP 2016 data, and CARB's EMFAC2014 emission factors for mobile sources. The AQMP can be downloaded from our website at

http://www.vcapcd.org/AQMP-2016.htm. We note a newer emissions model (EMFAC2017) is now available and is being used by CARB. EMFAC2017 has not yet been approved by US-EPA and is currently undergoing approval review.

The Ventura County Air Quality Assessment Guidelines (AQAG) can also be used to evaluate all potential air quality impacts. The AQAG are also downloadable from our website here: http://www.vcapcd.org/environmental-review.htm. Specifically, the air quality assessment should consider reactive organic compound, nitrogen oxide emissions and particulate matter from all project-related motor vehicles, sources not permitted with APCD, and construction equipment that may result from potential buildout, as appropriate to future transportation development policies and implementation measures. We note that the AQAG has not been updated since 2003 and serves as a reference and is not required or mandated by the APCD (AQAG Page 1-1). Current air quality determinations follow the same process but using different tools (CalEEMod vs. URBEMIS, CO Hotspots analysis no longer required, etc.). The recommended list of mitigation measures in the AQAG are also limited and outdated. For example, the following template is currently being recommended by APCD as a Commenting Agency for projects that include construction equipment, reflecting state laws adopted since the AQAG was last updated in 2003:

The project applicant shall ensure compliance with the following State Laws and APCD requirements:

I. Construction equipment shall not have visible emissions greater than 20% opacity, as required by APCD Rule 50, Opacity.

II. All portable diesel-powered equipment over 50 BHP shall be registered with the State's Portable Equipment Registration Program (PERP) or an APCD Portable Permit.

III. Off-Road Heavy-Duty trucks shall comply with the California State Regulation for In-Use Off-Road Diesel Vehicles (Title 13, CCR §2449), the purpose of which is to reduce NO_x and diesel particulate matter exhaust emissions.

IV. On-Road Heavy-Duty trucks shall comply with the California State Regulation for In-Use On-Road Diesel Vehicles (Title 13, CCR §2025), the purpose of which is to reduce NO_x and diesel particulate matter exhaust emissions.

V. All commercial on-road and off-road diesel vehicles are subject to the idling limits of Title 13, CCR §2485, §2449(d)(3), respectively. Construction equipment shall not idle for more than five (5) consecutive minutes. The idling limit does not apply to: (1) idling when queuing; (2) idling to verify that the vehicle is in safe operating condition; (3) idling for testing, servicing, repairing or diagnostic purposes; (4) idling necessary to accomplish work for which the vehicle was designed (such as operating a crane); (5) idling required to bring the machine system to operating temperature, and (6) idling necessary to ensure safe operation of the vehicle. It is the Permittee's responsibility to have a written idling policy that is made available to operators of the vehicles and equipment and informs them that idling is limited to 5 consecutive minutes or less, except as exempted in subsection a. above.

The following are recommended measures for construction equipment and vehicles:

I. Diesel powered equipment should be replaced by electric equipment whenever feasible.

II. Maintain equipment engines in good condition and in proper tune as per manufacturer's specifications.

III. Lengthen the construction period during smog season (May through October), to minimize the number of vehicles and equipment operating at the same time.

IV. Use alternatively fueled construction equipment, such as compressed natural gas (CNG), liquefied natural gas (LNG), or electric, if feasible.

Lastly, VCAPCD will review the PEIR's air quality impact section for the following criteria:

- Conflict with or obstruct implementation of the applicable air quality management plan.
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors).
- Expose the public (especially schools, day care centers, hospitals, retirement homes, convalescence facilities, and residences) to substantial pollutant concentrations.
- Create objectionable odors affecting a substantial number of people.

Greenhouse Gas Emissions Section

Neither APCD nor the County has adopted a threshold of significance applicable to Greenhouse Gas (GHG) emissions from projects subject to the County's discretionary land use permitting authority. APCD published a report as a request by the Ventura County Air Pollution Control Board to report back on possible GHG thresholds options on November 8, 2011. The District will be looking into what GHG threshold is best suitable for Ventura County in the near future which will undergo a public review process.

The following are recommended guidance documents that could be used to address the impacts of climate change and greenhouse gases in Ventura County as a result of Connect SoCal.

On May 2016, the CARB published a Mobile Source Strategy. In this report, ARB staff is outlining a mobile source strategy that simultaneously meets air quality standards, achieves GHG emission reduction targets, decreases toxics health risk, and reduces petroleum consumption from transportation emissions over the next fifteen years. These goals and targets include These include 1) Attaining federal health-based air quality standards for ozone in 2023 and 2031 in the South Coast and San Joaquin Valley, and fine particulate matter (PM2.5) standards in the next decade; 2) Achieving greenhouse gas (GHG) emission reduction targets of 40 percent below 1990 levels by 2030, with continued progress towards an 80 percent reduction by 2050;
3) Minimizing health risk from exposure to toxic air contaminants; 4) Reducing our petroleum use by up to 50 percent by 2030; and 5) Increasing energy efficiency and deriving 50 percent of

our electricity from renewable sources by 2030. The report can be found here: https://www.arb.ca.gov/planning/sip/2016sip/2016mobsrc.htm.
On November 2017, the California Air Resources Board published it latest Climate Change Scoping Plan. The Scoping Plan lays out a strategy for achieving California's 2030 Greenhouse Gas target and builds on the state's successes to date, proposing to strengthen major programs that have been a hallmark of success, while further integrating efforts to reduce both GHGs and air pollution. California's climate efforts will 1) Lower GHG emissions on a trajectory to avoid the worst impacts of climate change; 2) Support a clean energy economy which provides more opportunities for all Californians; 3) Provide a more equitable future with good jobs and less pollution for all communities; 4) Improve the health of all Californians by reducing air and water pollution and making it easier to bike and walk; and 5) Make California an even better place to live, work, and play by improving our natural and working lands. The 2017 Climate Change Scoping Plan can be accessed here https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf.

Finally, on December 2018, the Governor's Office of Planning and Research (OPR) published a Draft Technical Advisory. This document incorporates developments since the June 2008 Technical Advisory publication, including regulatory changes made to the regulations that implement CEQA (commonly known as the "CEQA Guidelines" in late 2018 by the California Natural Resources Agency (Agency). Although this document largely focuses on project-level analyses of greenhouse gas impacts, Section IV briefly addresses community-scale greenhouse gas reduction plans as one pathway to streamline CEQA analyses. This discussion draft is intended to address some common issues and topics that arise in greenhouse gas emissions analyses under CEQA but is not intended to address every single issue and topic. More information on the OPR's Technical Advisory can be found here http://opr.ca.gov/ceqa/technical-advisories.html.

One final note on GHG emissions, APCD is concerned as to how the new reliance on VMT for CEQA transportation impacts will affect the required 19% GHG reduction goal needed by the SCAG Region by 2035 (SB 375).

Goods Movement

Ventura County has taken great strides in reducing emissions generated from the movement of goods throughout our county. In 2016, VCAPCD partnered with Channel Islands National Marine Sanctuary, Santa Barbara County Air Pollution Control District, National Marine Sanctuary Foundation and Volgenau Foundation to launch a voluntary Marine Vessel Speed Reduction Incentive Program which has resulted in estimated 825 tons of NOx emissions reductions per season and 30,000 metric tons of regional GHG emissions reductions per season from the speed reduction of marine vessels travelling through the Santa Barbara Channel. In addition, the Port of Hueneme has also agreed to electrify their shipping cargo cranes. As it relates to transportation impacts, in 2018, the American Association of Port Authorities (AAPA) awarded the Port of Hueneme the high accolade "2018 Comprehensive Environmental Management Award"; the Port was selected for its development and execution of a

comprehensive plan that seeks to enhance the environment through sustainable, efficient, and green port operations.
The Port of Hueneme is the first California port to receive certification from Green Marine, the preeminent certifier of sustainable maritime facility operations. Green Marine's environmental program assists ports, terminal operators and shipping lines in reducing their environmental footprint through a comprehensive program that addresses key environmental issues and criteria. Being that Green Marine is completely voluntary, it affirms even further Port of Hueneme's commitment to staying on the leading edge of environmental stewardship.

The Port of Hueneme is also part a large regional project which will study the capability of zero and near zero emission technology to move cargo between the Port of Hueneme and the Port of Los Angeles, including considering a hydrogen fuel cell drayage truck.

Finally, the Port of Hueneme is proactively beginning development of a clean air plan in partnership with VCAPCD. PHRESH (**P**ort of **H**ueneme, **R**educing **E**missions, **S**upporting **H**ealth) will be the first time in the State that a port and its air quality regulator have teamed up to write a clean air plan together. PHRESH will assess and address the Port's emissions, air quality requirements and goals for the Port, future growth scenarios, emission control strategies, community involvement, strategy funding, implementation and monitoring.

EV Charging Stations

As part of our incentives programs, APCD has an Electric Vehicle Charging Station Grant program funded by the Clean Air Fund. Since the last RTP update, the following EV charging stations have been approved for funding via this program within the County of Ventura:

APPLICANT	LOCATION	# of Level-2 Chargers	Year Installed
Oak Park School District	Oak Park High School	4	2015
Ventura College	College Parking Lot	4	2015
Port of Hueneme	District Office	4	2016
California Lutheran University	Campus Parking Lot	4	2016
Oak Park School District	District Office and Oak Park High School	4	2017
City of Ojai	City Hall and Park N Ride Lot	2	2017
California Lutheran University	Campus Parking Lot	4	2018
Oak Park School District	Medea Creek School	2	2018
County of Ventura	Channel Islands Harbor	2	2019
City of Ventura Housing Authority	Westview Apartments	2	2019

Additionally, the Plug-In Electric Vehicle (PEV) Readiness Plan for the California Central Coast was initiated in 2011 as the regional PEV Coordinating Council for Ventura, Santa Barbara, and San Luis Obispo counties. The planning process for Plug-in Central Coast was initiated by the joint efforts of C5 –the Central Coast Clean Cities Coalition, the Community Environmental

Council of Santa Barbara, and the Air Pollution Control Districts of Ventura, Santa Barbara, and San Luis Obispo Counties. Key leaders from these organizations formed the Steering Committee of Plug-in Central Coast and obtained grants for tri-county PEV planning from the U.S. Department of Energy (DOE) and the California Energy Commission (CEC). The DOE grant was administered by the Central Coast Clean Cities Coalition (C5) on behalf of the Plug-in Central Coast PEV Coordinating Council, while the CEC grant was administered by the Ventura County Air Pollution Control District (APCD).

The Plug-In Electric Vehicle (PEV) Readiness Plan for the California Central Coast guides the development of PEV charging infrastructure for the tri-counties, Ventura, Santa Barbara and San Luis Obispo. The deployment of PEV Chargers on the Central Coast will encourage local drivers to consider purchasing PEVs, which is the ultimate goal of this planning effort. The major benefits of adopting PEVs include improvement in local air quality, reduction of greenhouse gas emissions that impact climate change, increase in the use of renewable energy such as photo voltaic solar energy, more efficient use of existing grid energy by off-peak PEV charging, and increase in energy security by reducing the use of petroleum fuels, which may be imported from unstable parts of the world. This Plan is intended to encourage and facilitate mass adoption of Plug-in Electric Vehicles (PEVs) in the tri-county Central Coast region. The installation of PEV charging infrastructure near major highways in the tri-counties is a critical factor to support this goal. The development of this plan has coincided with the construction of almost 200 Level 2 charging stations and several DC Fast Charge stations along the Central Coast. This initial infrastructure has not only provided range-extending electrical miles for PEVs, but it also serves to showcase the technology and raise public awareness.

Sustainability Planning Grant Projects

We would be interested to review what additional Planning Grant Projects will be proposed for Ventura County for the new 2020-2045 RTP. The 2016 RTP included 1 Planning Grant Project in Ventura County out of the 68 proposed for the entire SCAG Region (Ventura County Connecting Newbury Park Multi-Use Pathway Plan).

We look forward to working with SCAG to make sure the 2020-2045 RTP update is consistent with recently adopted air quality regulations and the state's plans to reduce greenhouse gas emissions.

If you have any questions, please call me at 645-1426 or email me at nicole@vcapcd.org.

RESOURCE MANAGEMENT AGENCY

county of ventura

Planning Division
Kimberly L. Prillhart
Director

February 21, 2019

Roland Ok
SCAG
900 Wilshire Blvd, Ste. 1700
Los Angeles, CA 90017

E-mail: 2020PEIR@scag.ca.gov

Subject: PEIR for Connect SoCal 2020-2045

Dear Mr. Ok:

Thank you for the opportunity to review and comment on the subject document. Attached are the comments that we have received resulting from intra-county review of the subject document. Additional comments may have been sent directly to you by other County agencies.

Your proposed responses to these comments should be sent directly to the commenter, with a copy to Anthony Ciuffetelli, Ventura County Planning Division, L#1740, 800 S. Victoria Avenue, Ventura, CA 93009.

If you have any questions regarding any of the comments, please contact the appropriate respondent. Overall questions may be directed to Anthony Ciuffetelli at (805) 654-2443.

Sincerely,

Denice Thomas, Manager
Planning Programs Section

Attachments

County RMA Reference Number 19-001

Memorandum

County of Ventura • Resource Management Agency • Planning Division
800 S. Victoria Avenue, Ventura, CA 93009-1740 • (805) 654-2478 • ventura.org/rma/planning

DATE: **January 28, 2016**

TO: **Laura Hocking, RMA/Planning Technician**

FROM: **Kari Finley, Senior Planner**

SUBJECT: **Environmental Document Review, RMA Ref. #15-024**
2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS)

We would like to thank the Southern California Association of Governments (SCAG) for the opportunity to review the Draft 2016 RTP/SCS and Program EIR. This memo provides comments on the Draft 2016 RTP/SCS from the Ventura County Planning Division for consideration by SCAG.

In September 2015, the Ventura County Board of Supervisors adopted a comprehensive update to the Saticoy Area Plan. The Saticoy community is defined as a "severely economically disadvantaged community". The Saticoy Area Plan has a 20-year time horizon that extends from 2015 to 2035. Within the Saticoy Area Plan, project objectives are called "guiding principles" that must be used when evaluating future Area Plan amendments. The four guiding principles developed for the Saticoy Area Plan update 1) sustainable development that supports a healthy community, 2) economic revitalization, 3) improved housing opportunities and, 4) improved infrastructure systems. The Area Plan update was primarily funded through a combination of Compass Blueprint Program Grant and the Strategic Growth Council Sustainable Communities Planning Grant Program. Significant planning efforts were focused on reducing vehicle miles travelled.

One of the unavoidable, significant impacts that was identified in the Saticoy Area Plan Program EIR, includes traffic impacts on State Route 118 (SR118) in the Saticoy Community. One potential mitigation measure that was identified includes the widening/re-striping of SR118 in the Saticoy community (e.g., generally between Vineyard Avenue to Darling Road). Although the Board of Supervisors adopted a statement of overriding considerations for this impact, the following implementation program (highlight added) was included in the Area Plan to help mitigate the impact in the future:

No.	Program Description	Responsibility	Priority	Timeframe
MOBILITY ELEMENT				
MOB-P2	***Reclassify Portion of SR 118**:* To mitigate significant project and cumulative traffic impacts on SR 118 between Vineyard Avenue and Darling Road, the County should review and process a General Plan Amendment that would reclassify that segment of SR 118 from 4 to 6 lanes on the Regional Road Network. The road reclassification should be incorporated into the next General Plan Update, tentatively scheduled for completion in 2020. Finally, the County shall work with VCTC and Caltrans to reprioritize the re-striping of SR 118 from Vineyard Avenue to Darling Road on the Ventura County Congestion Management Plan and the Caltrans list of projects. Although the re-striping project is currently listed in the Congestion Management Plan, the prioritization and timing for construction should be modified to occur within the 20-year horizon of the Saticoy Area Plan.	**PWA/ Transportation;** RMA/Planning; VCTC; Caltrans; City of Ventura	A	0-5 years

As indicated in the adopted Saticoy Area Plan program, it is critical for implementation of the recently adopted Saticoy Area Plan and future development in the Saticoy community that the re-striping project be included as a prioritized project in the 2016 RTP/SCS (FTIP Projects). The Saticoy Area Plan guiding principles are consistent with the RTP/SCS overarching strategy that calls for “more compact communities in existing urban areas”. The Saticoy Area Plan includes a land use plan with more compact development and improved mobility in an existing urban area. Peak-hour traffic impacts are already significant in this area and will impede future revitalization of this disadvantaged community if improvements to SR118 are not constructed.

As such, we respectfully request that the re-striping and any other critical intersection improvements in the Saticoy area be included in the RTP/SCS or FTIP Projects list as necessary, to make this a priority project. If you have any questions concerning these comments, you may contact Kari Finley at kari.finley@ventura.org or 805/654-3327.

RESOURCE MANAGEMENT AGENCY

county of ventura

Planning Division
Kimberly L. Prillhart
Director

February 22, 2019

Mr. Roland Ok, Senior Regional Planner
Southern California Association of Governments
900 Wilshire Blvd, Suite 1700
Los Angeles, California 90017

Subject: Notice of Preparation of a Program Environmental Impact Report (PEIR) for Connect SoCal (2020-2045 Regional Transportation Plan/Sustainable Communities Strategy)(RTS/SCS)

Dear Mr. Ok:

Thank you for the opportunity to provide input and comments on the Notice of Preparation of a PEIR for Connect SoCal (2020-2045 Regional Transportation Plan/Sustainable Communities Strategy). The Long Range Planning Section of the Ventura County Planning Division reviewed the Notice of Preparation for the proposed project and provides the following response:

1. **Saticoy Area Plan.** In September 2015, the Ventura County Board of Supervisors adopted a comprehensive update to the Saticoy Area Plan. The Saticoy community is defined as a "severely economically disadvantaged community" and the Saticoy Area Plan has a 20-year time horizon that extends from 2015 to 2035. The Mobility Element within the Saticoy Area Plan identifies implementation program MOB-P2 which prioritizes the re-striping of SR 118 from Vineyard Avenue to Darling Road.

   On January 28, 2016, the Long Range Planning Section submitted a comment letter to Southern California Association of Governments (SCAG) in response to Draft 2016 RTP/SCS and PEIR. This letter provided detailed background emphasizing the need for regional cooperation for the construction of these improvements. As such, we respectfully request that the re-striping and any other critical intersection improvements in the Saticoy area be included in the RTP/SCS or FTIP Projects list as necessary, to make this a priority project.

2. **Bottom-up Local Growth and Land Use Input Process.** On October 1, 2018 and December 14, 2018, the Ventura County Planning Division provided detailed and comprehensive data and analysis in response to the request for local input. We request that this input be considered as part of the preparation of the environmental document.

3. **Population Growth and Housing Projections.** As part of the scoping for the environmental analysis in the PEIR, we request special consideration be given to protection of farmland and

that contaminated sites such as Santa Susana Field Laboratory (SSFL) be excluded from consideration of potential housing sites.

Thank you again for the opportunity to comment. Should you have any questions about the contents of this letter, please contact me at 805-654-3327 or via email at linda.blackbern@ventura.org

Sincerely,

Linda Blackbern, Senior Planner
Long Range Planning Section
Ventura County Planning Division

Attachments: Environmental Document Review, RMA Ref. #15-024, Draft 2016 RTP/SCS and Program EIR comment letter dated January 28, 2016

VENTURA COUNTY WATERSHED PROTECTION DISTRICT
WATERSHED PLANNING AND PERMITS DIVISION
800 South Victoria Avenue, Ventura, California 93009
Sergio Vargas, Deputy Director – (805) 650-4077

M E M O R A N D U M

DATE: February 11, 2019

TO: Anthony Ciuffetelli, RMA Planner
County of Ventura

FROM: Sergio Vargas, Deputy Director S.V.

SUBJECT: RMA19-001 NOP of PEIR 2020-2045
Watershed Protection District Project Number: WC2019-0008

Pursuant to your request dated January 24, 2019, this office has reviewed the submitted materials and provides the following comments.

PROJECT LOCATION:

The SCAG region consists of six counties (Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura), and 191 cities (Figure 1, *SCAG Region*). To the north of the SCAG region are the counties of Kern and Inyo; to the east is State of Nevada and State of Arizona; to the south is the county of San Diego; and to the northwest is the Pacific Ocean. The SCAG region also consists of 15 sub-regional entities that serve as partners in the regional planning process

PROJECT DESCRIPTION:

Pursuant to federal and state planning requirements, SCAG updates and adopts a long-range regional transportation plan every four years. SCAG's last Plan was adopted in 2016 and an updated Plan is required to be adopted by April 2020.

Connect SoCal will outline the region's goals and policies for meeting current and future mobility needs, provide a foundation for transportation decisions by local, regional and state officials that are ultimately aimed at achieving a coordinated and balanced transportation system. Connect SoCal will also identify the region's transportation needs and issues, recommended actions, programs, and a list of projects to address the needs consistent with adopted regional policies and goals, and document the financial resources needed to implement Connect SoCal. It is important to note that SCAG does not implement individual projects in the RTP, as they will be implemented by local and state jurisdictions, and other agencies.

COMMENTS:

For each specific project considered, the environmental impacts for three areas of concern must be considered.

Impacts to Watershed Protection District Facilities and Jurisdictional Channels:
Each project analyzed under the proposed program must consider the impacts to facilities owned or under the jurisdiction of the Ventura County Watershed Protection District. Any projects in, on, over, under, or across a District jurisdictional channel or within District right-of-way would require a permit from the Ventura County Watershed Protection District consistent with District policy and Ordinance WP-2.

In planning future projects from a programmatic standpoint. The environmental documents should include a requirement that each project under the program must consider current and future flows for any projects that cross redline channels or other major waterways.

Hydraulic Hazards FEMA:
Each project analyzed under the proposed program must consider if the project is located in a special flood hazard area (SFHA) shown on either the effective or preliminary flood hazard mapping as prepared by the Federal Emergency Management Agency (FEMA). Project considered within the SFHA must obtain a permit from the Ventura County Public Works Agency and meet project specific requirements to mitigate impacts from flooding.

Costal Hazards and Sea Level Rise:
If a project is proposed in a Coastal Zone costal hazards and the impacts sea level rise must to be considered consistent with the California Coastal Commission and the Ventura County General Plan Policies.

END OF TEXT

February 22, 2019

Southern California Association of Governments
Attn: Roland Ok, Senior Regional Planner
Via electronic mail to: 2020PEIR@scag.ca.gov

Re: Comments on the Prospective Scope of the Draft Program Environmental Impact Report (PEIR) Concerning "Connect SoCal" (SCAG's 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy)

Ladies and Gentlemen:

On behalf of the Southern California Leadership Council (SCLC), the Building Industry Association of Southern California (BIASC) and the other business/industry associations subscribing to this letter, we appreciate this opportunity to comment on the scope of the pending draft Program Environmental Impact Report (draft "PEIR") concerning the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy ("Connect SoCal"). Our organizations and the members and industries that they represent have been deeply involved with the Senate Bill 375 (2008) (hereinafter "SB 375") ever since its introduction. As Southern California stakeholders, we were also highly attentive to and actively involved in the formulation and adoption by the Southern California Association of Governments ("SCAG") of its inaugural, 2012 regional transportation plan/sustainable communities strategy ("RTP/SCS") and its more recent 2016 RTP/SCS.

The companies and individuals comprising our collective memberships care deeply about economic development, job creation and the quality of life in Southern California. Many of our members engage in developing the housing, business properties and infrastructure (i.e. transportation, water, utilities, etc.) that are and will be needed to make the region an excellent place to live and work. Collectively, our organizations also include some of Southern California's largest private employers. With that in mind, the comments set forth below about SCAG's pending formulation of Connect SoCal reflect our concern for the overall betterment of the SCAG region, its economy, its communities, and its citizens.

Our group supports the development of an RTP/SCS that recognizes the critical importance of transportation and infrastructure to economic vitality, job creation and the quality of life for all Southern Californians. We support an RTP/SCS that recognizes the effect of market forces, honors local control and incorporates flexibility as it works to secure an integrated approach to land use, transportation, housing and environmental planning. We also support the overall aim of reducing our collective greenhouse gases ("GHG") emissions in ways and over timelines that are ambitious and achievable, including by means of envisioning and then pursuing the fulfillment of a sound RTP/SCS.

Our group especially appreciates the tireless work that has been done by SCAG's excellent staff during the ten-plus years since SB 375 was first enacted and SCAG's SCS analysis began. Ultimately, we expressed our general support for each of the two previous SCSs that SCAG adopted (in 2012 and 2016, respectively). We did so because SCAG seemingly adhered to and incorporated certain principles that we have always believed – and still believe – are essential to developing a strong and effective RTP/SCS. We continue to support an RTP/SCS that possesses the following characteristics:

- Provides positive economic impacts and is a plan that is conducive to economic growth and job creation. The RTP/SCS must undergo a true economic cost/benefit analysis so that economic impacts are understood and known by SCAG Regional Council members (and stakeholders) before making a final decision on the RTP/SCS.

- Respects local governments' prerogatives. Policymakers need to respect the essential role of local government in sound land use decision-making, because local governments more than relatively central governments have the best understanding of local needs, pressures, and aspirations of their growing and evolving communities. Maintaining local control of land use is essential to maintaining so-called "small d" democracy.

- Appreciates the organic nature of land use and development. Regulators, as analysts and policymakers, must appreciate the organic, dynamic nature of land development over time and the need for a balance between redevelopment and urban densification as well as smarter but ongoing new town and greenfield growth and development.

- Does not impose rigid land use prescriptions. As SB 375 was envisioned, and consistent with reasonable policymaking, the RTP/SCS construct is a large-scale, conceptual and largely aspirational regional plan, and not a firm land use prescription or mandate concerning land uses and densities at given sites or within given communities.

- Assures that any new revenue sources are fair, equitably imposed and economically sound. – Any proposed new transportation revenue concepts within the RTP/SCS must undergo cost/benefit and other appropriate analysis to assure that they are economically sound.

- Achieves CEQA compliance, is legally defensible, and facilitates CEQA streamlining and tiering. – The RTP/SCS is developed with all appropriate data and environmental analysis and is thus built to withstand a CEQA challenge. The plan should also be crafted so as to capture and maximize all available CEQA benefits, especially streamlining and tiering.

Given our group's support for SCAG's two prior RTP/SCSs, we have the opportunity now to comment on the scope of the environmental analysis of SCAG's next RTP/SCS – the pending Connect SoCal. We do so knowing that the California Air Resources Board ("CARB") is continually pressing all of the state's Metropolitan Planning Organizations ("MPOs"), of which SCAG is the largest one, to fashion and adopt RTP/SCSs that are ever more imposing and potentially at odds with the principles listed above. For example, CARB has continued to ratchet up the MPOs' respective regional GHG-emissions reduction targets with each planning cycle; and CARB is continually pressing to make each successive RTP/SCS more constrictive in terms its land use projections.

While we appreciate that SCAG may be inclined to accommodate CARB wherever and to the extent that it reasonably can, we urge SCAG to recognize and exercise its statutory prerogatives under SB 375 – consistent with the legislative intent that underpinned the statute. SCAG's prerogatives include its right to adhere to the principles listed above, which we believe (1) were reflected in SCAG's previous two RTP/SCSs, (2) led to broad-based regional support for them, and (3) has substantially improved the integration of transportation and land use in our region.

Whereas the principles discussed above are for the most part stated as positive characteristics of effective RTP/SCSs, we also hold some strong views about what characteristics an effective RTP/SCS should not have. The negative characteristics that should be avoided include:

- An over-dependence on dense redevelopment/infill within existing urban areas as the primary location for future growth and housing, to the exclusion of other development opportunities. Any such over-dependence would substantially constrict the region's

capacity to add the volume and diversity of housing needed to truly address our region's housing affordability crisis.

- Recommended CEQA mitigation measures that are overly-prescriptive and overly-imposing. SCAG should avoid including within the Connect SoCal PEIR recommended mitigation measures which may be contextually unsuitable in their potential application.

- Overly ambitious assumptions about the region's ability to realize decreases in per capita vehicle miles traveled ("VMT"). Our growing understanding is that SCAG has, in connection with its prior RTP/SCSs, been assuming that the SCAG region can realize decreases in per capita VMT – even though the SCAG region's population is still growing, its communities are still expanding, and its economy is thriving and hopefully will remain so. Historically, per capita VMT does not decline when such conditions exist, and it is simply unrealistic to expect it to do so now.

- Promising successes of types that are unreasonable and/or infeasible. Our concern about this final point has been heightened by recent critical reports about the "performance" of prior RTP/SCSs.

Concerning the last two of these negative RTP/SCS characteristics, a key issue has come into sharp focus in recent months. Specifically, CARB expressed its criticism of the RTP/SCSs that were previously adopted by SCAG and its brethren MPOs in the earlier SC 375 cycles when, in November 2018, CARB issued an inaugural report pursuant to Senate Bill 150 (2017) (hereinafter the "SB 150 Report"). In it, CARB concluded that the RTP/SCSs that were theretofore adopted by the MPOs are not operating or "performing" as CARB had hoped and expected. CARB's main complaint was and is that, generally, the prior RTP/SCSs have not spawned a consequential realization of actual, sizable decreases in per capita VMT. CARB cites the absence of meaningful decreases in per capita VMT as ripe grounds for changing overall state policy to make sure that future RTP/SCSs achieve substantial per capita VMT reductions.

Because our organizations are keenly interested in the health of our region's economy as well as our environment, CARB's recent conclusions are most troubling to us. We recognize that the fundamental legislative goal behind SB 375, which is the statute that compels the formulation of sustainable communities strategies, was to spur along reductions in GHG emissions related to land use and transportation. The legislative goal was <u>not</u> to compel any reductions in per capita VMT, the achievement of which both seems illusive (in a growing, economically healthy population) and would be harmful to our region's economy and populace. Consequently, we believe that the goal of SB 375 – which is to achieve GHG emissions reductions – can and should be pursued in positive ways that do not try to impose unrealistic reductions in per capita VMT.

In our view, CARB's overly-ambitious SB 375 targets led SCAG's able staff, in the previous two SCS cycles, to work hard each time to both envision and model a land use and transportation scenario that would meet or better CARB's prescribed GHG-emissions reduction target then in place. In order to do so, however, SCAG's staff was each time compelled to report out an RTP/SCS that inherently projected a significant and unrealistic drop in per capita VMT between the years 2005 and 2035.

For example, in SCAG's 2016 SCS, SCAG's staff modeled future regional transportation to show a sixteen per cent (16%) reduction in GHG per capita from the region's land use and transportation sector (a factor that SCAG's staff was then able to increase to 18% based on certain additional off-model assumptions). To demonstrate such a 16% reduction in per capita GHG emissions from land use and transportation, however, SCAG's staff needed to project a scenario that would yield a 10% reduction in per capita VMT during the time period between 2005 and 2035 throughout the SCAG region. In other words, in order to meet CARB's GHG-emissions reduction target for the 2016-2040 RTP/SCS, SCAG had to project a scenario in which the average person traveling in and about the SCAG region would need to travel 10% less in 2035 than he or she did in 2005. This highly unlikely feat would need to be accomplished even though, at the end of such period, the SCAG region will be home to a significantly larger population living in a significantly more built-out region.

In contrast to SCAG's staff's assumptions underpinning its CARB-approved 2016 RTP/SCS, the recent SB 150 Report from CARB indicates that no per capita VMT reductions have occurred in the SCAG region – even though we are already nearly halfway through the 2005-2035 period under consideration. Instead, the combination of (1) a steadily growing population, (2) the maturation of communities generally, and (3) the economic recovery that unfolded over the last decade, has led to a rebound and increase in per capita VMT within the SCAG region. CARB's staff and SCAG's staff now recognize this to be the fact. Going forward, therefore, SCAG and CARB should model and settle upon a new SCS scenario that reflects that fact.

This is not to say, however, that SCAG's staff and CARB should abandon their goal of planning for a sustainable region in which per capita GHG-emissions reductions can be realized simply because per capita VMT reductions appear to be unrealistic. Moderate growth (i.e., relatively tempered growth) in per capita VMT is consistent with achieving the kinds of GHG-emissions reduction goals that climate-change scientists say must be pursued – provided our society makes meaningful, steady improvements in our fleets and fuels over time. Steady improvements in both the efficiency of our transportation fleet and our fuel options seem increasingly likely to unfold in the years pending before us. Importantly, foreseeable improvements in our transportation fleet and our fuel options will decrease the GHG-emissions reduction benefit that can be derived from any given decrease in per capita VMT – so much so

that if we were to pursue enough of the former (fleet and fuel change), we would need virtually none of the latter (per capita VMT reductions) to meet our state's GHG reduction goals.[1]

Therefore, we urge SCAG's staff – when it is fashioning and analyzing alternatives for the PEIR – to consider, analyze and propose as the "preferred alternative" a scenario that will allow for a realistic degree of ongoing per capita VMT growth in the SCAG region.

At the public scoping hearing on Wednesday, February 13, 2019 (the earlier of the two sessions), SCAG's staff stated that they were then anticipating that the Connect SoCal draft PEIR would analyze at least three alternative projects. The three alternative projects were:

1. the "no project" alternative (which is required by law for comparison purposes, but is practically a non-starter given the need for transportation improvements of all types),

2. the "2020 local input" alternative, and

3. the "intensified land use" alternative.

Presumably, the "2020 local input" alternative will project more per capita VMT in 2035 than would the conceived "intensified land use" alternative. Assuming this is true, we urge SCAG's staff, committees and Regional Council to consider adopting the "2020 local input" alternative – or some other alternative that better reflects a realistic projection of per capita VMT – as the preferred alternative in the Draft PEIR. Importantly, we urge such a result even if it were to mean that SCAG's resulting RTP/SCS will fall short of CARB's SB 375 GHG-emissions reduction target, thus resulting in the need for SCAG to present to CARB – in addition to the SCS – an Alternative Planning Scenario ("APS") just as SB 375 allows.

In our view – which is now informed by nearly a decade of hindsight, CARB set off in the wrong direction when it first established the MPOs' respective SB 375 targets back in 2010.

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[1] See K. Leotta & C. Burbank, *One Percent [Annual] VMT Growth or Less to Meet Greenhouse Gas Emissions Reduction Goals* (2009). Their study concludes that ambitious 2050 GHG emissions reduction goals can be achieve consistent with a moderated one percent annual increase in aggregate VMT – specifically if *emissions per VMT* can be decreased on average by roughly 72 percent over the 45-year projection period (2005-2050). Importantly, the combination of California's standards requiring aggressive improvements in automobile emissions and the accelerating adoption of electric vehicles, natural gas, plug-in electric hybrid and even hydrogen vehicles suggests that California is well on its way to achieving greatly reduced GHG emissions per vehicle mile traveled. This foreseeable achievement will also predictably lessen over time the marginal benefit that will flow from any marginal reduction or constriction of per capita VMT.

SB 375 was intended to be about GHG-emissions reductions related to land use and transportation, and not about per capita VMT reductions. CARB effectively rejected the legislative intent, however, and substituted its own intention that the state's citizens' basic mobility must be curbed – notwithstanding a growing population and the additional land uses that a growing population logically entails. The Legislature's original intention can and should be belatedly restored. SB 375 can and should be more about overall GHG-emissions reductions, and not about projecting how to crimp both regional mobility and the region's economy through the imposition of per capita VMT reductions.

If SCAG's staff and leadership were to once again adopt an RTP/SCS underpinned by significant per capita VMT reductions, and if CARB were to successfully champion new state policies to mandate per capita VMT reductions, then our region's and our state's economy would suffer tremendously. Without any question, California as a whole and the SCAG region both already suffer from a massive shortage of available housing opportunities. To address this crisis, Governor Newsom has called for the construction of 3.5 million new homes by the year 2025, which would constitute adding more than twenty percent (20%) to California's existing housing stock in only about seven (7) years. In order to even begin to approach such an ambitious goal, our communities must explore, promote, condition and approve many different kinds of new housing opportunities. Such opportunities must include all of the following: (1) new urban development and redevelopment opportunities, (2) the ongoing development of budding and growing communities, and (3) well-planned, newly-opened communities. In short, unduly constrictive land use policies which are aimed at and premised on per capita VMT reductions are inconsistent with the obviously apparent needs of the people of California, and they should be rejected.

Apart from our opposition to any projections of per capita VMT reductions, we hope that SCAG's staff will analyze and incorporate into Connect SoCal additional policies that can improve our region's economy and allow our communities to better house our growing population. We intend to work with SCAG's staff in the months ahead to advance such policies. Examples include:

- In 2010, SCAG's Regional Council voted to reject CARB's then-proposed GHG reduction target for the SCAG region unless it was accompanied by financial and policy support from the State to help with the transportation and other investments that would be required by local governments and agencies to meet the target. Such support from the state was promised; but it has been lacking ever since. For example, whereas favorable redevelopment funding policies are needed to promote urban renewal of the type to which the SCSs certainly aspire, California eliminated redevelopment agencies and the funding and tools they provided to local government in 2012, just as the original SCSs began calling for more urban redevelopment. To the extent that Connect SoCal aims to promote a reasonable balance between (1) urban renewal, on the one hand, and (2)

greenfield and new-town development, on the other hand, SCAG, CARB and the California Legislature must all work together to restore meaningful redevelopment funding.

- Similarly, SCAG and its regional partners have pointed out to the state in recent years that the SCAG region has been given far less than its fair share of cap-and-trade funds gathered by the State and distributed to the regions through the Greenhouse Gas Reduction Fund (GGRF). This should be rectified; and CARB should be made to assure that the SCAG region obtains its fair share of state-wide funding.

- SB 375 contains provisions that purport to give certain CEQA exemptions to transit-oriented development which is consistent with an SCS; but these specific CEQA exemptions have largely been illusory and barely used. If the state had provided more meaningful and greater CEQA relief, it likely would have accelerated much-needed infill and transit-oriented redevelopment, smart new town development, and wise community growth – all of which would have helped progress toward meeting emission reduction goals. All interested parties should therefore continue to press for meaningful CEQA reform of the type that will accelerate approvals of needed development.

We recognize the daunting regulatory and administrative challenges that are inherent in SB 375. We recognize that it will be a major challenge for SCAG's staff to re-evaluate the VMT constrictive assumptions that underpinned SCAG's last two RTP/SCSs. Given our longstanding involvement with the SB 375 process and the depth of our concerns, we look forward to participating in the discussions about Connect SoCal; and we respectfully ask for your meaningful consideration of these comments.

Sincerely,

Richard Lambros
Managing Director
Southern California Leadership Council

SCLC SOUTHERN CALIFORNIA LEADERSHIP COUNCIL

Jeff Montejano
Chief Executive Officer
Building Industry Association of Southern California (BIASC)

BUILDING INDUSTRY ASSOCIATION OF SOUTHERN CALIFORNIA BIA

Alicia Berhow
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Nick Cammarota
Senior Vice President & General Counsel
California Building Industry Association

Jessica Duboff
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Paul Granillo
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Inland Empire Economic Partnership

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Executive Director
Southern California Partnership for Jobs

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Assistant Director of Legislative Affairs
NAIOP SoCal

Michael W. Lewis
Senior Vice President
Construction Industry Air Quality

Wes May
Executive Vice President
Southern California Contractors Association

Dave Sorem
Vice President - Infrastructure
Engineering Contractors Association

SCAG RTPSCS NOP – Comments/questions from SBCTA, February 13, 2019

We would appreciate further explanation of the following:

1) Page 5, last paragraph (Scenario Planning Process) - As scenarios are developed, how will the realities of market forces be factored into a preferred land use scenario and how will the Scenario Planning Process be incorporated into the development of "alternatives"? How will each jurisdiction with land use authority be involved in development of various scenarios, especially related to the "Intensified Land Use Alternative" scenario development?

2) Page 6 (Bottom-up Local Growth and Land Use Input Process) – Since the Local Input process differs from the Scenario Planning process (page 5), please make sure to explicitly note the difference between the two processes to avoid potential confusion for local jurisdictions.

3) Pages 6 and 7, list of scope of environmental effects – Would Greenhouse Gas Emissions and Climate Change include an analysis of climate resiliency or climate adaptation? Also, will the PEIR provide an analysis of impacts on public health and disadvantaged communities?

4) Page 7, second paragraph under CEQA streamlining – The text states that "*Additionally, the PEIR will support other CEQA streamlining options that do not fall into the categories under SB 375 (i.e., SB 743, SB 226 and the State CEQA Guidelines).*" Please explain how the PEIR will support SB 743 streamlining.

5) Page 7, No Project alternative: The paragraph states that:
"*The No Project Alternative will consider continued implementation of the goals and polices of the adopted 2016 RTP/SCS and will be based on 2016 RTP/SCS regional population, housing, and employment. The No Project Alternative includes those transportation projects that are included in the first year of the previously conforming FTIP (i.e., 2018)*."
This would seem to be slightly different from the definition of the No Project alternative used for the 2016 RTP/SCS PEIR, which states:
"*The No Project Alternative is based on and aligned with the 2016 RTP/SCS Scenario 1 ("No Build/Baseline: No build network and trend SED")*.
Can you explain more explicitly what will be included as the growth forecast for the No Project alternative in the 2020 RTP/SCS PEIR? The 2016 RTP/SCS growth forecast already has built into it some of the elements of the Intensified Land Use Alternative described on Page 8 of the NOP. In other words, it is not the "trend SED" described in the 2016 PEIR.

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

SENT VIA USPS AND E-MAIL: February 19, 2019
2020PEIR@scag.ca.gov
Roland Ok, Senior Regional Planner
Southern California Association of Governments
900 Wilshire Boulevard, Suite 1700
Los Angeles, CA 90017

Notice of Preparation of a Program Environmental Impact Report for the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (Connect SoCal)

South Coast Air Quality Management District (SCAQMD) staff appreciates the opportunity to comment on the above-mentioned document. SCAQMD staff's comments are recommendations regarding the analysis of potential air quality impacts from the Proposed Project that should be included in the Program Environmental Impact Report (EIR). Please send SCAQMD a copy of the Draft EIR upon its completion. Note that copies of the Program EIR that are submitted to the State Clearinghouse are not forwarded to SCAQMD. Please forward a copy of the Program EIR directly to SCAQMD at the address shown in the letterhead. **In addition, please send with the Program EIR all appendices or technical documents related to the air quality, health risk, and greenhouse gas analyses and electronic versions of all air quality modeling and health risk assessment files[1]. These include emission calculation spreadsheets and modeling input and output files (not PDF files). Without all files and supporting documentation, SCAQMD staff will be unable to complete our review of the air quality analyses in a timely manner. Any delays in providing all supporting documentation will require additional time for review beyond the end of the comment period.**

Air Quality Analysis

SCAQMD adopted its California Environmental Quality Act (CEQA) Air Quality Handbook in 1993 to assist other public agencies with the preparation of air quality analyses. SCAQMD staff recommends that the Lead Agency use this Handbook as guidance when preparing its air quality analyses. Copies of the Handbook are available from the SCAQMD's Subscription Services Department by calling (909) 396-3720. More recent guidance developed since this Handbook was published is also available on SCAQMD's website at: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/ceqa-air-quality-handbook-(1993). SCAQMD staff also recommends that the Lead Agency use the CalEEMod land use emissions software. This software has recently been updated to incorporate up-to-date state and locally approved emission factors and methodologies for estimating pollutant emissions from typical land use development. CalEEMod is the only software model maintained by the California Air Pollution Control Officers Association (CAPCOA) and replaces the now outdated URBEMIS. This model is available free of charge at: www.caleemod.com.

On March 3, 2017, the SCAQMD's Governing Board adopted the 2016 Air Quality Management Plan (2016 AQMP), which was later approved by the California Air Resources Board on March 23, 2017.

[1] Pursuant to the CEQA Guidelines Section 15174, the information contained in an EIR shall include summarized technical data, maps, plot plans, diagrams, and similar relevant information sufficient to permit full assessment of significant environmental impacts by reviewing agencies and members of the public. Placement of highly technical and specialized analysis and data in the body of an EIR should be avoided through inclusion of supporting information and analyses as appendices to the main body of the EIR. Appendices to the EIR may be prepared in volumes separate from the basic EIR document, but shall be readily available for public examination and shall be submitted to all clearinghouses which assist in public review.

Built upon the progress in implementing the 2007 and 2012 AQMPs, the 2016 AQMP provides a regional perspective on air quality and the challenges facing the South Coast Air Basin. The most significant air quality challenge in the Basin is to achieve an additional 45 percent reduction in nitrogen oxide (NOx) emissions in 2023 and an additional 55 percent NOx reduction beyond 2031 levels for ozone attainment. The 2016 AQMP is available on SCAQMD's website at: http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan.

SCAQMD staff recognizes that there are many factors Lead Agencies must consider when making local planning and land use decisions. To facilitate stronger collaboration between Lead Agencies and SCAQMD to reduce community exposure to source-specific and cumulative air pollution impacts, SCAQMD adopted the Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning in 2005. This Guidance Document provides suggested policies that local governments can use in their General Plans or through local planning to prevent or reduce potential air pollution impacts and protect public health. SCAQMD staff recommends that the Lead Agency review this Guidance Document as a tool when making local planning and land use decisions. This Guidance Document is available on SCAQMD's website at: http://www.aqmd.gov/docs/default-source/planning/air-quality-guidance/complete-guidance-document.pdf. Additional guidance on siting incompatible land uses (such as placing homes near freeways or other polluting sources) can be found in the California Air Resources Board's *Air Quality and Land Use Handbook: A Community Health Perspective*, which can be found at: http://www.arb.ca.gov/ch/handbook.pdf. Guidance[2] on strategies to reduce air pollution exposure near high-volume roadways can be found at: https://www.arb.ca.gov/ch/rd_technical_advisory_final.PDF.

SCAQMD has also developed both regional and localized air quality significance thresholds. SCAQMD staff requests that the Lead Agency compare the emissions to the recommended regional significance thresholds found here: http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf. In addition to analyzing regional air quality impacts, SCAQMD staff recommends calculating localized air quality impacts and comparing the results to localized significance thresholds (LSTs). LSTs can be used in addition to the recommended regional significance thresholds as a second indication of air quality impacts when preparing a CEQA document. Therefore, when preparing the air quality analysis for the Proposed Project, it is recommended that the Lead Agency perform a localized analysis by either using the LSTs developed by SCAQMD or performing dispersion modeling as necessary. Guidance for performing a localized air quality analysis can be found at: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/localized-significance-thresholds.

When specific development is reasonably foreseeable as result of the goals, policies, and guidelines in the Proposed Project, the Lead Agency should identify any potential adverse air quality impacts and sources of air pollution that could occur using its best efforts to find out and a good-faith effort at full disclosure in the Program EIR. The degree of specificity will correspond to the degree of specificity involved in the underlying activity which is described in the Program EIR (CEQA Guidelines Section 15146). When quantifying air quality emissions, emissions from both construction (including demolition, if any) and operations should be calculated. Construction-related air quality impacts typically include, but are not limited to, emissions from the use of heavy-duty equipment from grading, earth-loading/unloading, paving, architectural coatings, off-road mobile sources (e.g., heavy-duty construction equipment) and on-road mobile sources (e.g., construction worker vehicle trips, material transport trips). Operation-related air quality impacts may include, but are not limited to, emissions from stationary sources (e.g., boilers),

[2] In April 2017, CARB published a technical advisory, *Strategies to Reduce Air Pollution Exposure Near High-Volume Roadways: Technical Advisory*, to supplement CARB's Air Quality and Land Use Handbook: A Community Health Perspective. This technical advisory is intended to provide information on strategies to reduce exposures to traffic emissions near high-volume roadways to assist land use planning and decision-making in order to protect public health and promote equity and environmental justice. The technical advisory is available at: https://www.arb.ca.gov/ch/landuse.htm.

area sources (e.g., solvents and coatings), and vehicular trips (e.g., on- and off-road tailpipe emissions and entrained dust). Air quality impacts from indirect sources, such as sources that generate or attract vehicular trips, should be included in the analysis. Furthermore, for phased projects where there will be an overlap between construction and operation, the emissions from the overlapping construction and operational activities should be combined and compared to SCAQMD's regional air quality CEQA *operational* thresholds to determine the level of significance.

In the event that the Proposed Project generates or attracts vehicular trips, especially heavy-duty diesel-fueled vehicles, it is recommended that the Lead Agency perform a mobile source health risk assessment. Guidance for performing a mobile source health risk assessment ("*Health Risk Assessment Guidance for Analyzing Cancer Risk from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis*") can be found at: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/mobile-source-toxics-analysis. An analysis of all toxic air contaminant impacts due to the use of equipment potentially generating such air pollutants should also be included.

Mitigation Measures and Health Risks Reduction Strategies

In the event that the Proposed Project generates significant adverse air quality impacts, CEQA requires that all feasible mitigation measures that go beyond what is required by law be utilized during project construction and operation to minimize or eliminate these impacts. Pursuant to CEQA Guidelines Section 15126.4 (a)(1)(D), any impacts resulting from mitigation measures must also be discussed. Several resources are available to assist the Lead Agency with identifying possible mitigation measures for the Proposed Project, including:

- Chapter 11 "Mitigating the Impact of a Project" of SCAQMD's *CEQA Air Quality Handbook*
- SCAQMD's CEQA web pages available here: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/mitigation-measures-and-control-efficiencies
- SCAQMD's Rule 403 – Fugitive Dust, and the Implementation Handbook for controlling construction-related emissions and Rule 1403 – Asbestos Emissions from Demolition/Renovation Activities
- CAPCOA's *Quantifying Greenhouse Gas Mitigation Measures* available here: http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf

Additional Recommended Mitigation Measures

SCAQMD staff has prepared the following list of mitigation measures as suggestions to the Lead Agency to consider and incorporate in the Program EIR.

- Require the use of Tier 4 emissions standards or better for off-road diesel-powered construction equipment of 50 horsepower or greater. To ensure that Tier 4 construction equipment or better will be used during the Proposed Project's construction, SCAQMD staff recommends that the Lead Agency include this requirement in applicable bid documents, purchase orders, and contracts. Successful contractor(s) must demonstrate the ability to supply the compliant construction equipment for use prior to any ground disturbing and construction activities. A copy of each unit's certified tier specification or model year specification and California Air Resources Board (CARB) or SCAQMD operating permit (if applicable) shall be available upon request at the time of mobilization of each applicable unit of equipment. Additionally, the Lead Agency should require periodic reporting and provision of written construction documents by construction contractor(s) to ensure compliance, and conduct regular inspections to the maximum extent feasible to ensure compliance.
- Require zero-emissions or near-zero emission on-road haul trucks such as heavy-duty trucks with natural gas engines that meet the CARB's adopted optional NOx emissions standard at 0.02

grams per brake horsepower-hour (g/bhp-hr), if and when feasible. At a minimum, require that construction vendors, contractors, and/or haul truck operators commit to using 2010 model year trucks (e.g., material delivery trucks and soil import/export) that meet CARB's 2010 engine emissions standards at 0.01 g/bhp-hr of particulate matter (PM) and 0.20 g/bhp-hr of NOx emissions or newer, cleaner trucks[3]. The Lead Agency should include this requirement in applicable bid documents, purchase orders, and contracts. Operators shall maintain records of all trucks associated with project construction to document that each truck used meets these emission standards, and make the records available for inspection. The Lead Agency should conduct regular inspections to the maximum extent feasible to ensure compliance.

- Suspend all on-site construction activities when wind speeds (as instantaneous gusts) exceed 25 miles per hour.
- All trucks hauling dirt, sand, soil or other loose materials are to be covered, or should maintain at least two feet of freeboard in accordance with California Vehicle Code Section 23114 (freeboard means vertical space between the top of the load and top of the trailer).
- Enter into applicable bid documents, purchase orders, and contracts to notify all construction vendors, contractors, and/or haul truck operators that vehicle and construction equipment idling time will be limited to no longer than five minutes, consistent with the CARB's policy[4]. For any idling that is expected to take longer than five minutes, the engine should be shut off. Notify construction vendors, contractors, and/or haul truck operators of these idling requirements at the time that the purchase order is issued and again when vehicles enter the Proposed Project site. To further ensure that drivers understand the vehicle idling requirement, post signs at the Proposed Project site, where appropriate, stating that idling longer than five minutes is not permitted.
- Have truck routes clearly marked with trailblazer signs, so that trucks will not enter residential areas.
- Limit the daily number of trucks allowed at the Proposed Project to levels analyzed in the CEQA document. If higher daily truck volumes are anticipated to visit the site, the Lead Agency should commit to re-evaluating the Proposed Project through the CEQA process prior to allowing this land use or higher activity level.
- Provide electric vehicle (EV) Charging Stations (see the discussion below regarding EV charging stations).
- Should the Proposed Project generate significant regional emissions, the Lead Agency should require mitigation that requires accelerated phase-in for non-diesel powered trucks. For example, natural gas trucks, including Class 8 HHD trucks, are commercially available today. Natural gas trucks can provide a substantial reduction in health risks, and may be more financially feasible today due to reduced fuel costs compared to diesel. In the Program EIR, the Lead Agency should require a phase-in schedule for these cleaner operating trucks to reduce any significant adverse air quality impacts. SCAQMD staff is available to discuss the availability of current and upcoming truck technologies and incentive programs with the Lead Agency.
- Trucks that can operate at least partially on electricity have the ability to substantially reduce the significant NOx impacts from this project. Further, trucks that run at least partially on electricity are projected to become available during the life of the project as discussed in the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016-2040 RTP/SCS)[5]. It is important to make this electrical infrastructure available when the project is built so that it is

[3] Based on a review of the California Air Resources Board's diesel truck regulations, 2010 model year diesel haul trucks should have already been available and can be obtained in a successful manner for the project construction California Air Resources Board. March 2016. Available at: http://www.truckload.org/tca/files/ccLibraryFiles/Filename/000000003422/California-Clean-Truck-and-Trailer-Update.pdf (See slide #23).

[4] California Air Resources Board. June 2009. *Written Idling Policy Guidelines*. Accessed at: https://www.arb.ca.gov/msprog/ordiesel/guidance/writtenidlingguide.pdf.

[5] Southern California Association of Governments. Accessed at: http://scagrtpscs.net/Pages/FINAL2016RTPSCS.aspx.

ready when this technology becomes commercially available. The cost of installing electrical charging equipment onsite is significantly cheaper if completed when the project is built compared to retrofitting an existing building. Therefore, SCAQMD staff recommends the Lead Agency require the Proposed Project and other plan areas that allow truck parking to be constructed with the appropriate infrastructure to facilitate sufficient electric charging for trucks to plug-in. Similar to the City of Los Angeles requirements for all new projects, SCAQMD staff recommends that the Lead Agency require at least 5% of all vehicle parking spaces (including for trucks) include EV charging stations[6]. Further, electrical hookups should be provided at the onsite truck stop for truckers to plug in any onboard auxiliary equipment. At a minimum, electrical panels should be appropriately sized to allow for future expanded use.

- Design warehouses or distribution centers such that entrances and exits are such that trucks are not traversing past neighbors or other sensitive receptors.
- Design warehouses or distribution centers such that any check-in point for trucks is well inside the site to ensure that there are no trucks queuing outside of the facility.
- Design warehouses or distribution centers to ensure that truck traffic within the site is located away from the property line(s) closest to its residential or sensitive receptor neighbors.
- Restrict overnight parking in residential areas.
- Establish overnight parking within warehouses or distribution centers where trucks can rest overnight.
- Establish area(s) within warehouses or distribution centers for repair needs.
- Develop, adopt and enforce truck routes to and from warehouses or distribution centers that avoid sensitive receptors, where feasible.
- Create a buffer zone of at least 300 meters (roughly 1,000 feet), which can be office space, employee parking, greenbelt, etc. between warehouses or distribution centers and sensitive receptors.
- Maximize use of solar energy including solar panels; installing the maximum possible number of solar energy arrays on the building roofs and/or on the Proposed Project site to generate solar energy for the facility.
- Maximize the planting of trees in landscaping and parking lots.
- Use light colored paving and roofing materials (e.g., "cool" roofs and cool pavements).
- Utilize only Energy Star heating, cooling, and lighting devices, and appliances.
- Require use of electric or alternatively fueled sweepers with HEPA filters.
- Use of water-based or low VOC cleaning products.

Health Risks Reduction Strategies

Many strategies are available to reduce exposures from locating sensitive land uses near freeways or sources of air pollution, including, but are not limited to, building filtration systems with MERV 13 or better, or in some cases, MERV 15 or better is recommended; building design, orientation, location; vegetation barriers or landscaping screening, etc. Because of the potential adverse health risks involved with siting sensitive receptors near freeways and other sources of air pollution, it is essential that any proposed strategy must be carefully evaluated before implementation.

In the event that enhanced filtration units are required for installation at the Proposed Project either as a mitigation measure or project design feature, SCAQMD staff recommends that the Lead Agency consider the limitations of the enhanced filtration. For example, in a study that SCAQMD conducted to investigate

[6] City of Los Angeles. Accessed at: http://ladbs.org/LADBSWeb/LADBS_Forms/Publications/LAGreenBuildingCodeOrdinance.pdf.

filters[7], a cost burden is expected to be within the range of $120 to $240 per year to replace each filter. The initial start-up cost could substantially increase if an HVAC system needs to be installed. In addition, because the filters would not have any effectiveness unless the HVAC system is running, there may be increased energy costs to the residents. It is typically assumed that the filters operate 100 percent of the time while residents are indoors, and the environmental analysis does not generally account for the times when the residents have their windows or doors open or are in common space areas of the project. In addition, these filters have no ability to filter out any toxic gases from vehicle exhaust. Therefore, the presumed effectiveness and feasibility of any filtration units should be carefully evaluated in more detail prior to assuming that they will sufficiently alleviate exposures to diesel particulate matter (DPM) emissions.

If enhanced filtration units are installed at the Proposed Project, and to ensure that they are enforceable throughout the lifetime of the Proposed Project as well as effective in reducing exposures to DPM emissions, SCAQMD staff recommends that the Lead Agency provide additional details regarding the ongoing, regular maintenance and monitoring of filters in the environmental analysis. To facilitate a good faith effort at full disclosure and provide useful information to future residents who will live at the Proposed Project in a close proximity to freeways and other sources of air pollution, the environmental analysis should include the following information, at a minimum:

- Disclose the potential health impacts to prospective residents from living in a close proximity of freeways and other sources of air pollution and the reduced effectiveness of air filtration system when windows are open and/or when residents are outdoor (e.g., in the common and open space areas);
- Identify the responsible implementing and enforcement agency such as the Lead Agency to ensure that enhanced filtration units are installed on-site at the Proposed Project before a permit of occupancy is issued;
- Identify the responsible implementing and enforcement agency such as the Lead Agency to ensure that enhanced filtration units are inspected regularly;
- Provide information to residents on where the MERV filers can be purchased;
- Disclose the potential increase in energy costs for running the HVAC system to prospective residents;
- Provide recommended schedules (e.g., once a year or every six months) for replacing the enhanced filtration units to prospective residents;
- Identify the responsible entity such as residents themselves, Homeowner's Association, or property management for ensuring enhanced filtration units are replaced on time, if appropriate and feasible (if residents should be responsible for the periodic and regular purchase and replacement of the enhanced filtration units, the Lead Agency should include this information in the disclosure form);
- Identify, provide, and disclose any ongoing cost sharing strategies, if any, for the purchase and replacement of the enhanced filtration units;
- Set City-wide or Project-specific criteria for assessing progress in installing and replacing the enhanced filtration units; and
- Develop a City-wide or Project-specific process for evaluating the effectiveness of the enhanced filtration units at the Proposed Project.

[7] This study evaluated filters rated MERV 13 or better. Accessed at: http://www.aqmd.gov/docs/default-source/ceqa/handbook/aqmdpilotstudyfinalreport.pdf. Also see 2012 Peer Review Journal article by SCAQMD: https://onlinelibrary.wiley.com/doi/10.1111/ina.12013.

Alternatives

In the event that the Proposed Project generates significant adverse air quality impacts, CEQA requires the consideration and discussion of alternatives to the project or its location which are capable of avoiding or substantially lessening any of the significant effects of the project. The discussion of a reasonable range of potentially feasible alternatives, including a "no project" alternative, is intended to foster informed decision-making and public participation. Pursuant to CEQA Guidelines Section 15126.6(d), the Program EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the Proposed Project.

Permits

In the event that implementation of the Proposed Project requires a permit from SCAQMD, SCAQMD should be identified as a Responsible Agency for the Proposed Project in the Program EIR. For more information on permits, please visit SCAQMD's webpage at: http://www.aqmd.gov/home/permits. Questions on permits can be directed to SCAQMD's Engineering and Permitting staff at (909) 396-3385.

Data Sources

SCAQMD rules and relevant air quality reports and data are available by calling the SCAQMD's Public Information Center at (909) 396-2039. Much of the information available through the Public Information Center is also available via the SCAQMD's webpage (http://www.aqmd.gov).

SCAQMD staff is available to work with the Lead Agency to ensure that project air quality impacts are accurately evaluated and mitigated where feasible. Please contact me at (909) 396-3308, should you have any questions.

Sincerely,

Lijin Sun

Lijin Sun, J.D.
Program Supervisor, CEQA IGR
Planning, Rule Development & Area Sources

LS
ALL190123-01
Control Number

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Citrus Valley Health Partners
Kelly Wu
Cathay Bank

February 22, 2019

Roland Ok, Senior Regional Planner
Southern California Association of Governments
900 Wilshire Blvd, Suite 1700
Los Angeles, CA 90017

RE: SCAG "Connect SoCal" Scoping Phase Comments

Dear Mr. Ok,

On behalf of the San Gabriel Valley Economic Partnership, I write with strong concerns regarding SCAG's 2020-2045 Regional Transportation Plan (RTP) and Sustainable Community Strategies (SCS). The California Air Resources Board (CARB) wishes to impose a foolish and flawed Vehicle Miles Travelled (VMT) reduction target as a strategy for greenhouse gas (GHG) reduction. This grossly ignores the local opinions of many communities and stakeholders recorded in previous Regional Transportation Plan /Sustainable Community Strategies.

The Air Resources Board has no statutory authority to impose a VMT reduction target in an SCS; doing so violates the SB 375 requirement that an SCS must provide for a robust economy and growing population. In two prior RTP/SCS iterations in 2012 and 2016, SCAG met required GHG reduction targets based on local input for land use planning and full respect for voter-approved transportation projects and critical infrastructure required by longstanding laws requiring efficient transportation and goods movement.

The most aggressive decrease in GHG emissions based on VMT reductions in the SCAG region called for a 10% decrease in overall regional VMT, which the region has not met and shows no indication of being able to meet. California emits less than 1% of total global greenhouse gases while it has the nation's highest rates for poverty and homelessness. Each of these huge social problems are directly attributable to outrageously high housing prices that are nearly three times above the national average. Sky high housing prices leads to significantly longer commutes as working families travel great distances from their employers in the city to far outlying ex-urban regions where they can afford to live.

CARB's current target of reducing VMT by 19.5% is simply unattainable. SCAG should not continue to spend taxpayer dollars on infeasible plans. This is especially true when there has been no progress in enacting key reforms that prior SCS plans identified, such as redevelopment funding and CEQA reform.

The Partnership lauds SCAG efforts to see that SB 375 is implemented in line with its statutory protections for a healthy economy and growing population. I suggest that SCAG reject CARB staff's decision to adopt VMT reduction targets. The State Legislature has repeatedly refused to impose a VMT reduction target as part of its climate and air quality laws and regulations. There is no basis to suggest VMT reduction targets a feasible in the SCAG region and the agency is better served by concentrating on substantive, achievable measures that have already been identified in previously approved iterations of the RTP/SCS.

Sincerely,

Brad Jensen, Director of Public Policy

Roland Ok, Senior Regional Planner
Southern California Association of Governments
900 Wilshire Blvd., Ste. 1700
Los Angeles, CA 90017

February 22, 2019

RE: Scoping Connect SoCal - 2020-2045 Regional Transportation Plan / Sustainable Communities Strategy

Dear Mr. Ok,

Thank you for the opportunity to comment on the scoping of the environmental analysis that will underpin the 2020-2045 Regional Transportation Plan / Sustainable Communities Strategy.

The 2020-2045 time frame of this plan takes us solidly into the the point of no return on climate action. This plan must guide our region towards an aggressive shift in land use and transportation patterns to radically reduce climate emissions.

The EIR should examine as part of its alternatives analysis an alternative that describes a future in which the land use and transportation systems of Southern California meet the necessary trajectory to reach California's ambitious and necessary climate goals. By that, we mean aiming for the full 25% reduction in per capita greenhouse gas emissions from transportation (relative to 2005 levels by 2035) that is identified as necessary in the ARB scoping plan, and not simply the 19% mandated by SCAG's SB 375 target.

An incremental approach that merely entertains existing commitments, which are bound to fail us in reaching our climate goals, is not appropriate or adequate.

We ask SCAG to include in its alternatives analysis at least one scenario that includes all of the following elements:

1) A halt to sprawl, greenfield development that increases per-capita VMT;
2) A robust prioritization of infill development near jobs and destinations -- especially near transit and including affordable housing -- that reduces per capita VMT in line with the ARB scoping plan and includes anti-displacement measures;
3) No new road or highway capacity projects;
4) A reprioritization of existing road and highway capacity to more equitable and efficient modes of transportation, including bus only lanes, bicycle lanes and high-occupancy vehicle lanes;
5) A robust system of roadway pricing, including cordon tolling, VMT/VHT pricing and corridor pricing throughout the SCAG geography as appropriate, with a priority on improving transportation equity through revenue investment;
6) An extensive electrification of our passenger and goods movement systems.

The plan's environmental review should also provide an equity analysis, incorporating best practices, that includes: an accounting of investment in disadvantaged communities that addresses discrepancies in access to transportation options; a neighborhood-scale impact analysis in these communities; a tracking of displacement of low-income residents that has occurred; and an anticipation of future displacement risk to vulnerable communities associated with these investments.

This analysis should aim to provide guidance to jurisdictions for mitigating disproportionate air quality impacts, and protecting against displacement of vulnerable residents. In addition, the analysis should disaggregate data as much as possible to lift up race/ethnicity, age, and low-income exposure to poor air quality and other health hazards from all of SCAG's six counties.

Thank you for your consideration.

Sincerely,

Carter Rubin, Mobility and Climate Advocate
Natural Resources Defense Council

Christopher Escárcega, Acting Co-Director
ClimatePlan

Bryn Lindblad, Deputy Director
Climate Resolve

Matthew Baker, Policy Director
Planning and Conservation League

Demi Espinoza, Senior Equity & Policy Manager
Safe Routes to School National Partnership

Jared Sanchez, Senior Policy Advocate
California Bicycle Coalition

Anita Au

From: Robert dale <robertdaleplanning@gmail.com>
Sent: Wednesday, February 13, 2019 2:58 PM
To: nader.ghobrial@ocpw.ocgov.com
Subject: OC BikeLoop

Nader Ghobrial
Bike Trail Planner
OC Public Works

Hello Nader,

Thanks for taking my phone call today.

Also, thanks again for your help completing the 66 mile OC BikeLoop & expanding recreational opportunities in park poor north OC. The proposed La Habra Centennial Rail Trail is the largest gap in the plan.

I agree with you, the lower Coyote Creek Bike Trail is a difficult situation. From our ride in 1996,
most of the gates were locked, & it looked like several bridges were needed. Also the 5 Fwy was a major obstruction.
We ended up riding in the storm channel to get to the San Gabriel River Trail.

I am hopeful the La Habra Centennial RailTrail will be completed by our town's, 1/20/2025, Centennial Celebration! A recent study found La Habra has the fattest kids in the county.
Also, 50% of our young adults are pre-diabetic. Expanding recreational opportunities is vital to the sustainability of our town.

Keep up your great work!

Robert Dale
La Habra Bike Club
La Habra 2025 Centennial Celebration Committee
1401 Sierra Vista Dr.
La Habra, CA. 90631
Ph. (562) 697-8953

Cc La Habra Bike Club; La Habra 2025 Centennial Celebration Committee

Anita Au

From: Robert dale <robertdaleplanning@gmail.com>
Sent: Wednesday, February 13, 2019 2:18 PM
To: Roland H. Ok; 2020 RTP/SCS PEIR
Cc: Ho, Andrew; Al.Jabbar@ocgov.com; Angela Lindstrom; Assemblymember.Chen@Outreach.assembly.ca.gov; Bill Ballinger; Bob Henderson; Jim Brewer; Barbara Ballinger; Banning Ranch Conservancy; Bicycle Club; bwwhitaker@live.com; Chuck Buck; RoslynL@ci.brea.ca.us; Stacy.Blackwood@ocparks.com; Douglas Cox; chris.jepsen@rec.ocgov.com; Chris Johansen; Carlos Jaramillo; Chamber; Claire Schlotterbeck; chuy51@aol.com; Gordon cox; davidd@lahabracity.com; David Whiting; Debbie Presley; Dave Larson; Teri Daxon; Dr. David Nilson; everprop@gmail.com; Rusty Elliot; Rose Espinoza; Jose Medrano; Jack Miller; Mike Foley; Sandi.fp@gmail.com; Fullerton Observer; Surfrider Foundation; sue gaede; Jim Gomez; greenvision@fhbp.org; mplotnik@lahabraca.gov; Nord, Gregory; TShaw@lahabraca.gov; Lynton Hurdle; heather mcRea; honk@ocregister.com; Jane Noltensmeir; jwilliams90631@gmail.com; Jean Watt; Les Knight; Lou Salazar; Dave Larson; mustangthompson; Schlotterbeck, Melanie; nsantana@voiceofoc.org; ecarpenter@octa.net; nwheadon@octa.net; pmartin@octa.net; TheTracks@cityofbrea.net; Scott.Thomas@ocparks.com; Theresa Sears; Tuan.Richardson@ocparks.com; rory.paster@ocparks.com; nader.ghobrial@ocpw.ocgov.com; kathied@cityofbrea.net; Sadro, Jim; Eric Johnson
Subject: So Cal Assoc. of Gov.; Connect SoCal Project, EIR Public Comments

2/13/19

To: Roland Ok, Senior Planner
SCAG, "ConnectSoCal", PEIR
From: Robert Dale, La Habra 2025 Centennial Committee
1401 Sierra Vista Dr.
La Habra, Ca 90631

Re: Public Comments.

Subject: Connect SoCal, PEIR.

Topic: Orange County Bike Path Planning

Please consider the proposed 2040 Orange County Regional Bike Path Plan in your environmental assessment.

Also, please consider the completion of the proposed, 66 mile, "OC BikeLoop", from downtown La Habra to the Pacific Ocean. Completion of the proposed La Habra Centennial RailTrail, the largest gap in the plan, is vital to the sustainability of our region.

Thanks,
Robert Dale
La Habra, CA

"Connect SoCal Project" - The 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy is a long-range visioning plan that balances future mobility and housing needs with economic, environmental and public health goals.

Connect SoCal embodies a collective vision for the region's future and is developed with input from local governments, county transportation commissions (CTCs), tribal governments, non-profit organizations, businesses and local stakeholders within the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino and Ventura.

What is the Program Environmental Impact Report,(PIER)?
SCAG's PEIR is an environmental report that will analyze and disclose potential impacts of the Connect SoCal plan on the environment.

Please send comments related to the Environmental Impact Report: "Notice of Preparation" to:

Southern California Association of Governments
Attn: Mr. Roland Ok
900 Wilshire Blvd., Ste 1700
Los Angeles, CA 90017

Comments may also be submitted electronically to 2020PEIR@scag.ca.gov

All responses must be sent no later than **5:00 p.m. on Friday, February, 22, 2019.**

IN THIS SECTION

What is the PEIR?

What will the PEIR Analyze?

Notice of Preparation

Participate

Submitting Comments

APPENDIX 2.0

Plan Project List

TRANSPORTATION SYSTEM

Project List

FRAMEWORK

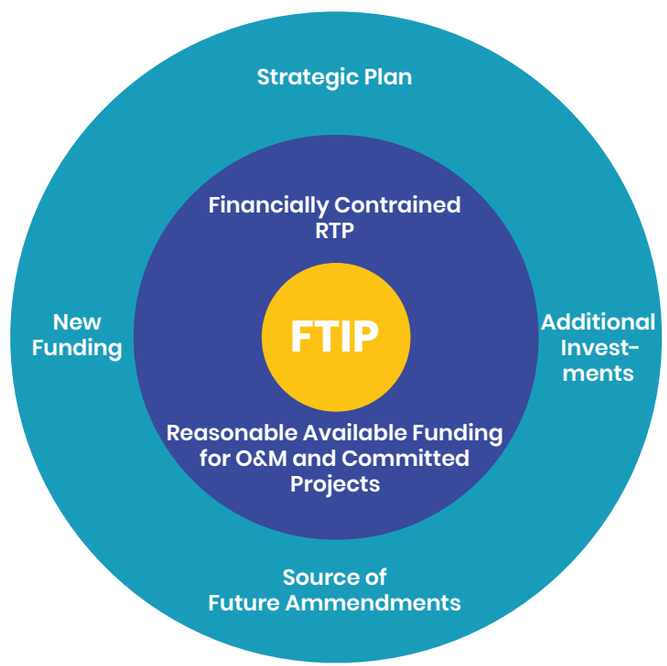
The project list is divided into three sections, consistent with the framework in **FIGURE 1**. At the center is the Federal Transportation Improvement Program (FTIP), which forms the foundation of the RTP project investment strategy and represents the first six years of already-committed funding for projects requiring federal approval or those that are regionally significant. This RTP incorporates the adopted 2019 FTIP. The RTP contains an additional financially constrained set of transportation projects above and beyond the FTIP. Finally, the Strategic Plan represents an unconstrained list of potential projects that the region would pursue given additional funding and commitment.

As part of the 2019 FTIP, projects from the 2018 State Transportation Improvement Program (STIP) and any subsequent STIP are reviewed for consistency with the RTP before inclusion into the adopted 2019 FTIP and upcoming 2021 FTIP. The STIP is comprised of the Interregional Transportation Program (ITIP) and Regional Transportation Improvement Program (RTIP).

Please note that within the project list, the completion year for non-modeled projects that are exempt from conformity may be inconsistent with upcoming 2019 FTIP amendments or the 2021 FTIP. Since these projects are exempt from conformity, changes in completion years are granted. The project list will be made consistent with the latest FTIP during the next RTP amendment or adoption.

For more information on transportation conformity and the interrelation between the plans and the programs, please refer to Chapter 5 of Connect SoCal and the Transportation Conformity Analysis Technical Report.

FIGURE 1 RTP Framework



FTIP PROJECTS

TABLE 1 FTIP Projects

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
IMPERIAL	LOCAL HIGHWAY	IMP090701	7120004	0	DEVELOP BICYCLE PATHS AND PUBLIC PARK SPACE ADJACENT TO THE NEW RIVER, CALEXICO (HPP TEA-LU PROJECT #3092)	$4,000
IMPERIAL	LOCAL HIGHWAY	IMP091001	6OM0701	0	WIDEN AND IMPROVE CESAR CHAVEZ BLVD. TO 5 LANES (3+2) FROM 2ND STREET TO SR 98. OTHER IMPROVEMENTS INCLUDE: SURFACE REHAB, TURN LANES, TRAFFIC SIGNAL, LIGHTING, AND SIDEWALKS	$9,896
IMPERIAL	LOCAL HIGHWAY	IMP141201	REG0703	0	VARIOUS UNPAVED ROADS OVERLAY PROJECT	$1,204
IMPERIAL	LOCAL HIGHWAY	IMP160401	REG0703	0	GROUPED PROJECTS FOR PAVEMENT RESURFACING AND/OR REHABILITATION: PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - PAVEMENT RESURFACING AND/OR REHABILITATION	$12,900
IMPERIAL	LOCAL HIGHWAY	IMP160402	7120004	0	ROADWAY AND PEDESTRIAN IMPROVEMENTS ON NORTH BROWN FROM EAST ALAMO STREET TO DELTA STREET	$1,233
IMPERIAL	LOCAL HIGHWAY	IMP160403	7120001	0	THE UNDERGROUNDING OF A RAW WATER LATERAL AND THE CONSTRUCTION OF CURB, GUTTER, SIDEWALK, AND FULL WIDTH PAVEMENTS ON 9TH STREET FROM PALM AVENUE TO OLIVE AVENUE	$633
IMPERIAL	LOCAL HIGHWAY	IMP160404	7120001	0	SIXTH STREET PAVEMENT IMPROVEMENTS BETWEEN HOLT AVENUE AND MELON AVENUE	$682
IMPERIAL	LOCAL HIGHWAY	IMP160405	7120001	0	DOGWOOD ROAD PAVEMENT IMPROVEMENTS BETWEEN EL CENTRO CITY LIMITS TO IMPERIAL CITY LIMITS	$2,335
IMPERIAL	LOCAL HIGHWAY	IMP160407	7120001	0	PAVING OF DIRT ROAD WILDCAT DRIVE FROM S. WESTERN AVENUE TO S. FIRST STREET	$1,008
IMPERIAL	LOCAL HIGHWAY	IMP160408	7120001	0	PAVING OF DIRT ROAD DE LAS FLORES STREET BETWEEN EADY AVENUE AND KLOKE AVENUE TO INCLUDE THE INSTALLATION OF CURB, GUTTER AND SIDEWALKS	$466
IMPERIAL	LOCAL HIGHWAY	IMP160409	7120001	0	INTERCONNECT EXISTING SIGNAL LIGHTS ALONG DOGWOOD AVENUE AND DANENBERG AVENUE TO THE EL CENTRO'S MASTER COMPUTER TO PERMIT FOR SYNCHRONIZATION	$351
IMPERIAL	LOCAL HIGHWAY	IMP160411	7120001	0	PAVING OF DIRT ROADS H STREET AND 8TH STREET. STREET SEGMENTS ARE ON H STREET FROM 7TH STREET TO 8TH STREET; AND 8TH STREET FROM H STREET TO I STREET.	$429
IMPERIAL	LOCAL HIGHWAY	IMP160901	1161L001	0	IMPERIAL AVENUE EXTENSION SOUTH - NEW ROADWAY FROM I-8 TO MCCABE ROAD. PHASE 1 INCLUDES 4 NEW LANES ON IMPERIAL AVENUE FROM I-8 TO WAKE AVENUE; AND 2 NEW LANES ON WAKE AVENUE FROM IMPERIAL AVENUE TO CYPRESS DRIVE.	$6,852
IMPERIAL	LOCAL HIGHWAY	IMP161002	7120001	0	HEBER AVENUE FROM HIGHWAY 86 TO CORRELL ROAD AND SOUTH OF HIGHWAY 86 TO FAWCETT ROAD, PAVING, DRAINAGE ADA. USING TOLL CREDITS AS MATCH FOR EARREPU FUNDS.	$1,017
IMPERIAL	LOCAL HIGHWAY	IMP161003	7120004	0	CONSERVATION EASEMENT, ACCESS IMPROVEMENTS AND PARKING FACILITIES AT THE DESERT MUSEUM, IMPERIAL COUNTY. USING TOLL CREDITS AS MATCH FOR EARREPU FUNDS.	$720
IMPERIAL	LOCAL HIGHWAY	IMP161004	7120001	0	ASPHALT REHABILITATION ALONG RIO VISTA AVENUE BETWEEN ALLEN STREET AND CATTLE CALL DRIVE, IN THE CITY OF BRAWLEY, IMPERIAL COUNTY.	$109
IMPERIAL	LOCAL HIGHWAY	IMP161005	7120004	0	PARKING LOT PAVING AND ADA ACCESS IMPROVEMENTS ON CA-78 IN THE CITY OF BRAWLEY, IMPERIAL COUNTY. USING TOLL CREDITS AS MATCH FOR EARREPU FUNDS.	$720
IMPERIAL	LOCAL HIGHWAY	IMP161010	7120004	0	ESTABLISHMENT OF SR2S PROGRAM AND BICYCLE ROUTE IMPROVEMENTS.	$524
IMPERIAL	LOCAL HIGHWAY	IMP161011	7120004	0	PEDESTRIAN MASTER PLAN.	$100

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
IMPERIAL	LOCAL HIGHWAY	IMP170101	7120004	0	THE PROJECT CONSIST IN PROVIDING IMPROVEMENTS SUCH AS SIDEWALKS, DRIVEWAYS, IN-FILL PAVING TO ACCOMMODATE A BIKE LANE ALONG RIO VISTA STREET FROM SAN DIEGO AVENUE TO HOLT AVENUE IN THE COMMUNITY OF SEELEY.	$1,119
IMPERIAL	LOCAL HIGHWAY	IMP170102	7120004	0	THE PROJECT CONSIST IN PROVIDING IMPROVEMENTS SUCH AS SIDEWALKS, DRIVEWAYS, IN-FILL PAVING TO ACCOMMODATE A BIKE LANE ALONG RIO VISTA STREET FROM HOLT AVENUE TO HEIL AVENUE IN THE COMMUNITY OF SEELEY.	$237
IMPERIAL	LOCAL HIGHWAY	IMP170701	6160002	0	CALEXICO EAST PORT OF ENTRY TRUCK CROSSING IMPROVEMENT. WIDEN THE BRIDGE OVER THE ALL-AMERICAN CANAL NEAR THE U.S./MEXICO BORDER AND STATE ROUTE 7 CALIFORNIA COMMERCIAL VEHICLE ENFORCEMENT FACILITY.	$3,000
IMPERIAL	LOCAL HIGHWAY	IMP171001	7120004	0	PROJECT RIDE, WALK, LEARN	$224
IMPERIAL	LOCAL HIGHWAY	IMP171002	7120004	0	SIDEWALK IMPROVEMENTS ON RIO VISTA STREET IN SEELEY CALIFORNIA	$1,584
IMPERIAL	LOCAL HIGHWAY	IMPL507	REG0701	0	GROUPED PROJECTS FOR BRIDGE REHABILITATION AND RECONSTRUCTION - HBP PROGRAM (PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 CATEGORIES - WIDENING NARROW PAVEMENTS OR RECONSTRUCTING BRIDGES (NO ADDITIONAL TRAVEL LANES)) - TOLL CREDITS USED TO MATCH HBP FUNDS.	$13,422
IMPERIAL	STATE HIGHWAY	0515	6120002	8	RECONSTRUCT I-8 INTERCHANGE AT IMPERIAL AVE.: FROM A TWO-LANE TO A FOUR-LANE DIAMOND TYPE OVERCROSSING, REALIGN AND RECONSTRUCT ON AND OFF-RAMPS, AND PROVIDE ACCESS TO IMPERIAL AVE. SOUTH OF I-8 (DEMO ID 621 - HPP 2861). PROJECT USING TOLL CREDITS TO MATCH DEMO FUNDS.	$44,240
IMPERIAL	STATE HIGHWAY	IMP100101	6OM0701	999	PLANNING, PROGRAMMING, AND MONITORING (PPM) FUNDS TO PAY FOR ELIGIBLE STAFF AND PROGRAM EXPENSES FOR ICTC	$3,135
IMPERIAL	STATE HIGHWAY	IMP140804	6M04018	999	I-8/DOGWOOD INTERCHANGE LANDSCAPE MITIGATION. IN EL CENTRO EAST OF DOGWOOD ROAD OVERCROSSING REVISED INTERCHANGE.	$3,694
IMPERIAL	STATE HIGHWAY	IMP161001	6120003	98	ROAD WIDENING FROM 4 TO 6 LANES ON SR98, FROM ROCKWOOD AVE TO OLLIE AVE IN THE CITY OF CALEXICO, IMPERIAL COUNTY. USING TOLL CREDITS AS MATCH FOR EARREPU FUNDS.	$3,000
IMPERIAL	STATE HIGHWAY	IMPL513	REG0701	8	GROUPED PROJECTS FOR PAVEMENT RESURFACING AND/OR REHABILITATION - SHOPP ROADWAY PRESERVATION PROGRAM (PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 CATEGORIES - PAVEMENT RESURFACING AND/OR REHABILITATION, EMERGENCY RELIEF (23 USC 125), WIDENING NARROW PAVEMENTS OR RECONSTRUCTING BRIDGES (NO ADDITIONAL TRAVEL LANES)) 100% SHOPP ADVANCE CONSTRUCTION (AC) (FEDERAL FUNDS USING TOLL	$455,687
IMPERIAL	STATE HIGHWAY	IMPL516	REG0701	999	GROUPED PROJECTS - SHOPP COLLISION REDUCTION PROGRAM. PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - RAILROAD/HIGHWAY CROSSING, SAFER NON-FEDERAL-AID SYSTEM ROADS, SHOULDER IMPROVEMENTS, TRAFFIC CONTROL DEVICES AND OPERATING ASSISTANCE OTHER THAN SIGNALIZATION PROJECTS, INTERSECTION SIGNALIZATION PROJECTS AT INDIVIDUAL INTERSECTIONS, PAVEMENT MARKING DEMONSTRATION, TRUCK CLIMBING LANES OUTSIDE THE URBANIZED AREA, LIGHTING IMPROVEMENTS, EMERGENCY TRUCK PULLOVERS.	$2,984
IMPERIAL	STATE HIGHWAY	IMPL517	REG0701	999	GROUPED PROJECTS - SHOPP MANDATES PROGRAM. PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - RAILROAD/HIGHWAY CROSSING, SAFER NON-FEDERAL-AID SYSTEM ROADS, SHOULDER IMPROVEMENTS, TRAFFIC CONTROL DEVICES AND OPERATING ASSISTANCE OTHER THAN SIGNALIZATION PROJECTS, INTERSECTION SIGNALIZATION PROJECTS AT INDIVIDUAL INTERSECTIONS, PAVEMENT MARKING DEMONSTRATION, TRUCK CLIMBING LANES OUTSIDE THE URBANIZED AREA, LIGHTING IMPROVEMENTS, EMERGENCY TRUCK PULLOVERS.	$3,621
IMPERIAL	TRANSIT	IMP111101	6TDL04	0	TRANSIT TRANSFER TERMINAL IN THE CITY OF IMPERIAL (CARRYOVER FROM PRIOR, FY11/12, $974, 5309C)	$1,217
IMPERIAL	TRANSIT	IMP1301004	IMP33000	0	COUNTY WIDE TRANSIT SYSTEM - IVT GOLD LINE - CAPITAL AND OPERATIONAL ASSISTANCE	$930
IMPERIAL	TRANSIT	IMP140204	IMP33000	0	ADA ACCESS AND BUS STOP IMPROVEMENT CAPITAL IMPROVEMENT PLAN FOR STOPS ON THE IMPERIAL VALLEY	$1,153

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
IMPERIAL	TRANSIT	IMP140803	IMP33000	0	HEBER BUS STOP AND PEDESTRIAN ACCESS IMPROVEMENT PROJECT AT SR-86	$800
IMPERIAL	TRANSIT	IMP160410	6120006	0	NEW INTERMODAL TRANSPORTATION CENTER IN THE CITY OF CALEXICO	$10,064
IMPERIAL	TRANSIT	IMP171101	IMP33000	0	REGIONAL MOBILITY MANAGEMENT PROGRAM.	$353
IMPERIAL	TRANSIT	IMP33000	IMP33000	0	COUNTY WIDE TRANSIT SYSTEM - OPERATING AND CAPITAL ASSISTANCE	$72,343
IMPERIAL	TRANSIT	IMP33003	IMP33003	0	ADA PARATRANSIT SERVICE OPERATING ASSISTANCE	$24,923
IMPERIAL	TRANSIT	IMP33023	IMP33023	0	IVT MEDTRANS	$5,528
LOS ANGELES	LOCAL HIGHWAY	LA000800	LA000800	0	GROUPED PROJECTS FOR BRIDGE REHABILITATION AND RECONSTRUCTION – HBP PROGRAM PROJECTS ARE CONSISTENT WITH 40 CFP PART 93.126 EXEMPT TABLES 2 CATEGORIES – WIDENING NARROW PAVEMENTS OR RECONSTRUCTION BRIDGES (NO ADDITIONAL TRAVEL LANES)	$422,963
LOS ANGELES	LOCAL HIGHWAY	LA0C8036	LA0C8036	0	HYPERION AV UNDER WAVERLY DR BRIDGE, RE-CONFIGURE SIDEWALKS ALONG HYPERION. RE-ALIGN I-5 NB OFF-RAMP AT GLENDALE BLVD. PROVIDE ALTERNATIVE BIKEWAY ACCESS TO LA RIVER. PPNO 3092.	$14,422
LOS ANGELES	LOCAL HIGHWAY	LA0C8037	LA0C8037	0	SOTO ST BRIDGE OVER MISSION RD & HUNTINGTON DR WILL DEMOLISH EXISTING BRIDGE AND REALIGN THE STREET TO INCREASE TRAFFIC FLOW ADDING A 0.5 BIKE LANE. PPNO 3093 3380 (BRIDGE #53C0013)	$24,221
LOS ANGELES	LOCAL HIGHWAY	LA0C8046	LA0C8046	0	BURBANK BLVD WIDENING-LANKERSHIM BLVD TO CLEON AVE. FROM VARYING ROADWAY WIDTH TO MODIFIED MAJOR HIGHWAY STANDARDS. FROM 1 LN TO 2 LNS IN EACH DIRECTION. PPNO 3097.	$15,416
LOS ANGELES	LOCAL HIGHWAY	LA0C8063	LA0C8063	0	RIVERSIDE DR. VIADUCT REPLACEMENT. REPLACEMENT OF EXISTING 2-LANE BRIDGE WITH 2 THROUGH LANES BRIDGE FLARING 4 LANES AT SAN FERNANDO ROAD WITH NEW ROUNDABOUT. BIKE LANE ADDED COMBINED WITH 53C-1932 - WILL RESULT IN INCR. CIRCULATION. PPNO 3105 (53C-0160)	$57,077
LOS ANGELES	LOCAL HIGHWAY	LA0C8075	LA0C8075	0	CESAR CHAVEZ AVE/ LORENA ST / INDIANA ST INTERSECTION IMPROVEMENTS. RECONSTRUCTION OF A FIVE-LEGGED SIGNALIZED INTERSECTION INTO A MODERN ROUNDABOUT. THE CONSTRUCTION OF THE ROUNDABOUT WILL REDUCE THE COMPLEXITY OF THE INTERSECTION AND WILL IMPROVE TRAFFIC FLOW AND SAFETY.	$10,933
LOS ANGELES	LOCAL HIGHWAY	LA0C8086	LA0C8086	0	NORTH SPRING ST, OVER LOS ANGELES RIVER .4 MILES WEST OF I-5. REHABILITATE AND WIDEN 4 LANE BRIDGE (NO ADDED LANES) ADD SIDEWALKS UPGRADE BRIDGE RAILINGS (53C0859). HIGH COST PROJECT AGREEMENT REQUIRED.	$48,267
LOS ANGELES	LOCAL HIGHWAY	LA0C8094	LA0C8094	0	PIER B INTERMODAL RAILYARD EXPANSION. PROJECT WILL EXPAND PIER B INTERMODAL RAILYARD TO FACILITATE ADDITIONAL RAIL SHIPMENTS.	$440,007
LOS ANGELES	LOCAL HIGHWAY	LA0D173	LA0D173	0	BRIDGE NO. 53C0652, SEPULVEDA BLVD, OVER DOMINGUEZ CHANNEL, 1/2 MI E/O ALAMEDA ST. REHABILITATE 4-LANE BRIDGE & WIDEN TO 6-LANE, UPGRADE BRIDGE RAILINGS.	$6,000
LOS ANGELES	LOCAL HIGHWAY	LA0D279	LA0D279	0	ATLANTIC BLVD. BRIDGE OVER THE L.A RIVER 5/8 MILE N SLAUSON AVE, WIDEN 6 LANE BRIDGE TO ADD RIGHT TURN LANE (BRIDGE #53C0252)	$26,357
LOS ANGELES	LOCAL HIGHWAY	LA0D447	LA0D447	0	AVENUE L GAP CLOSURE FROM 60TH STREET WEST TO 30TH WEST, ADDING AN ADDITIONAL LANE IN EACH DIRECTION, INCLUDING A MEDIAN (WITHIN CITY JURISDICTION)	$4,620
LOS ANGELES	LOCAL HIGHWAY	LA0D458	LA0D458	0	PROJECT WILL PROVIDE FOR THE CONSTRUCTION OF A 3.25 MILE BIKEWAY ALONG THE RESTORED BANKS OF THE PACOIMA WASH.	$983
LOS ANGELES	LOCAL HIGHWAY	LA0D461	LA0D461	0	RECONSTRUCT- THE OLD ROAD FROM HILLCREST PARKWAY TO LAKE HUGHES RD & WIDEN FROM 40' TO 68', 2 VEH. LANES AND A 5' CLASS II BIKELANE IN EA DIR & STRIPPED MEDIAN (FROM 2 TO 4 LNS 2 EA DIR) FOR 2.1 MILES.	$24,743

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	LOCAL HIGHWAY	LA0D465	LA0D465	0	COLIMA ROAD-CITY OF WHITTIER LIMITS TO FULLERTON ROAD, FOR A TOTAL DISTANCE OF 4.9 MILES. THE PROJECT WILL WIDEN COLIMA RD BY UP TO SIX FEET AT SPOT LOCATIONS AND RESTRIPE TO ACCOMMODATE THREE THROUGH LANES IN EACH DIRECTION. A CLASS II BIKEWAY FROM THE CITY OF WHITTIER WILL BE EXTENDED TO LARKVANE RD, A DISTANCE OF 1.2 MILES, AND BUS PADS WILL BE REPLACED. INCLUDES MEDIAN LANDSCAPING. UTILIZING TOLL CREDITS TO MATCH CMAQ AND STPL.	$12,690
LOS ANGELES	LOCAL HIGHWAY	LA0D476	LA0D476	0	VIA PRINCESSA EXTENSION (3 OF 3) FROM MAGIC MOUNTAIN PKWY TO GOLDEN VALLEY RD: CONSTRUCT APPROXMTLY A 1-MILE FACILITY (3 LANES IN EACH DIRECTION), OUTSIDE CURB & GUTTER, & DRAINAGE IMPRVMT	$22,102
LOS ANGELES	LOCAL HIGHWAY	LA0F007	LA0F007	0	GLENDALE BLVD.-HYPERION AVE. COMPLEX OF BRIDGES OVER LA RIVER, I-5 AND RIVERSIDE DR, REHABILITATION/SEISMIC RETROFIT; UPGRADE BRIDGE RAILING; INCLUDES BRIDGES 53C-1881, 53C-1882, 53C-1883, 53C-1884, 53C-1179 AND 53-1069. NO ADDITIONAL LANES. REALIGN I-5 NORTH BOUND OFF RAMP. CONSTRUCT A PEDESTRIAN BRIDGE OVER LA RIVER (APPROX. 426 FEET).(FED PROJECT ID: BHLS-5006(181)	$54,379
LOS ANGELES	LOCAL HIGHWAY	LA0F008	LA0F008	0	GLENDALE BLVD. OVER L.A RIVER, REHABILITATE / RETROFIT BRIDGE AND WIDEN BY 12 FEET, UPGRADE BRIDGE RAILINGS. NO ADDED LANES. PRELIMINARY ENGINEERING ONLY. CONSTRUCTION TO BE DONE UNDER LA0F007 (53C1881) GLENDALE-HYPERION COMPLEX OF BRIDGES. (#53C-1883)	$1,930
LOS ANGELES	LOCAL HIGHWAY	LA0F009	LA0F009	0	GLENDALE BLVD. OVER LA RIVER. REHABILITATE / RETROFIT BRIDGE AND WIDEN BY 12 FEET. UPGRADE BRIDGE RAILINGS. NO ADDED LANES. PRELIMINARY ENGINEERING ONLY. CONSTRUCTION TO BE DONE UNDER LA0F007 GLENDALE-HYPERION COMPLEX OF BRIDGES. (BRIDGE #53C1884, BHLS-5006(187))	$2,350
LOS ANGELES	LOCAL HIGHWAY	LA0F030	LA0F030	0	PROJECT WILL IMPROVE FLOW OF TRAFFIC FROM I-110 FWY ON/OFF-RAMPS AT C STREET BY CONSOLIDATING TWO CLOSELY SPACED INTERSECTIONS INTO ONE.	$23,980
LOS ANGELES	LOCAL HIGHWAY	LA0F062	LA0F062	0	DESIGN AND CONST. OF REAL-TIME PARKING INF./GUIDANCE SYSTEM. PHASE II COVERS DOWNTOWN SANTA MONICA AREA, BOUNDED BY PICO BLVD., OCEAN AVE., WILSHIRE BLVD. AND LINCOLN BLVD.	$700
LOS ANGELES	LOCAL HIGHWAY	LA0G088	1AL04	0	GRADE SEPARATION FOR REEVES CROSSING AT TERMINAL ISLAND WOULD ELIMINATE TRAFFIC CONFLICTS AND ALLOW EFFICIENT MOVEMENT OF TRAINS IN TERMINAL ISLAND WITHOUT CONCERN FOR IMPACTS TO VEHICULAR TRAFFIC.	$110,580
LOS ANGELES	LOCAL HIGHWAY	LA0G1007	1AL04	0	SBCCOG WILL PREPARE THE FUNDING AGREEMENT BETWEEN METRO AND CITY OF TORRANCE. ANZA/VISTA MONTANA/PACIFIC COAST HWY INTERSECTION WIDENING IMPROVEMENTS TO ADD SOUTHBOUND THROUGH LANE AND SIGNAL UPGRADES TO PROVIDE PROTECTED NORTHBOUND/ SOUTHBOUND LEFT-TURN PHASING. MODIFY STRIPING TO ACCOMMODATE A LONGER NORTHBOUND LEFT-TURN LANE. PROJECT TO INCLUDE ACQUISITION OF RIGHT-OF-WAY TO IMPLEMENT IMPROVEMENTS.	$2,900
LOS ANGELES	LOCAL HIGHWAY	LA0G1010	1AL04	0	ADDITION OF DEDICATED RIGHT-TURN LANE FOR SOUTHBOUND CRENSHAW BOULEVARD AT DEL AMO BOULEVARD, 208TH STREET AND PROPOSED TRANSIT CENTER ENTRANCE WILL INCREASE INTERSECTION OPERATIONAL AND STORAGE CAPACITIES; EXTENSION OF 208TH STREET APPROXIMATELY 350 FEET WEST OF CRENSHAW BOULEVARD TO MIRROR THE EXISTING 208TH STREET ROADWAY EAST OF CRENSHAW BOULEVARD.	$3,291
LOS ANGELES	LOCAL HIGHWAY	LA0G1011	1AL04	0	SR-2/HOLLY DRIVE INTERCHANGE SIGNALIZATION.	$600
LOS ANGELES	LOCAL HIGHWAY	LA0G1012	7120004	0	CITYWIDE BIKE-WAY AND BICYCLE PARKING PROJECT: ESTABLISH CLASS II AND III BIKE LANES (TOTAL OF 15 MILES), INSTALL SIGNAGE, BICYCLE DETECTION LOOPS, AND BIKE RACKS.	$182
LOS ANGELES	LOCAL HIGHWAY	LA0G1032	1AL04	0	DORAN ST IS A ROADWAY IMPROVEMENT AND TRAFFIC SIGNAL INSTALLATION PROJECT BETWEEN BRAND BOULEVARD AND ADAMS STREET. PROJECT LOCATION IS WITHIN A MILE OF A FREEWAY CORRIDOR AS DEFINED BY METRO'S HIGHWAY OPERATION DEFINITION.	$1,200
LOS ANGELES	LOCAL HIGHWAY	LA0G1035	1AL04	0	VERDUGO BOULEVARD TRAFFIC SIGNAL MODIFICATION AT VALIHI WAY AND SR-2 FREEWAY OFF-RAMP.	$600

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	LOCAL HIGHWAY	LA0G104	REG0701	0	BRIDGE NO. 53C1880,530595, SIXTH STREET, OVER LA RIVER, E SANTA ANA FREEWAY. REPLACE SEISMICALLY/STRUCTURALLY DEFICIENT SIXTH STREET VIADUCT WITH NEW VIADUCT. INSTALL BIKEWAY AND PEDESTRIAN CONNECTION FROM THE NEW SIXTH STREET VIADUCT BIKE RAMP NEAR MISSION ROAD AND SIXTH STREET TO MYER STREET AND 7TH STREET. NO LANES BEING ADDED. UTILIZING TOLL CREDITS TO MATCH ATP FUNDS.	$437,016
LOS ANGELES	LOCAL HIGHWAY	LA0G1047	1TL204	0	ROSECRANS/MARQUARDT GRADE SEPARATION: THIS PROJECT INCLUDES CONSTRUCTION A GRADE SEPARATION AT THE INTERSECTION OF ROSECRANS/MARQUARDT IN THE CITY OF SANTA FE SPRINGS. THIS WILL RESULT IN ENHANCING THE SAFETY AND TRAFFIC FLOW ON SURFACE STREETS THROUGHOUT THE RAIL CORRIDOR AS WELL AS ENHANCING THE EFFICIENCY OF TRAIN MOVEMENT.	$156,437
LOS ANGELES	LOCAL HIGHWAY	LA0G1050	REG0703	0	DORAN STREET AND BROADWAY/BRAZIL SAFETY AND ACCESS PROJECT: DEVELOP GRADE SEPARATION, SAFETY AND ROADWAY IMPROVEMENTS TO CLOSE THE DORAN STREET AND BROADWAY/BRAZIL AT-GRADE CROSSINGS ON THE METROLINK VALLEY SUBDIVISION	$159,002
LOS ANGELES	LOCAL HIGHWAY	LA0G1053	1AL04	0	INGLEWOOD AVENUE WIDENING PHASE III - VIA STRIPING, CREATE A NEW SB 3RD LANE FROM 2 TO 3 LANES FROM APPROX. 642 FT SOUTH OF THE CENTER LINE OF THE INTERSECTION OF 147TH ST AND INGLEWOOD AV & ENDING APPROX. 349 FT NORTH OF THE CENTER LINE OF THE INTERSECTION OF MARINE AV AND INGLEWOOD AV. LENGTH OF THIS NEW SB LANE IS APPROX. 180 FT. CONSTRUCT CENTER MEDIANS BETWEEN ROSECRANS AND MARINE; PAVEMENT REHAB; NEW STRIPING; UPGRADE TRAFFIC SIGNALS AT THE INTERSECTION OF INGLEWOOD AV AND 147TH ST.	$2,170
LOS ANGELES	LOCAL HIGHWAY	LA0G1055	1O1008	0	CONSTRUCT EASTERN MICHIGAN AVE NEIGHBORHOOD GREENWAY IN VICINITY OF EDISON LANGUAGE ACADEMY - CROSSWALK STRIPING AT CRITICAL INTERSECTIONS, CURB EXTENSIONS AND DUAL CURB RAMPS, AND WAYFINDING AND SHARED LANE MARKINGS. EDUCATE STUDENTS AND PARENTS. CREATE DROP-OFF AND PICK-UP PLAN.	$411
LOS ANGELES	LOCAL HIGHWAY	LA0G1063	1AL04	0	STUDEBAKER ROAD AT ROSECRANS AVENUE INTERSECTION IMPROVEMENTS - PROVIDE ADDITIONAL NB & SB LEFT TURN LANES ON STUDEBAKER, ADDITIONAL EB & WB LEFT TURN LANES ON ROSECRANS, & EB & SB RIGHT TURN OVERLAP PHASING, INCREASE NB LEFT TURN STORAGE ON STUDEBAKER & WB LEFT TURN STORAGE ON ROSECRANS, WIDEN 2' ON NORTH SIDE OF ROSECRANS EAST OF STUDEBAKER & SOUTH SIDE OF ROSECRANS WEST OF STUDEBAKER WITHIN EX. ROW, MODIFY EXISTING MEDIAN ISLAND ON ROSECRANS, MODIFY TRAFFIC SIGNALS, & RELOCATE STREET LIGHTS	$1,670
LOS ANGELES	LOCAL HIGHWAY	LA0G1064	1AL04	0	BLOOMFIELD AVENUE AT IMPERIAL HIGHWAY INTERSECTION IMPROVEMENTS - PROVIDE ADDITIONAL WB LEFT TURN LANE ON IMPERIAL, PROTECTED SB LEFT TURN PHASING, AND NB RIGHT TURN OVERLAP PHASING, INCREASE WB & EB LEFT TURN STORAGE ON IMPERIAL AND NB & SB LEFT TURN STORAGE ON BLOOMFIELD, WIDEN 1' ON NORTH SIDE OF IMPERIAL EAST OF BLOOMFIELD WITHIN EXISTING ROW, MODIFY EXISTING MEDIAN ISLAND, MODIFY TRAFFIC SIGNAL, AND RELOCATE STREET LIGHTS	$920
LOS ANGELES	LOCAL HIGHWAY	LA0G1065	1AL04	0	PIONEER BOULEVARD AT IMPERIAL HIGHWAY INTERSECTION IMPROVEMENTS - PROVIDE ADDITIONAL EB LEFT TURN LANE ON IMPERIAL AND SB & WB RIGHT TURN OVERLAP PHASING, ACQUIRE 2' ROW & WIDEN 5' ON SOUTH SIDE OF IMPERIAL WEST OF PIONEER WITHIN PROPOSED ROW, MODIFY/ REMOVE EXISTING MEDIAN ISLAND, MODIFY TRAFFIC SIGNAL, AND RELOCATE STREET LIGHTS	$1,510
LOS ANGELES	LOCAL HIGHWAY	LA0G1066	1AL04	0	STUDEBAKER ROAD AT ALONDRA ROAD INTERSECTION IMPROVEMENTS - PROVIDE ADDITIONAL SB LEFT TURN LANE ON STUDEBAKER & EB RIGHT TURN OVERLAP PHASING, INCREASE NB LEFT TURN STORAGE ON STUDEBAKER, MODIFY EXISTING MEDIAN ISLAND ON STUDEBAKER, MODIFY TRAFFIC SIGNAL, AND RELOCATE STREET LIGHTS	$480
LOS ANGELES	LOCAL HIGHWAY	LA0G1068	1AL04	0	INTERSECTION IMPROVEMENTS AT NORWALK BOULEVARD AND WASHINGTON BOULEVARD. PROVIDE ADDITIONAL WESTBOUND THRU LANE ALONG WASHINGTON BOULEVARD. INCREASE NORTHBOUND LEFT TURN STORAGE ALONG NORWALK BOULEVARD.	$560
LOS ANGELES	LOCAL HIGHWAY	LA0G1069	1AL04	0	VARIOUS INTERSECTION IMPROVEMENTS AT NORWALK BOULEVARD AND WHITTIER BOULEVARD INCLUDING LEFT TURN PHASING, RIGHT TURN PHASING, ADDING RIGHT TURN LANES, AND LEFT TURN STORAGE LENGTHENING. A THRU LANE WILL BE CONFIGURED THROUGH SOME WIDENING AND RE-STRIPPING ON SOUTHBOUD NORWALK ABOUT 350 FEET ON BOTH SIDES OF THE INTERSECTION	$2,930

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	LOCAL HIGHWAY	LA0G1070	1AL04	0	THE PROJECT IS VARIOUS INTERSECTION IMPROVEMENTS AT CARMENITA ROAD AND TELEGRAPH RD. THE WORK CONSISTS OF: PROVIDE ADDITIONAL NB THRU LANE ALONG CARMENITA RD, PROVIDE ADDITIONAL EB LEFT TURN LANE ALONG TELEGRAPH RD, INCREASE WB LEFT TURN STORAGE ALONG TELEGRAPH RD AND TELEGRAPH RD TO BE SIGNED AS A CLASS III BIKE ROUTE IN ACCORDANCE WITH THE LA COUNTY BICYCLE MASTER PLAN.	$1,400
LOS ANGELES	LOCAL HIGHWAY	LA0G1072	1AL04	0	VARIOUS INTERSECTION IMPROVEMENTS AT VALLEY VIEW AVENUE AND IMPERIAL HIGHWAY INCLUDING:PROVIDE ADDITIONAL WB LEFT TURN LANE ALONG IMPERIAL HIGHWAY, PROVIDE NB RIGHT TURN OVERLAP PHASING,PROVIDE ADDITIONAL EB LEFT TURN LANE ALONG IMPERIAL HIGHWAY, AND VALLEY VIEW AVE TO BE SIGNED AS A CLASS III BIKE ROUTE IN ACCORDANCE WITH THE LA COUNTY BICYCLE MASTER PLAN	$1,740
LOS ANGELES	LOCAL HIGHWAY	LA0G1073	1AL04	0	VARIOUS INTERSECTION IMPROVEMENTS AT PAINTER AVENUE AND MULBERRY DRIVE INCLUDING: PROVIDE ADDITIONAL NB LEFT TURN LANE ALONG PAINTER AVE,PROVIDE EB RIGHT TURN POCKET ALONG MULBERRY DR, INCREASE EB LEFT TURN STORAGE ALONG MULBERRY DR, PROVIDE WB RIGHT TURN POCKET ALONG MULBERRY DR, INCREASE WB LEFT TURN STORAGE ALONG MULBERRY DR, PROVIDE NB RIGHT TURN POCKET ALONG PAINTER AVE, PROVIDE SB RIGHT TURN POCKET ALONG PAINTER AVE.	$2,410
LOS ANGELES	LOCAL HIGHWAY	LA0G1101	7120004	0	PEDESTRIAN ENHANCEMENTS ON MISSION ST INCLUDING REPLACEMENT SIDEWALKS AND REPAIR, SIGNAGE, STREET FURNITURE, LIGHTING, IRRIGATION, TREES AND MORE.	$175
LOS ANGELES	LOCAL HIGHWAY	LA0G1105	1AL04	0	BRIDGE NO. 53C0057 - TELEGRAPH ROAD OVER SAN GABRIEL RIVER BRIDGE; 1. DEMOLISH EXISTING BRIDGE WITH FOUR LANES. 2. CONSTRUCT, TWO PARALLEL, 3-LANE STRUCTURES W/ CIP/PS BOX GIRDERS. PROJECT COMBINED WITH LAF9122, I.E. LAF9122 FUNDS WERE ADDED HERE.	$22,095
LOS ANGELES	LOCAL HIGHWAY	LA0G1106	1AL04	0	BRIDGE NO. 53C0471 - WASHINGTON BOULEVARD OVER RIO HONDO RIVER BRIDGE - REPLACING EXISTING 6-LANE BRIDGE WITH AN 8-LANE BRIDGE INCREASING CAPACITY.	$33,143
LOS ANGELES	LOCAL HIGHWAY	LA0G1108	LA000800	0	MATCH TO HBP 3471 - LOS ANGELES COUNTY 3471 PM00043, BRIDGE PREVENTIVE MAINTENANCE PROGRAM, VARIOUS LOCATIONS WITHIN THE COUNTY OF LOS ANGELES. THIS PROJECT IS THE MATCH TO HBP 3471 IN GROUP PROJECT LA000800. TOLL CREDITS OF $273 WILL BE USED TO MATCH FY19 FEDERAL FUNDS FOR THE CON PHASE	$2,499
LOS ANGELES	LOCAL HIGHWAY	LA0G1127	7120004	0	THE PROJECT INVOLVES CONSTRUCTION OF 0.6-MILE LONG CLASS I BIKE AND MULTIUSE PATH FACILITY. PROJECT IS LOCATED IN THE UNINCORPORATED AREA OF NORTH EL MONTE. THE TRAIL IS A KEY EAST-WEST GAP CLOSURE TO CONNECT RIO HONDO BIKE TRAIL TO THE SAN GABRIEL RIVER REGIONAL BIKE TRAIL.	$2,374
LOS ANGELES	LOCAL HIGHWAY	LA0G1129	7120004	0	CITY WIDE SAFETY ENHANCEMENT PROJECT- CONSTRUCTION OF THE PROJECT WILL INCLUDE INSTALLATION OF PEDESTRIAN COUNTDOWN SIGNAL HEADS, ADA COMPLIANT ACCESS RAMPS, BICYCLE ROUTE SIGNAGE AND SHARED LANE MARKINGS AS WELL AS BICYCLE VIDEO DETECTION AT SIGNALIZED INTERSECTIONS.	$997
LOS ANGELES	LOCAL HIGHWAY	LA0G1130	7120004	0	ACTIVE TRANSPORTATION PROGRAM - CITY-WIDE BIKE AND PEDESTRIAN IMPROVEMENTS - THE INFRASTRUCTURE COMPONENT INCLUDES A CLASS II BIKE LANE (1.07 MILE) ON SANTA FE AVE, HIGH VISIBILITY CROSSWALKS, COUNTDOWN PEDESTRIAN SIGNALS, CURB RAMPS, ETC. THE NON-INFRASTRUCTURE COMPONENT INCLUDES, EDUCATION, ENCOURAGEMENT, AND ENFORCEMENT PROGRAMMING THAT WILL OCCUR OVER A THREE YEAR PERIOD. UTILIZING TOLL CREDITS.	$1,482
LOS ANGELES	LOCAL HIGHWAY	LA0G1133	7120004	0	CONSTRUCT A BRIDGE (LA CRETZ CROSSING) OVER THE LA RIVER IN THE NORTH ATWATER VILLAGE AREA. LA CRETZ CROSSING IS A NON-MOTORIZED MULTIMODAL BRIDGE PROJECT PROVIDING SAFE, YEAR-ROUND ACCESS FROM THE NORTH ATWATER COMMUNITY TO PEDESTRIAN HIKING AND EQUESTRIAN BRIDLE PATHS IN GRIFFITH PARK AND LA RIVER BIKE PATH. THE BRIDGE IS A CLASS 1 BIKEWAY AND THE TOTAL LENGTH OF THE BRIDGE IS 390 FEET.	$9,038
LOS ANGELES	LOCAL HIGHWAY	LA0G1134	7120004	0	DEVELOPMENT OF ACTIVE TRANSPORTATION PROGRAM PLAN THAT INCLUDES SUBCOMPONENTS SUCH AS COMPLETE STREETS, PEDESTRIAN, BICYCLE, TRAILS, SAFE ROUTES TO SCHOOL AND WILL REPLACE THE EXISTING BICYCLE TRANSPORTATION PLAN (BTP)	$595

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	LOCAL HIGHWAY	LA0G1135	7120004	0	DESIGN AND CONSTRUCT 14.5 MILE OF NEW BIKEWAYS AND IMPROVE PEDESTRIAN SAFETY THROUGH CROSSING IMPROVEMENTS AT EIGHT MAJOR INTERSECTIONS. BIKE IMPROVEMENTS INCLUDE 3.8 MILES OF CLASS II BUFFERED BIKE LANES, 2.9 MILES OF CLASS II BIKE LANES, AND 7.8 MILES OF CLASS III BIKE ROUTES.	$2,270
LOS ANGELES	LOCAL HIGHWAY	LA0G1147	1AL04	0	GARFIELD AVENUE IMPROVEMENTS FROM 70TH STREET TO HOWERY STREET – WIDEN STREET 1 TO 4 FEET FOR 2 MILES TO ACCOMMODATE A THIRD LANE IN EACH DIRECTION REQUIRING PARTIAL TAKES FROM 2 PARCELS, ADD MEDIANS, NARROW EXISTING MEDIANS, ADD SECOND LEFT TURN LANE IN ALL DIRECTIONS AT TWO INTERSECTIONS, ROSECRANS AVE. AND ALONDRA BLVD., RESURFACE STREET, CONCRETE INTERSECTIONS, TRAFFIC SIGNAL IMPROVEMENTS, STREET LIGHTS, UNDERGROUND UTILITIES, "GREEN STREET" IMPROVEMENTS, AND STORMWATER AND WATERSHED BMPS.	$2,825
LOS ANGELES	LOCAL HIGHWAY	LA0G1180	7120004	0	A 0.5 MILE CLASS III BIKE ROUTE WITH SHARROWS, A 0.7 MILE CLASS II GREEN-PAINTED BIKE LANE, AND A 2 MILE A CLASS II BIKE LANE WITH BUFFER PAVEMENT STENCILING. IMPROVEMENTS INCLUDES ROADWAY RESURFACING, HIGHLIGHTING, CROSSWALK IMPROVEMENTS, CAMERA INSTALLATION AT INTERSECTIONS, AND WAYFINDING SIGNAGE. THE PROJECT RUNS 3.2 MILES ALONG SANTA ANITA FROM ELLIOT AVENUE (SOUTH) TO WEST HONDO PARKWAY (NORTH).	$1,113
LOS ANGELES	LOCAL HIGHWAY	LA0G1181	7120004	0	2.86 MILES CLASS III BIKE PATH. 1.96 MILES CLASS II BIKE PATH CONVERTED FROM ON-STREET PARKING AND MEDIAN. CLASS III BIKE PATH: MONTEREY PASS RD/GARVEY AVE (2.86 MILE). CLASS II BIKE PATH: CESAR CHAVEZ/RIGGIN (1.96 MILE)	$420
LOS ANGELES	LOCAL HIGHWAY	LA0G1185	7120004	0	EXPRESS LANES - TRAFFIC CALMING FOR THOSE WALKING OR BICYCLING INCLUDING SHARROWS, SPEED HUMPS, ADA RAMPS, ROUDABOUTS, CURB EXTENSIONS ON BUDLONG AVENUE BETWEEN EXPOSITION AND GAGE AVENUE.	$1,632
LOS ANGELES	LOCAL HIGHWAY	LA0G1187	7120004	0	EXPRESS LANES- CESAR CHAVEZ GREAT ST. FROM EVERGREEN TO ST. LOUIS ST. THE PROJECT INCLUDES PLANS TO EXPAND SIDEWALKS >0.25MILES, GROW TREES AND PLANTS, IMPROVE STREET LIGHTING AND ADD STREET FURNITURE.	$435
LOS ANGELES	LOCAL HIGHWAY	LA0G1197	1O1007	0	INSTALL 1.8 MILE BIKE LANES ON 170TH ST E BETWEEN AVENUE M-4 AND AVENUE M-8 AND BETWEEN EAST AVENUE P AND EAST PALMDALE BOULEVARD. PROJECT IS PART OF HIGHWAY SAFETY IMPROVEMENT PROGRAM.	$898
LOS ANGELES	LOCAL HIGHWAY	LA0G1208	1ITS04	0	TRAFFIC SIGNAL SYNCHRONIZATION – ALONG PARALLEL ARTERIALS, I-5 NORTH CORRIDOR:THIS PROJECT PROVIDES FOR AN UPGRADE TO THE TRAFFIC SIGNAL COMMUNICATION FACILITIES TO IMPROVE SIGNAL COORDINATION ALONG REGIONAL ARTERIALS IN THE VICINITY OF THE I-5 NORTH CONSTRUCTION CORRIDOR.	$350
LOS ANGELES	LOCAL HIGHWAY	LA0G1209	REG0703	0	I-5 NORTH CONSTRUCTION MITIGATION PROJECT MANAGEMENT AND SUPPORT SERVICES:THIS PROJECT IS TO PROVIDE PROJECT MANAGEMENT AND SUPPORT SERVICES FOR OVERSIGHT AND ADMINISTRATION OF MITIGATION PROJECTS DEFINED IN THE MEASURE R CONSTRUCTION MITIGATION PROJECT.	$150
LOS ANGELES	LOCAL HIGHWAY	LA0G1211	1ITS04	0	THIS PROJECT WOULD PROVIDE TRAFFIC SIGNAL UPGRADES, SIGNAL CONTROLLER UPGRADES, TIMING PLANS, AND TRAFFIC SIGNAL SYSTEM MONITORING TO INTERSECTIONS ON ARTERIAL STREETS WITHIN 1 MILE OF THE INTERSTATE 5 CORRIDOR. SCOPE INCLUDES AUGMENTING BURBANK TMC STAFF FOR MONITORING SIGNAL COORDINATION AND POLICE TRAFFIC CONTROL DURING THE LIFE OF THE CONSTRUCTION PROJECT.	$735
LOS ANGELES	LOCAL HIGHWAY	LA0G1212	LA000358	0	I-5 NORTH HOV CONSTRUCTION MITIGATION - LOCAL PROJECT MANAGEMENT, INSPECTION, AND ENGINEERING SUPPORT FOR CITY-OWNED PORTIONS OF EMPIRE INTERCHANGE, VICTORY PLACE UNDERCROSSING, AND LOCAL STREETS BEING REALIGNED AS PART OF THE INTERSTATE 5 NORTH HOV PROJECT.	$3,750
LOS ANGELES	LOCAL HIGHWAY	LA0G1213	LA000358	0	INTERSTATE 5 NORTH HOV CONSTRUCTION MITIGATION - PROVIDE AS-NEEDED SCHOOL SHUTTLE SERVICE BETWEEN WASHINGTON ELEMENTARY SCHOOL AND THE BOYS AND GIRLS CLUB DURING PERIODS OF CONSTRUCTION WHEN PEDESTRIAN ROUTES NEAR THE BUENA VISTA ST. / SAN FERNANDO BLVD RAILROAD GRADE SEPARATION PROJECT ARE CLOSED.	$300
LOS ANGELES	LOCAL HIGHWAY	LA0G1214	REG0703	0	STAFF ATSAC CENTER DURING TRAFFIC DETOURS AND TO DEPLOY TRAFFIC OFFICERS AT KEY INTERSECTIONS FOR CONGESTION RELIEVES. DEPLOYMENT OF LADOT ENGINEERS, SIGNAL ELECTRICIANS, PAINT-N-SIGNS POSTERS, AND TRAFFIC OFFICERS ON AS-NEEDED BASIS. AS-NEEDED LABOR ASSUMES $ 120K/YEAR.	$360

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	LOCAL HIGHWAY	LA0G1216	1ITS04	0	UPGRADE EXISTING ATSAC TRAFFIC SIGNALS IN THE GLENOAKS/SAN FERNANDO AND I-5 FREEWAY CORRIDOR TO INCLUDE REAL-TIME ADAPTIVE TRAFFIC AND SIGNAL CONTROL CAPABILITY, INSTALL 2 ADDITIONAL VIDEO SURVEILLANCE AND ITS COMMUNICATIONS EQUIPMENT, AND RE-TIME TRAFFIC SIGNAL TIMING TO ACCOMMODATE TRAFFIC FLUCTUATIONS.	$2,300
LOS ANGELES	LOCAL HIGHWAY	LA0G1217	LA000358	0	I-5 NORTH HOV CONSTRUCTION MITIGATION - LOCAL PROJECT MANAGEMENT, INSPECTION, AND ENGINEERING SUPPORT FOR CITY-OWNED PORTIONS OF GRADE SEPARATION AT BUENA VISTA STREET AND UPRR/METROLINK TRACKS AS PART OF THE I-5 NORTH HOV / EMPIRE INTERCHANGE PROJECT.	$250
LOS ANGELES	LOCAL HIGHWAY	LA0G1219	LA000358	0	I-5 NORTH HOV PROJECT CONSTRUCTION MITIGATION - INSTALL EXPANDED LANDSCAPING ALONG INTERCHANGE RETAINING WALLS AND IN CITY OWNED RIGHT OF WAY AT EMPIRE AVENUE ADJACENT TO THE I-5 NORTH HOV / EMPIRE INTERCHANGE PROJECT TO DISCOURAGE GRAFFITI.	$668
LOS ANGELES	LOCAL HIGHWAY	LA0G1220	LA000358	0	INTERSTATE 5 NORTH HOV CONSTRUCTION MITIGATION - PROVIDE NOISE AND GRAFFITI ABATEMENT ALONG CITY OWNED RIGHT OF WAY AT LELAND WAY AND ADJACENT SOUND WALLS TO MITIGATE IMPACTS TO A RESIDENTIAL NEIGHBORHOOD.	$750
LOS ANGELES	LOCAL HIGHWAY	LA0G1224	1OM0702	0	BURBANK AIRPORT, I-5 NORTH CONSTRUCTION IMPACT MITIGATION, PROJECT MANAGEMENT SUPPORT SERVICES	$200
LOS ANGELES	LOCAL HIGHWAY	LA0G1247	1O1007	0	THE PROJECT CONSISTS OF BICYCLE AND PEDESTRIAN TRANSPORTATION LINKAGE IMPROVEMENTS TO THE RAIL TO RAIL ACTIVE TRANSPORTATION CORRIDOR (ATC) CONNECTOR PROJECT SEGMENT A ALONG AN APPROXIMATELY 5.6-MILE LONG CORRIDOR FROM THE FUTURE METRO CRENSHAW/LAX FAIRVIEW HEIGHTS STATION TO THE EXISTING METRO BLUE LINE SLAUSON STATION.	$56,326
LOS ANGELES	LOCAL HIGHWAY	LA0G1254	1O1007	0	OLD RIVER SCHOOL RD PAVEMENT REHAB INCLUDES SAWCUT, REMOVAL AND FULL DEPTH RECONSTRUCTION OF PAVEMENT, COLD MILLING OF EXISTING PAVEMENT, ASPHALT RUBBER HOT MIX (ARHM) PAVEMENT OVERLAY, RECONSTRUCTION OF DAMAGED OR MISSING CURB AND GUTTER, SIDEWALK, CROSS GUTTERS, AND RAMPS, UTILITY ADJUSTMENTS, TRAFFIC SIGNAL DETECTOR LOOP REPLACEMENTS, TRAFFIC STRIPING, TRAFFIC CONTROL, AND INSTALL CLASS II BIKE LANE (2 MILES). UTILIZING TOLL CREDITS.	$2,439
LOS ANGELES	LOCAL HIGHWAY	LA0G1257	1AL04	0	INTERSECTION IMPROVEMENTS TO INCREASE TRAFFIC FLOW, ALLEVIATE TRAFFIC CONGESTION, AND REDUCE NECESSARY CONFLICTS BETWEEN PEDESTRIANS AND VEHICLES ALONG LONG VALLEY ROAD AND ON VALLEY CIRCLE BOULEVARD. IMPROVEMENTS WILL INCLUDE: A TRAFFIC SIGNAL AT THE LONG VALLEY ROAD/101 FREEWAY NORTHBOUND ONRAMP INTERSECTION; ADA COMPLIANT SIDEWALKS ON THE LONG VALLEY RAMP AND VALLEY CIRCLE BOULEVARD; FENCE; RETAINING WALL; RETAINING WALL; AND PEDESTRIAN ROUTE SIGNAGE ON THE LONG VALLEY RAMP.	$3,700
LOS ANGELES	LOCAL HIGHWAY	LA0G1262	1NL04	0	LAKEWOOD BL REGIONAL CORRIDOR CAPACITY ENHANCEMENT PROJECT (DEL AMO BL TO NORTH CITY LIMIT) - CLASS II BIKE LANES (1.9 MILE) IN EACH DIRECTION, NEW SIDEWALK, STREET RESURFACING, ADA & STORMWATER COMPLIANCE, TRAFFIC SIGNAL MODIFICATIONS, DROUGHT RESISTANT LANDSCAPING & IRRIGATION, SIGNING & STRIPING, AND UTILITY UNDERGROUNDING WITHIN THE EXISTING CITY RIGHT OF WAY.	$3,600
LOS ANGELES	LOCAL HIGHWAY	LA0G1266	REG0703	0	VERDUGO WASH CYCLE TRACK FEASIBILITY AND CONCEPTUAL DESIGN PROJECT: A 9.4 MILES CYCLE TRACK ALONG VERDUGO WASH CONNECTING NORTH GLENDALE TO DOWNTOWN GLENDALE, GRIFFITH PARK, AND LOS ANGELES RIVER TRAIL.	$408
LOS ANGELES	LOCAL HIGHWAY	LA0G1267	1AL04	0	OCEANVIEW BOULEVARD REHABILITATION PROJECT BETWEEN VERDUGO ROAD AND CITY NORTHERLY BOUNDARY.	$1,000
LOS ANGELES	LOCAL HIGHWAY	LA0G1287	1AL04	0	THIS PROJECT IS INTENDED TO IMPROVE CIVIC CENTER WAY FOR ALL MODES OF TRAVEL BY IMPROVING THE CURVATURE OF THE ROADWAY.	$4,000
LOS ANGELES	LOCAL HIGHWAY	LA0G1291	7120004	0	HUNTINGTON DR - SAN GABRIEL BL TO 132' W/O MICHILLINDA AVE: PAVEMENT RESURFACING, RECONSTRUCTION OF CURBS/GUTTERS/SIDEWALKS, ADA AND PEDESTRIAN UPGRADES, TREE MAINTENANCE, CLASS II BIKE LANES (1.3 MILES), INSTALLATION OF A NEW TRAFFIC SIGNAL AT HUNTINGTON DRIVE AND MADRE STREET, AND NEW SIDEWALK (0.1 MILES). UTILIZING TOLL CREDITS.	$4,026

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	LOCAL HIGHWAY	LA0G1296	1AL04	0	BRIDGE NO. 53C1900, COLORADO AVE OVER APPIAN WAY/PROMENDAE, 0.6 MI W/O LINCOLN BLVD. REPLACE EXISTING 2 LANE BRIDGE WITH NEW 2 LANE BRIDGE. 3/14/2011: TOLL CREDITS UTILIZED. (LUMP SUM BRIDGE PROJECT 53C1900 (5107-(033)).	$17,081
LOS ANGELES	LOCAL HIGHWAY	LA0G1318	1162S013	0	THIS IS AN I-605 HOT SPOT RELATED INTERSECTION PROJECT. THE PURPOSE OF THIS PROJECT IS TO REPLACE/ADJUST 2 SIGNALS FOR THE TIMING, ALLEVIATE THE CONGESTION AND DELAYS.	$454
LOS ANGELES	LOCAL HIGHWAY	LA0G1319	1162S013	0	THIS PROJECT IS AN I-605 HOT SPOT RELATED INTERSECTION PROJECT. THE PURPOSE OF THIS PROJECT IS TO INCREASE THE LEFT-TURN STORAGE CAPACITY, ALLEVIATE THE CONGESTION AND DELAYS.	$493
LOS ANGELES	LOCAL HIGHWAY	LA0G1321	1ITS04	0	THE SCOPE INVOLVES ALL PHASES PA/ED, PS&E, ROW AND, CONSTRUCTION. THE PROJECT WILL ENVIRONMENTALLY CLEAR AND DESIGN TRAFFIC SIGNAL MODIFICATIONS, TRAFFIC STRIPING, ADJUSTMENT OF UTILITIES, EXCAVATION AND REMOVAL OF EXISTING PAVEMENT, CONCRETE, ASPHALT, CONSTRUCTION OF CURB, GUTTER, SIDEWALKS, DRIVEWAYS, RETAINING WALLS, STORM DRAIN, RAISED MEDIANS AND ADA RAMPS. ADDITIONALLY, OTHER ITEMS NOT LISTED HERE MAY BE NECESSARY TO COMPLETE THE IMPROVEMENTS.	$2,000
LOS ANGELES	LOCAL HIGHWAY	LA0G1323	1AL04	0	BELLFLOWER BOULEVARD WIDENING PROJECT, BETWEEN ARTESIA BOULEVARD AND SR-91, LACMTA PROJECT ID #MR31516. WIDENING OF BELLFLOWER BOULEVARD UNDER THE 91 FREEWAY BRIDGE. THIS PROJECT INCLUDES DESIGN, PURCHASE OF PROPERTY, AND RECONSTRUCTION OF EXISTING ROADWAY TO ENHANCE VEHICLE MOVEMENT AT BELLFLOWER BOULEVARD AND THE 91 FREEWAY BY PROVIDING LONGER LEFT TURN POCKETS.	$7,310
LOS ANGELES	LOCAL HIGHWAY	LA0G1342	1ITS04	0	IMPERIAL HIGHWAY ITS PROJECT, FROM SAN GABRIEL RIVER TO SHOEMAKER ROAD: TRAFFIC SIGNAL SYNCHRONIZATION	$3,381
LOS ANGELES	LOCAL HIGHWAY	LA0G1353	1ITS04	107	PROJECT ENHANCES EXISTING MULTI-MODAL SERVICES AS WELL AS INTEGRATING NEW SUCH AS A CLASS II BICYCLE LANE IMPROVED PEDESTRIAN SUPPORT SUCH AS WIDER SIDEWALK PEDESTRIAN CROSSING SIGNALS WITH COUNTDOWN CAPABILITY IMPROVED ACCESS BETWEEN TRANSIT VEHICLES AND TRANSIT PATRONS THROUGH RELOCATION AND ADJUSTMENT OF TRANSIT STOPS AND IMPROVED SIGNALIZATION ALONG THE BOULEVARD ALL OF WHICH PROVIDE A WELL-BALANCED NETWORK OF CIRCULATION TO REGION. IMPROVEMENT TO THE STORM DRAIN SYSTEM .	$5,500
LOS ANGELES	LOCAL HIGHWAY	LA0G1354	1ITS04	0	DEMONSTRATE ADVANCED FREIGHT TRANSPORTATION INFO SYSTEM FOR DRAYAGE TRUCKS TO IMPROVE MOVEMENT OF PEOPLE AND GOODS, CONGESTION, AND AIR QUALITY TO I-710 FREEWAY AND ADJACENT ARTERIALS, THUS PROVIDING REDUCED TRUCK FUEL CONSUMPTION GHG, AND CRITERIA POLLUTANT EMISSIONS TO/FROM MARINE TERMINALS; INCREASED MARINE TERMINAL THROUGHPUT; AND INCREASED TRUCK POWER PRODUCTIVITY AND NUMBER OF TURNS PER TRUCK BY OPTIMIZING DRAYAGE ROUTES AND SEQUENCE, AND TRUCK DISPATCH/ARRIVAL TIME MARINE TERMINALS.	$1,454
LOS ANGELES	LOCAL HIGHWAY	LA0G1356	1AL04	0	NEW TRAFFIC SIGNAL ON GLENWOOD RD AT PACIFIC AND TRAFFIC SIGNALS MODIFICATION ON LA CRESCENTA AVE AT HONOLULU AVE AND MONTROSE AVE, AND CENTRAL AVE AND CHEVY CHASE DR. TO IMPROVE VEHICULAR ACCESS TO AND FROM THE I-5, SR-134 AND I-210 FREEWAYS.	$1,200
LOS ANGELES	LOCAL HIGHWAY	LA0G1357	7120004	0	INSTALLATION OF CLASS III BIKEROUTES PHASE 2 ON GENEVA STREET, ADAMS STREET, HARVEY DRIVE, ROSSMOYNE AVENUE, STOCKER STREET, ETHEL STREET, LEXINGTON DRIVE AND CALIFORNIA AVENUE.	$225
LOS ANGELES	LOCAL HIGHWAY	LA0G1367	7120001	0	PROJECT IS LOCATED ON WHITTIER BLVD FROM PARAMOUNT BLVD TO DURFEE AVENUE. IT ENTAILS CONSTRUCTION OF PAVEMENT OVERLAY, SIDEWALK REPAIRS, RE-CUT OF TRAFFIC SIGNAL LOOPS, STRIPING, AND ADJUSTMENT OF MANHOLES AND VALVES TO NEW ROAD GRADE.	$642
LOS ANGELES	LOCAL HIGHWAY	LA0G1370	1NL04	0	UPGRADE PEDESTRIAN SIGNALS TO FULL SIGNALIZED INTERSECTION CONTROL FOR THE INTERSECTION OF GREENLEAF AVENUE AT PUTNAM STREET AND THE WHITTIER GREENWAY TRAIL. INCLUDES ADA ACCESS RAMP UPGRADES, INSTALLATION OF ADA PUSH BUTTONS, COUNTDOWN PEDESTRIAN INDICATIONS AND AUDIBLE PEDESTRIAN SIGNALS.	$401
LOS ANGELES	LOCAL HIGHWAY	LA0G1375	1ITS04	0	THIS IS A LARGE-SCALE DEPLOYMENT OF THE FREIGHT ADVANCED TRAVELER INFORMATION SYSTEM (FRATIS) PROGRAM TO DEPLOY ADVANCED CONGESTION MANAGEMENT TECHNOLOGIES WHICH CAN ACHIEVE SIGNIFICANT REDUCTIONS IN TRUCK CONGESTION, IMPROVE AIR QUALITY, AND REDUCE THE USE OF FOSSIL FUELS IN THE LOS ANGELES REGION.	$6,000

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	LOCAL HIGHWAY	LA0G1378	1AL04	0	ELIMINATE HAZARDS AT RAILROAD GRADE CROSSING AT INTERSECTION OF SLATER AVENUE IN THE CITY OF LOS ANGELES [CT ID (USDOT RR XING NO.) 760558C] -- TOLL CREDITS WILL BE USED AS LOCAL MATCH.	$992
LOS ANGELES	LOCAL HIGHWAY	LA0G1379	1O0704	0	DEVELOP MODEL DEPLOYMENT THROUGH INSTALLATION AND OPERATION OF ADVANCED TRANSPORTATION TECHNOLOGIES TO IMPROVE SAFETY, EFFICIENCY AND SYSTEM PERFORMANCE WHICH WILL HELP TO REDUCE THE NUMBER AND SEVERITY OF INCIDENTS AND INCREASE DRIVER, PASSENGER AND PEDESTRIAN SAFETY IN THE LOS ANGELES PROMISE ZONE. UTILIZING TOLL CREDITS TO MATCH ATCMT AND STPL.	$6,000
LOS ANGELES	LOCAL HIGHWAY	LA0G1384	7120004	0	THIS PROJECT WILL MAKE CONNECTIVITY AND SAFETY IMPROVEMENTS TO THE EXPO 26TH/BERGAMOT STATION VICINITY, INCLUDING SIDEWALK, BIKE FACILITY, AND PEDESTRIAN CROSSING IMPROVEMENTS, TO PROVIDE SAFER FIRST/LAST MILE ACCESS AND ENHANCE MOBILITY. APPROXIMATELY 3,250 FT (0.6 MILES) OF CLASS II BIKE LANES AND 875 FT (0.17 MILES) OF PEDESTRIAN IMPROVEMENT.	$1,970
LOS ANGELES	LOCAL HIGHWAY	LA0G1391	1AL04	0	ELIMINATE HAZARDS AT RAILROAD GRADE CROSSING AT INTERSECTION OF SIERRA HIGHWAY IN THE COUNTY OF LOS ANGELES [CT ID (USDOT RR XING NO.) 750600W] -- TOLL CREDITS WILL BE USED AS LOCAL MATCH.	$1,500
LOS ANGELES	LOCAL HIGHWAY	LA0G1394	1AL04	0	MEDIA DISTRICT TRAFFIC SIGNAL IMPROVEMENTS PROJECT. THE PROJECT WILL MODIFY EIGHT EXISTING TRAFFIC SIGNALS. EXISTING OBSOLETE EQUIPMENT WILL BE REPLACED (INCLUDING TRAFFIC SIGNAL POLES, SIGNAL CABINETS AND CONTROLLERS, SAFETY LIGHTING, INDICATIONS, SIGNAL WIRING, AND VEHICLE DETECTORS). THE PROJECT WILL MODIFY EXISTING CENTER CURB MEDIANS WILL BE MODIFIED AT THREE INTERSECTIONS.	$1,950
LOS ANGELES	LOCAL HIGHWAY	LA0G1395	1AL04	0	SR-134 CORRIDOR ARTERIAL SIGNAL IMPROVEMENTS PROJECT, PHASE 1. THE PROJECT WILL MODIFY SEVEN EXISTING TRAFFIC SIGNALS. EXISTING OBSOLETE EQUIPMENT WILL BE REPLACED (INCLUDING TRAFFIC SIGNAL POLES, SIGNAL CABINETS AND CONTROLLERS, SAFETY LIGHTING, INDICATIONS, SIGNAL WIRING, AND VEHICLE DETECTORS). THE PROJECT WILL ALSO INSTALL CAMERAS FOR TRAFFIC SURVEILLANCE. (NO SIGNAL SYNCH)	$1,300
LOS ANGELES	LOCAL HIGHWAY	LA0G1396	1AL04	0	GLENOAKS BLVD ARTERIAL AND FIRST STREET SIGNAL IMPROVEMENTS PROJECT-PHASE 2. THE PROJECT WILL MODIFY 12 EXISTING TRAFFIC SIGNALS: GLENOAKS BOULEVARD FROM REESE PLACE TO ALAMEDA AVENUE, AND FIRST STREET AT ORANGE GROVE AVENUE. EXISTING OBSOLETE EQUIPMENT WILL BE REPLACED (INCLUDING TRAFFIC SIGNAL POLES, SAFETY LIGHTING, INDICATIONS, SIGNAL WIRING, AND VEHICLE DETECTORS. NO SIGNAL SYNCH).	$1,900
LOS ANGELES	LOCAL HIGHWAY	LA0G1398	1ITS04	0	SAN FERNANDO RD AND LOS ANGELES ST TRAFFIC SIGNAL INSTALLATION (ONE SIGNAL) AND INTERSECTION MODIFICATION TO SHORTEN A PEDESTRIAN CROSSING ACROSS SAN FERNANDO RD.	$400
LOS ANGELES	LOCAL HIGHWAY	LA0G1400	1AL04	0	ELIMINATE HAZARDS AT RAILROAD GRADE CROSSING AT INTERSECTION OF STIMSON AVENUE IN THE CITY OF INDUSTRY IN THE COUNTY OF LOS ANGELES [CT ID (USDOT RRXING NO.) 810871U-- TOLL CREDITS WILL BE USED AS LOCAL MATCH.	$1,311
LOS ANGELES	LOCAL HIGHWAY	LA0G1403	1O0710	0	THE PROJECT IS PART OF THE OVERALL MIDDLE HARBOR TERMINAL REDEVELOPMENT PROGRAM WHICH WILL MORE THAN DOUBLE THE CAPACITY OF THE TWO TERMINALS IT REPLACES, REDUCE TRAFFIC IMPACTS BY INCREASING THE USE OF ON-DOCK RAIL, AND CREATE 14,000 NEW JOBS. THE TCIF GRANT ASSIGNED TO THE PROJECT WILL BE USED TO SUPPORT CONSTRUCTION OF 30,400 FEET OF WORKING AND STORAGE TRACK IN THE INTERMODAL RAILYARD.	$156,355
LOS ANGELES	LOCAL HIGHWAY	LA0G1404	1AL04	0	2017-2018 ASPHALT OVERLAY FEDERAL PROJECT - CITYWIDE; DIRECTLY REPURPOSED EARMARK (AGENCY DID NOT PARTICIPATE IN METRO'S 2016 EARMARK REPURPOSING EFFORT); ORIGINAL DEMO ID: CA079, FHWA TRANSFER NUMBER: CAT-16-048	$3,800
LOS ANGELES	LOCAL HIGHWAY	LA0G1411	1ITS04	0	HONOLULU AVE AND MONTROSE AVE AT PENNSYLVANIA AVE TRAFFIC SIGNAL MODIFICATION (ROUTE I-210 FWY CONNECTIVITY)	$1,800
LOS ANGELES	LOCAL HIGHWAY	LA0G1412	7120001	0	INTERSECTION IMPROVEMENTS ON FLORENCE AVE AT JABONERIA RD. AND IRA AVE. - THE GENERAL ITEMS OF WORK INCLUDE: DEDICATED RIGHT-TURN LANES; LEFT -TURN LANE PHASING; SIGNAL, PEDESTRIAN, AND ROADWAY IMPROVEMENTS.	$1,417
LOS ANGELES	LOCAL HIGHWAY	LA0G1415	2016A319	0	TRAFFIC SIGNAL IMPROVEMENTS ON ROSECRANS AVE AT VERMONT AVE. AND REDONDO BEACH BLVD AT VERMONT AVE.	$1,500

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	LOCAL HIGHWAY	LA0G1416	2016A319	0	THE PROJECT PROPOSES TO INCLUDE TRAFFIC SIGNAL UPGRADES AND SYNCHRONIZATION, ADDITION OF TURN POCKETS WHERE FEASIBLE, PAVEMENT UPGRADE AND MINOR CONCRETE WORK TRAFFIC CALMING. THE INTERSECTIONS SUBJECT TO A STUDY FOR PROPOSED TRAFFIC SIGNAL UPGRADES ARE ALONG ARTESIA BLVD. INTERSECTION WITH SHOPPING CENTER, GATEWAY, NORMANDIE AVE., DALTON AVE. AND GARDENA MARKET PLACE.	$2,500
LOS ANGELES	LOCAL HIGHWAY	LA0G1430	2016A319	0	THE LEFT-TURN TRAFFIC SIGNAL IMPROVEMENTS. INTERSECTION OF MANHATTAN BEACH BLVD AND HAWTHORNE BLVD. INSTALLATION OF TRAFFIC SIGNAL BATTERY BACK-UP SYSTEMS. HAWTHORNE BLVD AND INGLEWOOD AVE.	$508
LOS ANGELES	LOCAL HIGHWAY	LA0G1433	2016A319	0	TRAFFIC SIGNAL AND CURB RAMP IMPROVEMENT - ROSECRANS AVE. BETWEEN STUDEBAKER RD. & CARMENITA RD.	$1,394
LOS ANGELES	LOCAL HIGHWAY	LA0G1435	2016A319	0	TRAFFIC SIGNAL AND CURB RAMP IMPROVEMENT - STUDEBAKER RD. BETWEEN ALONDRA BLVD. & ROSECRANS AVE.	$882
LOS ANGELES	LOCAL HIGHWAY	LA0G1436	1AL04	0	ORCHARD VILLAGE ROAD/WILEY CANYON ROAD BRIDGE REHABILITATION. PROJECT MAY INCREASE CAPACITY FROM 4 LANES TO 6 LANES	$6,375
LOS ANGELES	LOCAL HIGHWAY	LA0G1437	2016A319	0	TRAFFIC SIGNAL AND CURB RAMP IMPROVEMENT - SAN ANTONIO DR./NORWALK BLVD BETWEEN ROSECRANS AVE. AND CIVIC CENTER DR.	$988
LOS ANGELES	LOCAL HIGHWAY	LA0G1438	2016A319	0	TRAFFIC SIGNAL AND CURB RAMP IMPROVEMENT - FIRESTONE BLVD./ WEST CITY LIMIT & ROSECRANS AVE.	$250
LOS ANGELES	LOCAL HIGHWAY	LA0G1439	2016A319	0	TRAFFIC SIGNAL AND CURB RAMP IMPROVEMENT - STUDEBAKER RD. FROM ROSECRANS AVE. & CECILIA ST.	$188
LOS ANGELES	LOCAL HIGHWAY	LA0G1442	2016A319	0	TRAFFIC SIGNAL & CURB RAMP IMPROVEMENT - ALONDRA BLVD. FROM PIUMA AVE. TO SHOEMAKER AVE.	$192
LOS ANGELES	LOCAL HIGHWAY	LA0G1448	7120018	0	DOUBLE TRACK ACCESS FROM PIER G TO PIER J. CREATING A NEW 9,000-FOOT DEPARTURE TRACK FOR TRAINS SERVING FOUR MARINE TERMINALS ALONG THE EAST BASIN: PIER J PCT, PIER G ITS, PIER G METRO, AND PIER E/F LBCT. REMOVES ONE TRACK FROM ITS SOUTH RAILYARD, TOTALING 1,800 FEET. ADDS 7 NEW TRACKS TOTALING 5,700 FEET TO STORAGE YARD EAST OF PIER J AVE.	$25,000
LOS ANGELES	LOCAL HIGHWAY	LA0G1449	7120018	0	PIER D STREET REALIGNMENT PROJECT. REALIGN PIER D ST BETWEEN MIDDLE HARBOR OUT GATE AND PICO AVE AND BROADWAY BETWEEN OLD POLB MAINTENANCE YARD (WESTERN TERMINUS OF THE ROADWAY) AND PICO AVE.	$32,000
LOS ANGELES	LOCAL HIGHWAY	LA0G1458	2016A319	0	PEBBLY BEACH ROAD PROJECT TO SECURE HILLSIDE, REPAIR AND EXPAND FAILING PEDESTRIAN AND BICYCLE FACILITIES AND IMPROVE SAFETY ALONG THE ARTERIAL CORRIDOR.	$10
LOS ANGELES	LOCAL HIGHWAY	LA0G1468	LAF3124	0	FIRESTONE BOULEVARD CAPACITY IMPROVEMENTS. INCREASE THE NUMBER OF LANES FROM 4 TO 6 ON FIRESTONE BLVD BETWEEN ANNETTA AVENUE AND CALIFORNIA AVENUE ON FIRESTONE BOULEVARD. WITHIN THE ROW, RAISED LS MEDIANS, SIDEWALKS, BUS SHELTERS & PULLOUTS, C&G, STREET LIGHTING, & UTILITY RELOCATION..	$6,000
LOS ANGELES	LOCAL HIGHWAY	LA0G1472	1200L005	0	THE ALAMEDA ST. WIDENING PROJECT FROM ANAHEIM ST. TO HARRY BRIDGES BLVD. WILL ADD ONE MORE LANE IN EACH DIRECTION TO THE EXISTING ARTERIAL AND RECONSTRUCT THE PAVEMENT ALONG WITH NEW SIDEWALKS, CURB AND GUTTER, STORM WATER SYSTEM AND LANDSCAPE. THE LENGTH OF THE PROJECT IS ABOUT 1.0 MILES AND IT WILL ADD CAPACITY ON PROJECTED TRAFFIC VOLUMES FROM THE PORT OF LOS ANGELES TO THE NETWORK OF FREEWAYS BY MITIGATING THE EXISTING TRAFFIC GRIDLOCK DURING PEAK HOURS.	$5,492
LOS ANGELES	LOCAL HIGHWAY	LA0G1486	7120004	0	THE PROJECT CONSISTS OF DESIGN AND CONSTRUCTION OF 1.86 MILES OF CLASS I BIKE PATH ALONG PUENTE CREEK AND 0.37 MILES OF ENHANCED CLASS III BIKE ROUTE ALONG RIMGROVE AND WITZMAN DRIVE ADJACENT TO THE RIMGROVE COUNTY PARK. THE NON-INFRASTRUCTURE PORTION OF THE PROJECT INCLUDES BICYCLE AND PEDESTRIAN SAFETY EDUCATION AND ENCOURAGEMENT TRAINING WORKSHOPS AND RODEOS TO STUDENTS AT 3 ELEMENTARY, 1 MIDDLE, AND 1 HIGH SCHOOL LOCATED NEAR THE PROPOSED BIKEWAY.	$3,700
LOS ANGELES	LOCAL HIGHWAY	LA0G1491	1NL04	0	INTERSECTION AND CORRIDOR IMPROVEMENTS THAT MAY INCLUDE NEW TRAFFIC SIGNALS, LEFT TURN PHASING, PEDESTRIAN WARNING DEVICES, SIDEWALK ENHANCEMENTS, CURB EXTENSION AND OTHER SIMILAR TREATMENTS. THE LIMITS ARE BETWEEN I-405/SEPULVEDA TO THE WEST, CITY OF LOS ANGELES CITY BOUNDARY TO THE NORTH AND EAST, AND TUXFORD/LA TUNA CANYON TO ROSCOE/I-405 TO THE SOUTH.	$5,828

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	LOCAL HIGHWAY	LA0G1500	7120004	0	PREPARE A COMPREHENSIVE ACTIVE TRANSPORTATION PLAN THAT INCORPORATES BICYCLE, PEDESTRIAN, ADA CONSIDERATIONS AND SAFE ROUTES TO SCHOOL ANALYSIS AND PLANNING.	$245
LOS ANGELES	LOCAL HIGHWAY	LA0G1502	1ITS04	0	PROJECT WILL INCREASE EFFICIENCY AND REDUCE CONGESTION DUE TO REDUCTION OF TIME OF VEHICLES ON IDLED AT THE NON-SYNCHRONIZED 16 INTERSECTIONS AND THUS ALLOW TRAFFIC FLOW TO BE CONSISTENT. SYNCHRONIZING THE TRAFFIC SIGNALS, WILL ALLEVIATE HEAVY TRAFFIC GENERATED DUE TO THE CLOSE PROXIMITY OF PRAIRIE AVENUE TO THE I-105 FREEWAY, I-405 FREEWAY AND HOLLYWOOD PARK CASINO AND THE NEW NFL STADIUM. PROVIDING SIGNAL COORDINATION WILL SIGNIFICANTLY BENEFIT BOTH THE TWO FREEWAYS AND THE CITY OF INGLEWOOD.	$205
LOS ANGELES	LOCAL HIGHWAY	LA0G1509	1AL04	0	FIRESTONE BOULEVARD WIDENING FROM HOXIE AVENUE TO IMPERIAL HIGHWAY STUDY ONLY. PROJECT WILL ADD TWO LANES FROM HOXIE AVENUE TO STUDEBAKER ROAD. AND, ONE LANE WESTBOUND FROM IMPERIAL HIGHWAY TO STUDEBAKER ROAD.	$2,000
LOS ANGELES	LOCAL HIGHWAY	LA0G1515	1AL04	0	LAKEWOOD BLVD. AT FLORENCE AVENUE INTERSECTION IMPROVEMENTS. DOUBLE LEFT-TURN LANES IN THE SOUTHBOUND AND NORTHBOUND DIRECTIONS ALONG LAKEWOOD BOULEVARD. EXCLUSIVE WESTBOUND RIGHT-TURN LANE ON FLORENCE AVENUE. RIGHT OF WAY ACQUISITION AS NECESSARY. RELOCATION OF OVERHEAD UTILITIES. RECONSTRUCTION OF THE INTERSECTION WITH A CONCRETE INTERSECTION, MODIFICATION OF TRAFFIC SIGNAL AND INCIDENTAL STRIPING, SIGNAGE AND PAVEMENT MARKINGS.	$4,925
LOS ANGELES	LOCAL HIGHWAY	LA0G1516	1AL04	0	LAKEWOOD BLVD AT FIRESTONE BOULEVARD INTERSECTION IMPROVEMENTS. DOUBLE LEFT-TURN LANES IN THE SOUTHBOUND AND NORTHBOUND DIRECTIONS ALONG LAKEWOOD BOULEVARD. RECONSTRUCTION OF THE INTERSECTION AND APPROACHES, MODIFICATION OF TRAFFIC SIGNAL, INCIDENTAL STRIPING, SIGNAGE AND PAVEMENT MARKINGS.	$1,300
LOS ANGELES	LOCAL HIGHWAY	LA0G1517	1AL04	0	LAKEWOOD BLVD AT IMPERIAL HIGHWAY INTERSECTION IMPROVEMENTS. DOUBLE LEFT-TURN LANES IN THE EASTBOUND AND WESTBOUND DIRECTIONS ALONG IMPERIAL HIGHWAY. EXCLUSIVE NORTHBOUND RIGHT-TURN LANE ON LAKEWOOD BOULEVARD. RIGHT-OF-WAY ACQUISITION AS NECESSARY. RECONSTRUCTION OF THE INTERSECTION APPROACHES, MODIFICATION OF TRAFFIC SIGNAL AND INCIDENTAL STRIPING, SIGNAGE AND PAVEMENT MARKINGS.	$4,060
LOS ANGELES	LOCAL HIGHWAY	LA0G1518	1AL04	0	PARAMOUNT BLVD AT IMPERIAL HWY. INTERSECTION IMPROVEMENTS. DOUBLE LEFT-TURN LANES IN THE SOUTHBOUND AND WESTBOUND DIRECTIONS ALONG IMPERIAL HIGHWAY. WIDENING OF THE SOUTHERLY LEG (SOUTHBOUND DIRECTION) OF THE INTERSECTION IN ORDER TO PROVIDE SUFFICIENT WIDTH FOR U-TURNS. RIGHT-OF-WAY ACQUISITION AS NECESSARY. RECONSTRUCTION OF THE INTERSECTION APPROACHES, MODIFICATION OF TRAFFIC SIGNAL, INCIDENTAL STRIPING, SIGNAGE AND PAVEMENT MARKINGS.	$3,185
LOS ANGELES	LOCAL HIGHWAY	LA0G1540	1O0708	0	ALAMEDA CORRIDOR SOUTHERN TERMINUS GAP CLOSURE PROJECT. THIS PROJECT WILL PROVIDE SEPARATE RAIL ACCESS TO TWO ADJACENT ON-DOCK RAILYARDS, THUS ELIMINATING THE POTENTIAL FOR TRAIN COLLISIONS. THE NEW DOUBLE TRACK SEGMENT WILL ALSO REDUCE MOVING TRAIN BLOCKAGES AT TWO IMMEDIATELY ADJACENT RAIL CROSSINGS ON ROADWAYS, WHICH ALSO REDUCES THE POTENTIAL FOR TRAIN-VEHICULAR COLLISIONS.	$9,529
LOS ANGELES	LOCAL HIGHWAY	LA0G1543	1O0708	0	TERMINAL ISLAND RAILYARD ENHANCEMENT PROJECT. THIS PROJECT ENTAILS THE ADDITION OF FIVE STAGING/STORAGE TRACKS (ABOUT 31,000 LINEAL FEET) TO THE AN EXISTING RAILYARD, LOCATED ON TERMINAL ISLAND, WHICH IS ALSO INCLUDES A SHORT RAIL BRIDGE OVER WATER.	$34,015
LOS ANGELES	LOCAL HIGHWAY	LA0G1545	REG0703	0	PLAZA DEL AMO ROADWAY ENHANCEMENT FROM WEST 223RD ST TO WESTERN AVE (SR 213)	$2,980
LOS ANGELES	LOCAL HIGHWAY	LA0G1546	1ITS04	0	IMPERIAL HWY SIGNAL IMPROVEMENTS AND INTERSECTION. PA/ED, PS&E, ROW, CONSTRUCTION. MODIFY AND UPGRADE 5 TRAFFIC SIGNAL, TRAFFIC STRIPING, UTILITIES, EXCAVATION, REMOVAL OF EXISTING PAVEMENT, CONCRETE, ASPHALT AND CONSTRUCTION OF CURB, GUTTER, SIDEWALKS AND DRIVEWAYS. SIGNAL SYNCHRONIZATION AT: IMPERIAL HIGHWAY AT PRAIRIE AVENUE IMPERIAL HIGHWAY AT FREEMAN AVENUE IMPERIAL HIGHWAY AT HAWTHORNE BOULEVARD IMPERIAL HIGHWAY AT RAMONA AVENUE IMPERIAL HIGHWAY AT INGLEWOOD AVENUE	$1,995

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	LOCAL HIGHWAY	LA0G1547	1AL04	0	WIDEN INTERSECTIONS, UPGRADE 6 TRAFFIC SIGNAL (INCLUDING ADA RAMPS WHERE SIGNAL UPGRADE IMPACTS ADJACENT RAMP), TURN LANE, STRIPING, UTILITIES, CONCRETE, ASPHALT, CURB, GUTTER, SIDEWALKS, DRIVEWAYS, RETAINING WALLS, AND RAISED MEDIANS. ROSECRANS AVENUE AT HAWTHORNE BOULEVARD ROSECRANS AVENUE AT INGLEWOOD AVENUE ROSECRANS AVENUE AT OCEAN GATE AVENUE ROSECRANS AVENUE AT HINDRY AVENUE ROSECRANS AVENUE AT ISIS AVENUE ROSECRANS AVENUE AT AVIATION BOULEVARD	$4,000
LOS ANGELES	LOCAL HIGHWAY	LA0G1548	1AL04	0	WIDEN INTERSECTIONS MODIFY AND UPGRADE FOUR TRAFFIC SIGNAL SYSTEM, TRAFFIC STRIPING, ADJUSTMENT OF UTILITIES, EXCAVATION AND REMOVAL OF EXISTING PAVEMENT, CONCRETE, ASPHALT AND CONSTRUCTION OF CURB, GUTTER, SIDEWALKS, DRIVEWAYS AND ADA RAMPS. SIGNAL SYNCHRONIZATION AT: EL SEGUNDO BLVD AT RAMONA AVE. EL SEGUNDO BLVD. AT AVIATION AVE. EL SEGUNDO BLVD. AT ISIS AVE. EL SEGUNDO BLVD. AT VAN NESS AVE.	$2,000
LOS ANGELES	LOCAL HIGHWAY	LA0G1549	1AL04	0	THE SCOPE IN THIS PHASE INVOLVES PA/ED AND PS&E ONLY. THE PROJECT AIMS TO MINIMIZE CONFLICTS OF TURNING TRAFFIC WITH THE THROUGH TRAFFIC ON EL SEGUNDO BLVD., BETWEEN THE 405 FREEWAY RAMPS, BY MODIFYING AND UPGRADING THE INTERSECTION LAYOUT AND RELATED SYSTEMS. THE PROJECT WILL UPGRADE THE TWO TRAFFIC SIGNAL SYSTEM ON EL SEGUNDO BLVD. AT THE 405 FREEWAY RAMPS, ENHANCING TRAFFIC CIRCULATION AND ACCESS TO THE I-405.	$600
LOS ANGELES	LOCAL HIGHWAY	LA0G1553	1AL04	0	GARFIELD AVENUE AT SLAUSON AVENUE INTERSECTION, PROJECT INVOLVES PAVEMENT RECONSTRUCTION IN CONCRETE, ADA IMPROVEMENTS, NEW CURB AND GUTTER, DRAINAGE, TRAFFIC SIGNAL, BUS SHELTERS, AND STRIPING OF THE INTERSECTION AND MISC IMPROVEMENTS.	$2,500
LOS ANGELES	LOCAL HIGHWAY	LA0G1554	1ITS04	0	THE PROJECT WILL UPGRADE TRAFFIC SIGNALS AND SYNCHRONIZATION ACROSS 10 INTERSECTIONS ALONG ARBOR VITAE STREET. THE EXISTING TRAFFIC SIGNALS ARE USING 170 CONTROLLERS WITH MCCAIN 233 AND 200 PROGRAM. THE CITY IS IN THE PROCESS OF UPGRADING THE EXISTING 170 CONTROLLERS TO 2070ATC CONTROLLERS AS PART OF THE CALL FOR PROJECT ITS PHASE V.	$130
LOS ANGELES	LOCAL HIGHWAY	LA0G1555	1ITS04	0	THE PROJECT WILL UPGRADE TRAFFIC SIGNALS AND SYNCHRONIZATION ACROSS 6 INTERSECTIONS ALONG LA CIENEGA BLVD. THE EXISTING TRAFFIC SIGNALS ARE USING A COMBINATION 170 AND 2070 CONTROLLERS WITH MCCAIN 233 AND 2033 SOFTWARE. AS PART OF THE LAWA-LAMP PROJECT, THE CITY OF INGLEWOOD WILL BE UPGRADING ALL INTERSECTIONS TO THE 2070ATC PLATFORM AND UPGRADING THE COMMUNICATION DEVICES TO BRING THE INTERSECTIONS ONLINE AT THE CITY'S TRAFFIC MANAGEMENT SYSTEM.	$80
LOS ANGELES	LOCAL HIGHWAY	LA0G1556	1ITS04	0	UPGRADE TRAFFIC SIGNALS/SYNCHRONIZATION FOR 14 INTERSECTIONS ON FLORENCE AVENUE. CONTROLLER UPGRADES TO A MODERN AND ROBUST 2070 CONTROLLERS CAPABLE OF PROVIDING ADAPTIVE SIGNAL CONTROL AND OTHER ADVANCE FEATURES TO INCREASE THE CAPACITY OF VEHICLES AND IMPROVE PROGRESSION THROUGHOUT THE CORRIDOR, INSTALLATION OF CLOSED CIRCUIT TV'S CONNECTING THEM TO THE CITY'S TRAFFIC MANAGEMENT CENTER TO ALLOW CITY TO MONITOR THE REAL-TIME TRAFFIC CONDITIONS REMOTELY.	$255
LOS ANGELES	LOCAL HIGHWAY	LA0G1560	1AL04	0	WIDENING SAN FERNANDO RD AT BALBOA RD. INSTALL A RIGHT-TURN LANE ON WEST SIDE OF SAN FERNANDO RD AT BALBOA RD TO PROVIDE ADD'L CAPACITY; WILL REQUIRE ROW ACQUISITION, RETAINING WALLS AND RE-STRIPING	$1,632
LOS ANGELES	LOCAL HIGHWAY	LA0G1567	1200L007	0	INTEGRATE SEVEN TRAFFIC SIGNALS ALONG SIERRA HWY INTO THE CITY'S INTELLIGENT TRANSPORTATION SYSTEM TO PROVIDE COORDINATED SIGNAL TIMING. INCORPORATE SIERRA HWY INTO THE CITY'S ADAPTIVE TRAFFIC SIGNAL SYSTEM. THIS PROJECT ALSO INCLUDES VARIOUS INTERSECTION IMPROVEMENTS ALONG SIERRA HWY INCLUDING LEFT-TURN POCKET EXTENSIONS, RESTRIPING, AND DYNAMIC LANE UTILIZATION TECHNOLOGY.	$3,565
LOS ANGELES	LOCAL HIGHWAY	LA0G1589	1O1008	0	ANZA AVE FROM DEL AMO BLVD TO SEPULVEDA BLVD; ASPHALT PAVEMENT REHABILITATION, REPAIR DAMAGED SIDEWALKS AND CURB AND GUTTER, TRAFFIC SIGNAL IMPROVEMENTS TO INCREASE CAPACITY AND THROUGHPUT (VIDEO DETECTION, PEDESTRIAN ACTUATION), INSTALLATION OF EMERGENCY VEHICLE PREEMPTION.	$2,573
LOS ANGELES	LOCAL HIGHWAY	LA0G166	1NL04	0	WIDENING OF 30TH ST WEST FROM AVENUE M TO AVENUE L (APPROX. 1 MILE) FROM 2 VEHICULAR TRAVEL LANES TO 4 LANES. 8 FOOT CLASS II BIKE LANES WILL BE STRIPPED ON BOTH SIDES OF THE STREET.	$1,140

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	LOCAL HIGHWAY	LA0G171	1AL04	0	NAVY MOLE STORAGE YARD: THE PROPOSED PROJECT INCLUDES THREE NEW TRACKS ALONG THE WEST SIDE OF PIER T. THIS PROJECT WILL ALSO INVOLVE RELOCATING THE EXISTING UTILITIES.	$12,800
LOS ANGELES	LOCAL HIGHWAY	LA0G172	1AL04	0	TI WYE TRACK REALIGNMENT: THIS PROJECT WILL PROVIDE FOR DOUBLE TRACKING THE SOUTH LEG OF THE WYE TO ACCOMMODATE SIMULTANEOUS TRAIN SWITCHING MOVES FROM THESE VARIOUS ACTIVITIES ON TERMINAL ISLAND.	$29,000
LOS ANGELES	LOCAL HIGHWAY	LA0G173	1ITS04	0	RECONFIGURATION OF CONTROL POINT (CP) MOLE - THE NEW CONTROL POINT AT THE MOLE WILL ENABLE INCREASED TRAIN SPEEDS AND REDUCED TRAIN DELAYS CAUSED BY MANUAL SWITCH OPERATIONS.	$27,610
LOS ANGELES	LOCAL HIGHWAY	LA0G230	1AL04	0	U.S.101/PALO COMADO INTERCHANGE. WIDEN FROM 40' TO ULTIMATE WIDTH OF 76'. ONE LANE IN EACH DIRECTION AND ONE LEFT-TURN LANE, CLASS II BIKE LANES (0.53 MILES), SIDEWALKS,AND AESTHETIC ENHANCEMENTS. (WIDENING IS FOR LEFT TURN LANES ONLY)	$20,000
LOS ANGELES	LOCAL HIGHWAY	LA0G321	1AL04	0	PARK PLACE EXTENSION AND RAIL ROAD GRADE SEPARATION PROJECT. (GRADE SEPARATION IS NON-CAPACITY). COMPLETION OF PARK PLACE EXTENSION & CONNECTION BETWEEN ALASKA AVENUE AND SEPULVEDA BOULEVARD IN THE CITY OF EL SEGUNDO. PARK PLACE FOUR LANE ROADWAY EXTENSION BETWEEN NASH AND ALLIED WAY.	$1,235
LOS ANGELES	LOCAL HIGHWAY	LA0G349	1AL04	0	COMMERCE WAY IMPROVEMENT PROJECT FROM EASTERN AVE TO WASHINGTON BLVD. THE PROJECT CONSISTS OF PAVEMENT RECONSTRUCTION, LOCALIZED CURB, GUTTER AND RAISED MEDIAN MODIFICATIONS, STREET AND UPLIGHTING, LANDSCAPING, IRRIGATION, CHANNELIZATION, REMOVAL OF RAILROAD CROSSING AT COMMERCE WAY BETWEEN EASTERN AVE AND SHEILA ST AND SIGNAGE FOR THE 0.23 MILE LONG ROADWAY ALONG COMMERCE WAY FROM EASTERN AVE TO WASHINGTON BLVD.	$1,926
LOS ANGELES	LOCAL HIGHWAY	LA0G451	LA0G451	0	BRIDGE NO. 53C0876, HIGUERA ST, OVER BALLONA CR. BETWEEN EASTHAM DRIVE AND JEFFERSON BLVD. REPLACE 3 LANE BRIDGE WITH A NEW 4 LANE BRIDGE.	$8,942
LOS ANGELES	LOCAL HIGHWAY	LA0G609	REG0703	0	SOUTH BAY MEASURE R HIGHWAY PROGRAM DEVELOPMENT, ADMINISTRATION, INTER-GOVERNMENTAL RELATIONS, AND PROJECT OVERSIGHT.	$6,754
LOS ANGELES	LOCAL HIGHWAY	LA0G625	1AL04	0	SAN FERNANDO BLVD AT BURBANK BLVD INTERSECTION; FLARE INTERSECTION TO PROVIDE ADDITIONAL TURN LANES, WIDEN SIDEWALKS, ACCOMMODATE FUTURE BICYCLE LANES; RECONSTRUCT CURB AND GUTTER, CONCRETE PAVEMENT AND SIDEWALK, RELOCATE UTILITIES, ACQUIRE RIGHT OF WAY.	$7,493
LOS ANGELES	LOCAL HIGHWAY	LA0G717	1AL04	0	F48 - INTERSECTION IMPROVEMENTS ON PACIFIC COAST HWY AT PALOS VERDES BLVD. INCLUDES A RIGHT TURN ONLY LANE ON WESTBOUND PALOS VERDES BLVD AT PACIFIC COAST HWY. DESIGN AND CONSTRUCTION. PROJECT NO. MR318.08, FA NO. MOU.MR318.08.	$320
LOS ANGELES	LOCAL HIGHWAY	LA0G721	1AL04	0	N58 - AVIATION BLVD. INTERSECTION IMPROVEMENTS AT ARTESIA BLVD. PLANS, SPECIFICATIONS, ESTIMATES, OBTAINING RIGHT OF WAY, AND CONSTRUCTION OF A RIGHT TURN ONLY LANE ON NORTHBOUND AVIATION BLVD AT ARTESIA BLVD. PROJECT NO. MR312.20. FA NO. MOU.MR312.20.	$847
LOS ANGELES	LOCAL HIGHWAY	LA0G724	1AL04	0	INTERSECTION IMPROVEMENTS TO ADD NORTHBOUND, EASTBOUND AND WESTBOUND DEDICATED RIGHT TURN-LANES; ADD SECOND EASTBOUND LEFT-TURN LANE; AND TRAFFIC SIGNAL UPGRADES THROUGH WIDENING AND RE-CHANNELIZATION.	$19,600
LOS ANGELES	LOCAL HIGHWAY	LA0G740	LA0G740	0	CONSTRUCT INTERSECTION IMPROVEMENTS, WIDEN AND RESTRIPE LYONS AVENUE FROM WILEY CANYON ROAD TO RAILROAD AVENUE FROM EXISTING CONDITIONS TO ACCOMMODATE A CHANGE FROM 4 TO 6 LANES; APPROXIMATELY 1.7 MILES	$2,300
LOS ANGELES	LOCAL HIGHWAY	LA0G742	LA0G742	0	RESTRIPE ORCHARD VILLAGE ROAD FROM MCBEAN PARKWAY TO LYONS AVENUE FROM 4 TO 6 LANES; APPROXIMATELY 1.3 MILES	$1,850
LOS ANGELES	LOCAL HIGHWAY	LA0G744	LA0G744	0	CONSTRUCT INTERSECTION IMPROVEMENTS, WIDEN AND RESTRIPE RAILROAD AVENUE FROM EXISTING CONDITIONS ON NEWHALL AVENUE TO BOUQUET CANYON ROAD TO ACCOMMODATE A CHANGE FROM 4 TO 6 LANES; APPROXIMATELY 3 MILES	$2,300
LOS ANGELES	LOCAL HIGHWAY	LA0G745	LA0G745	0	CONSTRUCT INTERSECTION IMPROVEMENTS, WIDEN AND RESTRIPE BOUQUET CANYON ROAD FROM SECO CANYON ROAD TO PLUM CANYON ROAD TO ACCOMODATE A CHANGE FROM 4 TO 6 LANES; APPROXIMATELY 2.2 MILES	$920
LOS ANGELES	LOCAL HIGHWAY	LA0G746	LA0G746	0	CONSTRUCT INTERSECTION IMPROVEMENTS, WIDEN AND RESTRIPE PLUM CANYON ROAD FROM BOUQUET CANYON ROAD TO CITY LIMIT TO ACCOMODATE A CHANGE FROM 4 TO 6 LANES; APPROXIMATELY 0.5 MILES	$575

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	LOCAL HIGHWAY	LA0G747	LA0G747	0	CONSTRUCT INTERSECTION IMPROVEMENTS, WIDEN AND RESTRIPE WHITES CANYON ROAD FROM EXISTING CONDITIONS FROM SOLEDAD CANYON ROAD TO CITY LIMIT TO ACCOMMODATE A CHANGE FROM 4 TO 6 LANES; APPROXIMATELY 2 MILES	$920
LOS ANGELES	LOCAL HIGHWAY	LA0G748	LA0G748	0	WIDEN AND RESTRIPE GOLDEN VALLEY ROAD FROM EXISTING CONDITIONS ON SOLEDAD CANYON ROAD TO SIERRA HIGHWAY FROM 4 TO 6 LANES; APPROXIMATELY 2.5 MILES, AND INSTALL TRAFFIC SIGNAL.	$7,708
LOS ANGELES	LOCAL HIGHWAY	LA0G751	LA0G751	0	CONSTRUCT INTERSECTION IMPORVEMENTS, WIDEN AND RESTRIPE SIERRA HIGHWAY FROM VIA PRINCESSA TO CITY LIMIT TO ACCOMODATE A CHANGE FROM 4 TO 6 LANES; APPROXIMATELY 5.5 MILES	$3,700
LOS ANGELES	LOCAL HIGHWAY	LA0G754	LA0G754	0	VISTA CANYON ROAD BRIDGE OVER THE SANTA CLARA RIVER AND ROADWAY FROM VISTA CANYON COMMUNITY (JAKES WAY/LOST CANYON) TO SOLEDAD CANYON ROAD. INCLUDES 750-FOOT LONG BRIDGE, 1 LANE IN EACH DIRECTION, CLASS I BIKE LANE. (BIKE LANE LESS THAN 1 MILE)	$10,850
LOS ANGELES	LOCAL HIGHWAY	LA0G755	LA0G755	0	NEWHALL RANCH ROAD BRIDGE WIDENING OVER THE SAN FRANCISQUITO CREEK 6 TO 8 LANES. FROM MCBEAN PKWY TO AVENUE TIBBITTS. BRIDGE NO. 53C2164	$15,633
LOS ANGELES	LOCAL HIGHWAY	LA0G808	REG0703	0	THE STUDY IS FOR THE GLENDALE NARROWS RIVERWALK BRIDGE OVER THE LOS ANGELES RIVER WILL PROVIDE A CONNECTION TO GRIFFITH PARK FROM THE COMMUNITIES NORTH AND EAST OF THE PARK THAT ARE NOW SEPARATED FROM THE PARK BY THE LOS ANGELES RIVER CHANNEL AND THE TWO FREEWAYS THAT CONVERGE ALONG THE SIDE OF THE CHANNEL ADJACENT TO GRIFFITH PARK.	$600
LOS ANGELES	LOCAL HIGHWAY	LA0G809	1O1007	0	CONSTRUCTION OF CITYWIDE BIKEWAY FACILITY THIS PROJECT INCLUDES CONSTRUCTION OF CLASS II, AND SHARROWS RECOMMENDED IN THE GLENDALE BICYCLE MASTER PLAN AND INSTALLATION OF CITYWIDE BIKE RACKS, AND OTHER AMENITIES RELATED TO BICYCLE. THE PROJECT LENGTH MAY INCLUDE OVER 12 MILES OF BIKE LANES.	$300
LOS ANGELES	LOCAL HIGHWAY	LA0G812	7120004	0	GLENDALE NARROWS BIKEWAY CULVERT BRIDGE. THIS PROJECT CONSIST OF CONSTRUCTION OF A SMALL BRIDGE OVER A CULVERT TO CONNECT GLENDALE NARROWS TO FLOWER STREET TO CREATE A CLASS I BIKELANES ALONG LOS ANGELES RIVER. PROJECT LENGTH IS UNDER A MILE.	$1,247
LOS ANGELES	LOCAL HIGHWAY	LA0G830	LA0G830	0	I-710 IMPROVEMENTS/SHOEMAKER BRIDGE REPLACEMENT: REPLACE THE EXISTING SHOEMAKER BRIDGE WITH A NEW BRIDGE. THE NEW BRIDGE WILL BE REDUCED TO HAVE TWO MIXED-FLOW LANES IN THE NB AND IN THE SB DIRECTIONS TO TIE THE FLOW INTO I-710. THE NEW BRIDGE WILL ALSO INCLUDE PEDESTRIAN AND BICYCLE ACCESS. ADDITIONALLY, BICYCLE, PEDESTRIAN, AND STREET ENHANCEMENTS WILL BE PROVIDED ON ADJACENT THOROUGHFARES.	$330,000
LOS ANGELES	LOCAL HIGHWAY	LA0G860	1NL04	0	LEMON GROVE LIGHTING PHASE 2, PROJECT BOUNDARIES, SANTA MONICA BLVD (N), WESTERN AVE (W), LEMON GROVE AVE (S) AND THE HOLLYWOOD FREEWAY (E). INSTALL NEW STREET LIGHTING SYSTEM ON OXFORD AVE. FROM ROMAINE ST. TO LEMON GROVE AVE. AND ON LEMON GROVE FROM WESTERN AVE. TO SERRANO AVE. USING $31 IN TOLL CREDITS TO MATCH TCSPP IN FY19.	$267
LOS ANGELES	LOCAL HIGHWAY	LA0G861	1AL04	0	HUNTINGTON DRIVE PHASE II FROM MAGNOLIA TO SHAMROCK - CONSTRUCTION ACTIVITIES WILL REMOVE/ REPLACE DAMAGED CONCRETE PANELS,REPLACE CURBING IN THE MEDIAN ISLAND, UPGRADE HANDICAP ACCESS RAMPS, UPGRADE PEDESTRIAN COUNTERS ON TRAFFIC SIGNALS, RE-STRIPE AND INSTALL PAVEMENT MARKERS, REPLACE STREET SIGNS WITH NEW REGULATORY SIGNS, CRACK SEAL AND JOINT REPAIRS AND INSTALL BUS TURNOUTS. (APROX 0.8 MI). UTILIZING TOLL CREDITS FOR STPL IN FY 16-17	$2,028
LOS ANGELES	LOCAL HIGHWAY	LA0G895	1AL04	0	WIDEN 10TH ST WEST FROM 6 LANES TO 8 LANES 600' S/O RANCHO VISTA BLVD (RVB) TO AVE O-4; ADDITIONAL RIGHT TURN LANES FROM 10TH WEST UNTO NB SR138/14 ON RAMP AND AV MALL ENTRANCE; TRAFFIC SIGNAL UPGRADES AND MODIFICATIONS AT THE INTERSECTIONS OF 10TH ST WEST AND RVB, AV MALL ENTRANCE, DESTINATION O-8, AND SR 138/14 SB OFF-RAMP; ADD NB AND SB RIGHT TURN LANES ON 10TH ST WEST AT RVB; MODIFY EXISTING SR 138/14 ON AND OFF-RAMPS AT 10TH ST WEST; AND OTHER REQUIRED IMPROVEMENTS.	$39,400
LOS ANGELES	LOCAL HIGHWAY	LA0G927	1AL04	0	SR-138 (SR-14) AVENUE G INTERCHANGE. PROJECT WILL WIDEN AVENUE G FOR A CENTER TURN-LANE, BIKE LANES AND SIDEWALKS BETWEEN 10TH STREET WEST AND 25TH STREET WEST, AND WILL INCLUDE GEOMETRIC CHANGES TO THE SR-138 (SR-14) RAMPS, INTERSECTION CONTROLS, AND PEDESTRIAN IMPROVEMENTS.	$15,000

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	LOCAL HIGHWAY	LA0G928	1AL04	0	SR-138 (SR-14) AVENUE J INTERCHANGE. PROJECT WILL INCLUDE NEW NORTHBOUND OFF-RAMP AND SOUTHBOUND ON-RAMP, MAINLINE IMPROVEMENTS TO ACCOMMODATE RAMP MODIFICATIONS, IMPROVEMENTS TO AVENUE J BETWEEN 15TH STREET WEST AND 25TH STREET WEST AND TRAFFIC SIGNAL IMPROVEMENTS. PROJECT WILL REDUCE THROUGH LANES ON AVENUE J FROM 3 LANES TO 2 LANES IN EACH DIRECTION BETWEEN 25TH STREET WEST AND 15TH STREET WEST TO PROVIDE BIKE LANES AND WIDER SIDEWALKS.	$10,000
LOS ANGELES	LOCAL HIGHWAY	LA0G929	1AL04	0	SR-138 (SR-14) AVENUE K INTERCHANGE IMPROVEMENTS. PROJECT WILL INCLUDE WIDENING AND GEOMETRIC CHANGES TO THE SR-138 (SR-14) RAMPS, IMPROVEMENTS TO AVENUE K BETWEEN 20TH STREET W AND 10TH STREET W, AND PEDESTRIAN AND BICYCLE IMPROVEMENTS. PROJECT WILL ADD A THIRD LANE IN THE WESTBOUND DIRECTION ON AVENUE K BETWEEN 10TH ST WEST TO 12TH ST WEST AS A GAP CLOSURE.	$15,000
LOS ANGELES	LOCAL HIGHWAY	LA0G931	1AL04	0	SR-138 (SR-14) AVENUE M INTERCHANGE. PROJECT WILL WIDEN AVENUE M FROM 10TH STREET TO 20TH STREET WEST TO PROVIDE A CENTER TURN-LANE, BIKE LANES AND SIDEWALKS. THE PROJECT INCLUDES GEOMETRIC CHANGES TO THE SR-138 (SR-14) RAMPS, INTERSECTION CONTROLS, AND BIKE AND PEDESTRIAN IMPROVEMENTS FROM WEST OF 20TH STREET WEST TO 10TH STREET WEST.	$20,000
LOS ANGELES	LOCAL HIGHWAY	LA0G937	1AL04	0	DEL AMO BOULEVARD AT LAKEWOOD BOULEVARD INTERSECTION IMPROVEMENTS - ADD A SECOND LEFT TURN LANE IN ALL DIRECTIONS, MODIFY EXISTING TRAFFIC SIGNALS, WIDEN BOX CULVERT SOUTH OF DEL AMO BOULEVARD, REMOVE OR MODIFY RAISED MEDIANS ON LAKEWOOD BOULEVARD, WIDEN SOUTHSIDE OF DEL AMO BOULEVARD (NO NEW THRU LANES), AND WIDEN LAKEWOOD BOULEVARD TO ACCOMODATE A THIRD THRU LANE SOUTHBOUND THROUGH THE INTERSECTION WITHIN THE EXISTING RIGHT OF WAY IN THE CITIES OF LAKEWOOD AND LONG BEACH.	$5,504
LOS ANGELES	LOCAL HIGHWAY	LA0G942	7120001	0	ROSEMEAD BOULEVARD AT WHITTIER BOULEVARD INTERSECTION IMPROVEMENTS - PROVIDE NORTHBOUND RIGHT TURN POCKET AND ADDITIONAL SOUTHBOUND LEFT TURN LANE ALONG ROSEMEAD BL. AND INCREASE EASTBOUND AND WESTBOUND LEFT TURN STORAGE ALONG WHITTIER BL.	$1,388
LOS ANGELES	LOCAL HIGHWAY	LA0G945	1AL04	0	INTERSECTION IMPROVEMENT - ROSEMEAD BOULEVARD AT BEVERLY BOULEVARD - PROVIDE SOUTHBOUND RIGHT TURN POCKET, DUAL RIGHT TURN LANES WESTBOUND WITH CLOSURE OF LINDELL AVE, ADDITIONAL NORTHBOUND LEFT TURN LANE, ADDITIONAL NON-CAPACITY ENHANCING SOUTHBOUND & NORTHBOUND THRU LANES, OVERLAP PHASING FOR SOUTHBOUND RIGHT TURN ONTO BEVERLY BL, AND RESTRICT PEAK HOUR PARKING ALONG WEST SIDE OF ROSEMEAD BL. RIGHT OF WAY IS REQUIRED, 22 FEET ON NORTH SIDE OF BEVERLY BL FROM LINDELL AVE TO ROSEMEAD BL.	$8,474
LOS ANGELES	LOCAL HIGHWAY	LA0G948	1AL04	0	INTERSECTION IMPROVEMENT - IMPROVE TRAFFIC SIGNAL OPERATION AND TIMING, REDUCE TRAFFIC CONGESTION AT THE INTERSECTION, AND IMPROVE PEDESTRIAN SAFETY THROUGH THE MODIFICATION OF MEDIAN ISLANDS, INSTALLATION OF NEW MEDIAN ISLANDS, THE MODIFICATION OF EXISTING PEDESTRIAN CROSSWALKS AND MODIFICATION OF TRAFFIC SIGNAL PHASING AND TIMING.	$1,600
LOS ANGELES	LOCAL HIGHWAY	LA0G972	7120001	0	IN LOMITA, PACIFIC COAST HIGHWAY AT WALNUT ST & WESTERN AVE AT PALOS VERDES DRIVE NORTH. IMPROVE MUTLIPHASE SIGNAL OPERATIONS, OPTIMIZE CYCLES, EMPLOY PROTECTED -PERMISSIVE LEFT-TURN PHASES, RESTRICT AND CONTROL TURNING WITH STRIPING ON WALNUT. EMPLOY EMERGENCY VEHICLE PREEMPTION. CROSSWALK MARKINGS, AUDIBLE PED SIGNAL AND COUNTDOWN DEVICES. ADA MEDIAN IMPROVEMENT, SIGNAL UPGRADES, BICYCLE DETECTION, SIGNAL HEAD, LENS & VISOR UPGRADES.	$1,506
LOS ANGELES	LOCAL HIGHWAY	LA0G994	1AL04	0	HATHORNE BLVD. CORRIDOR IMPROVEMENT PROJECT:THIS PROJECT WILL INSTALL NB RIGHT TURN LANES ON HAWTHORNE BLVD AT THE INTERSECTIONS OF LOMITA BLVD., AND 182ND STREET. IN ADDITION IT WILL ADD WB RIGHT TURN LANE ON HAWTHORNE BLVD AT THE INTERSECTION OF EMERALD ST. AND SPENCER ST.	$3,479
LOS ANGELES	LOCAL HIGHWAY	LA0G997	1AL04	0	N18 - INTERSECTION IMPROVEMENTS ON INGLEWOOD AVE AT MANHATTAN BEACH BLVD. FEASIBILITY ANALYSIS, PLANS, SPECIFICATIONS, ESTIMATES, OBTAINING RIGHT OF WAY, AND CONSTRUCTION OF A RIGHT TURN ONLY LANE ON SOUTHBOUND INGLEWOOD AVE AT MANHATTAN BEACH BLVD.	$5,175
LOS ANGELES	LOCAL HIGHWAY	LA11G1	1AL04	0	GROUP PROJECTS FOR PAVEMENT RESURFACING AND OR REHABILITATION ON LOCAL ROADS THROUGHOUT COUNTY. PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126,127,128, EXEMPT TABLES 2 & 3 CATEGORIES. PAVEMENT RESURFACING, REHABILITATION, RECONSTRUCTION, AC OVERLAYS, ROAD MAINTENANCE TO PREVENT AND ELIMINATE HAZARDS, NO LANE ADDITIONS. PROJECTS IN THE GROUPED PROJECT LISTING WILL USE TOLL CREDITS FOR STPL.	$368,079

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	LOCAL HIGHWAY	LA11G2	1AL04	0	GROUP PROJECTS FOR BICYLCE AND PEDESTRIAN FACILITES. PROJECTS ARE CONSISTENT WITH 40CFR PART 93.126,127,128, EXEMPT TABLES 2 & 3 CATEGORIES. PROJECTS TO UPGRADE, CREATE, MAINTAIN, ENHANCE, OR ELIMINATE HAZARDS FOR PEDESTRIANS AND CYCLIST FACILITIES THROUGHOUT COUNTY.	$147,881
LOS ANGELES	LOCAL HIGHWAY	LA11G2N	1AL04	0	GROUP PROJECTS FOR BICYLCE AND PEDESTRIAN FACILITES. PROJECTS ARE CONSISTENT WITH 40CFR PART 93.126,127,128, EXEMPT TABLES 2 & 3 CATEGORIES. PROJECTS TO UPGRADE, CREATE, MAINTAIN, ENHANCE, OR ELIMINATE HAZARDS FOR PEDESTRIANS AND CYCLIST FACILITIES THROUGHOUT COUNTY, NON REPORTABLE TCMS, PROJECT SPLIT FROM LA11G2, BICYLE TYPE PROJECTS DO NOT EXCEED 1 MILE AND PED PROJECTS DO NOT EXCEED 1/4 MILE.	$17,487
LOS ANGELES	LOCAL HIGHWAY	LA11G3	1AL04	0	GROUP PROJECTS FOR SAFETY AND OPERATING IMPROVEMENTS ON THE LOCAL HIGHWAY SYSTEM THROUGHOUT THE COUNTY. PROJECTS ARE CONSISTENT WITH 40CFR PART 93.126,127,128, EXEMPT TABLES 2 & 3 CATEGORIES. RAILROAD/HIGHWAY CROSSING, SAFER FEDERAL-AID SYSTEM ROADS, SHOULDER IMPROVEMENTS, PROJECTS THAT CORRECT, IMPROVE, OR ELIMINATE A HAZARDOUS LOCATION OR FEATURE, TRAFFIC CONTROL DEVICES AND OPERATING ASSISTANCE, SIGNALIZATION PROJECTS (INDIVIDUAL INTERSECTIONS), PAVEMENT MARKING DEMONSTRATION PROJECTS, TRUCK CLIMBING LA	$162,724
LOS ANGELES	LOCAL HIGHWAY	LA11G4	1AL04	0	GROUP PROJECTS FOR PLANTING, LANDSCAPING, TRANSPORTATION SYSTEM BETTERMENTS, BEAUTIFICATION AND SCENIC EASEMENTS THOUGHOUT THE COUNTY (NO LANE ADDITIONS). PROJECTS ARE CONSISTENT WITH 40CFR PART 93.126,127,128, EXEMPT TABLES 2 & 3 CATEGORIES.	$81,340
LOS ANGELES	LOCAL HIGHWAY	LA11G5	1AL04	0	GROUP PROJECTS FOR DIRECTIONAL AND INFORMATIONAL SIGNAGE ON LOCAL ROADS THROUGHOUT THE COUNTY. PROJECTS ARE CONSISTENT WITH 40CFR PART 93.126,127,128, EXEMPT TABLES 2 & 3 CATEGORIES. DIRECTIONAL AND INFORMARMATIONAL SIGNS, SIGN REMOVALS, AND/OR SYSTEMS TO IMPROVE OR UPGRADE SIGNAGE MECHANISMS.	$123,320
LOS ANGELES	LOCAL HIGHWAY	LA11G5N	1AL04	0	GROUP PROJECTS FOR DIRECTIONAL AND INFORMATIONAL SIGNAGE ON LOCAL ROADS THROUGHOUT THE COUNTY. PROJECTS ARE CONSISTENT WITH 40CFR PART 93.126,127,128, EXEMPT TABLES 2 & 3 CATEGORIES. DIRECTIONAL AND INFORMARMATIONAL SIGNS, SIGN REMOVALS, AND/OR SYSTEMS TO IMPROVE OR UPGRADE SIGNAGE MECHANISMS, NON REPORTABLE TCMS, PROJECT SPLIT FROM LA11G5.	$11,108
LOS ANGELES	LOCAL HIGHWAY	LA29202N	LA29202N	0	MTA TIP ADMINISTRATION PLANNING, PROGRAMMING AND MONITORING FOR STIP PROJECTS THROUGH OUT LA COUNTY (200 CFP 7116 STATE ONLY 3594,2001 CFP 8401, PPNO 3535, 9001A, 9001)	$83,457
LOS ANGELES	LOCAL HIGHWAY	LA710NB	1M0101	0	SR RT. 710 NORTH - TRANSPORTATION SYSTEM MANAGEMENT (TSM) & TRANSPORTATION DEMAND MANAGEMENT (TDM) AS IDENTIFIED IN THE EIR/EIS.	$111,000
LOS ANGELES	LOCAL HIGHWAY	LA960170	LA960170	0	MAGIC MOUNTAIN PARKWAY EXTENSION FROM THE INTERSECTION OF BOUQUET CANYON/RAILROAD AVENUE TO VIA PRINCESSA (3 OF 3): CONSTRUCT A NEW ROAD AND BRIDGE WITH 3 LANES IN EACH DIRECTION	$19,478
LOS ANGELES	LOCAL HIGHWAY	LA9708004	LA9708004	0	SANTA CLARITA PARKWAY (1 OF 3) FROM BOUQUET CYN RD/SOLEDAD CYN INSTALL NEW ROADWAY (0 TO 4 LANES) (2.5 MILE)	$17,550
LOS ANGELES	LOCAL HIGHWAY	LA9811102	LA9811102	0	AVENUE S RAILROAD GRADE SEPARATION (OVERPASS/UNDERPASS) OF METROLINK RR TRACKS, WEST OF SIERRA HIGHWAY - 6 LANES. INCLUDES GRADE SEPARATION OF SIERRA HIGHWAY AND APPLICABLE RAMPING. NO NEW TRAVEL LANES ADDED.	$36,800
LOS ANGELES	LOCAL HIGHWAY	LA990352	1OM0702	0	PALISADES BLUFF STABILIZATION CALIFORNIA INCLINE ADJACENT (TEA21-#453). UTILIZING TOLL CREDITS.	$7,776
LOS ANGELES	LOCAL HIGHWAY	LA990359	LA990359	0	GRADE SEP XINGS SAFETY IMPR; 35- MI FREIGHT RAIL CORR. THRGH SAN.GAB. VALLEY - EAST. L.A. TO POMONA ALONG UPRR ALHAMBRA &L.A. SUBDIV - ITS 2318 SAFETEA #2178;1436 #1934 PPNO 2318. NOGALES(LA) PROJECT INCLUDES WIDENING FROM 2 TRAVEL LANES TO 4 TRAVEL LANES OF E.WALNUT DRIVE NO. EAST OF NOGALES FOR 2600 LINEAR FEET AND WIDENING FROM 2 TRAVEL LANES TO 4 TRAVEL LANES OF GALE AVE. WEST OF NOGALES FOR 1900 LINEAR FEET.	$1,599,708
LOS ANGELES	LOCAL HIGHWAY	LA9910013	LA9910013	0	VIA PRINCESSA (1 OF 3) EXTENSION FROM GOLDEN VALLEY ROAD TO APPROXIMATELY 350M WEST OF RAINBOW GLEN DRIVE, EAST OF ISABELLA PKWY	$46,075
LOS ANGELES	LOCAL HIGHWAY	LA9910014	LA9910014	0	VIA PRINCESSA (2 OF 3) FROM OAKRIDGE DRIVE TO MAGIC MTN PRKWAY. FROM 0 - 6 LANES; LESS THAN ONE MILE.	$11,650
LOS ANGELES	LOCAL HIGHWAY	LA9910016	LA9910016	0	SANTA CLARITA PKWY (2 OF 3) FROM SOLEDAD CYN RD TO VIA PRINCESSA (1.6 MILES); FROM 0 TO 6 LANES.	$2,500

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	LOCAL HIGHWAY	LA9910017	LA9910017	0	SANTA CLARITA PKWY (3 OF 3) FROM VIA PRINCESSA TO STATE HWY 14 (1 MILE) FROM 0 TO 6 LANES.	$2,750
LOS ANGELES	LOCAL HIGHWAY	LA996347	LA996347	0	BRIDGE NO. 53C1972, FIRESTONE BLVD, OVER LOS ANGELES RIVER, 152 M W/O LONG BEACH FREEWAY. REHABILITATE 5-LANE BRIDGE & WIDEN TO 6-LANE BRIDGE, ADD SHOULDERS, AND UPGRADE BRIDGE RAILINGS. FED PROJ: HP21L-5257(016)AND HP21L-5257(036)	$21,168
LOS ANGELES	LOCAL HIGHWAY	LAE0427	1OM0702	0	IMPLEMENT STREETSCAPE PROJECT ON CENTRAL AVE. FROM 103RD STREET TO IMPERIAL HIGHWAY NEAR THE WATTS/103RD STREET STATION, WATTS. CALIFORNIA'S EARMARK REPURPOSING EFFORT 2016-DEMO ID: CA353, $2,559,681.00	$4,000
LOS ANGELES	LOCAL HIGHWAY	LAE0701	LAE0701	0	DEVELOP AND IMPLEMENT TRAFFIC CALMING MEASURES FOR TRAFFIC EXITING THE I-710 INTO LONG BEACH	$1,920
LOS ANGELES	LOCAL HIGHWAY	LAE0732	LAE0732	0	RIVERSIDE DRIVE NON-CAPACITY IMPROVEMENTS BETWEEN VAN NUYS BLVD AND TILDEN AVE.	$400
LOS ANGELES	LOCAL HIGHWAY	LAE0881	1OM0702	0	PEDESTRIAN CONTROL IMPROVEMENTS ON NORTH ATLANTIC BL. TO INCLUDE WIRELESS INTERCONNECT, VIDEO DETECTION, SIGNAL TIMING SYNCHRONIZATION, AND EQUIPMENT UPGRADES. ALL SIGNALS ON ATLANTIC BL. FROM HELLMAN TO NEWMARK AVE. WOULD BE UPGRADED. CALIFORNIA'S EARMARK REPURPOSING EFFORT 2016-DEMO ID: CA399, $418,993.00	$419
LOS ANGELES	LOCAL HIGHWAY	LAE0896	LAE0896	0	THIS PROJECT WILL INVOLVE INSTALLATION OF FIBER OPTIC COMMUNICATIONS FOR THE TRAFFIC SIGNALS ALONG COLIMA ROAD FROM AZUSA AVE TO STONER CREEKROAD AND ALONG FULLERTON ROAD FROM COLIMA ROAD TO GALE AVENUE. CAMERAS AND CONNECTING CABLES WILL BE INSTALLED AT THE INTERSECTION OF COLIMA ROAD AND STONER CREEK ROAD. A RIGHT TURN LANE WILL ALSO BE ADDED TO THE INTERSECTION OF COLIMA ROAD AND FULLERTON ROAD	$1,510
LOS ANGELES	LOCAL HIGHWAY	LAE1228	LAE1228	0	REPAIR ROSECRANS AND ALONDRA BRIDGES PER THE COUNTY OF LOS ANGELES TRIENNIAL INSPECTION REPORT. UTILIZING TOLL CREDITS FOR $40 IN CONSTRUCTION IN FY18/19.	$40
LOS ANGELES	LOCAL HIGHWAY	LAE1440	LAE1440	0	RECONFIGURE SAN FERNANDO RD. FROM FLETCHER DR. TO I-5 FWY.INSTALL LEFT-TURN CHANNELIZATION, IMPROVE PEDESTRIAN AMENITIES, INSTALL WIDER SIDEWALKS, MEDIAN ISLANDS AND LANDSCAPING WHERE FEASIBLE BETWEEN CAZADOR STREET TO JUST SOUTH OF ALICE STREET.	$6,450
LOS ANGELES	LOCAL HIGHWAY	LAE1696	LAE1696	0	RECONSTRUCTION OF THE STRAND STAIRWAYS IN THE CITY OF MANHATTAN BEACH TO IMPROVE BEACH ACCESS AND ACCOMMODATE INCREASED PEDESTRIAN TRAFFIC.. TOLL CREDITS - LOCAL AND STATE HWY WILL BE USED.	$2,241
LOS ANGELES	LOCAL HIGHWAY	LAE1933	LAE1933	0	ENHANCE BYZANTINE LATINO QUARTER TRANSIT PLAZAS AT NORMANDIE AND PICO, AND HOOVER AND PICO, LOS ANGELES BY IMPROVING STREETSCAPES, INCLUDING EXPANDING CONCRETE AND PAVING	$450
LOS ANGELES	LOCAL HIGHWAY	LAE1934A	LAE1934A	0	CENTURY BLVD PEDESTRIAN SAFETY AND TRANSPORTATION IMPROVEMENTS.ELEMENTS WILL INCLUDE THE ADDITION OF EXCLUSIVE RIGHT AND LEFT TURN LANES, RAISED MEDIANS, TRAFFIC SIGNAL AND STREET LIGHT UPGRADES, CROSSWALK AND SIDEWALK IMPROVEMENTS, PARKWAY LANDSCAPING AND PAVEMENT REHABILITATION.	$4,428
LOS ANGELES	LOCAL HIGHWAY	LAE2194	LAE2194	0	GREENLEAF ROW COMMUNITY ENHANCEMENT PROJECT DESIGN AND CONSTRUCTION OF BIKEWAY PED WALK WAY AND UPGRADE SIGNALIZATION	$3,840
LOS ANGELES	LOCAL HIGHWAY	LAE2279	LAE2279	0	STREETSCAPE IMPROVMENTS ALONG CENTRAL AVE FROM WASHINGTON BLVD TO VERNON AVE INCLUDING PED LIGHTING, NEW BUS STOPS AND STREET FURNITURE, SIDEWALK WIDENING, CROSSWALK ENHANCEMENTS, TREES ETC.	$4,000
LOS ANGELES	LOCAL HIGHWAY	LAE2389	LAE2389	0	LAS TUNAS DRIVE STREETSCAPE/PEDESTRIAN ENHANCEMENTS. LAS TUNAS DRIVE FROM BRIDGE STREET TO SYCAMORE DRIVE. CONSTRUCT LANDSCAPED MEDIANS, STREET FURNITURE, ENHANCED CROSSWALKS, AND RECONSTRUCT ADA CURB RAMPS. CALIFORNIA'S EARMARK REPURPOSING EFFORT 2016-DEMO ID: CA565, $107,987	$1,172
LOS ANGELES	LOCAL HIGHWAY	LAE2538	LAE2538	0	KOREATOWN PAVILION GARDEN-TO ENHANCE THE NORTHEAST CORNER OF NORMANDIE AND OLYMPIC BL. ENHANCE AN EXISTING POCKET PARK AT THE INTERSECTION OLYMPIC AND NORMANDIE/IROLO WITH DECORATIVE CONCRETE PAVING AND IMPROVE STREETSCAPE BY ADDING PEDESTRIAN IMPROVEMENTS SUCH AS STREET FURNITURE, LIGHTING, LANDSCAPING, AND COMMUNITY IDENTIFIERS.	$250

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	LOCAL HIGHWAY	LAE2906	1AL04	0	INGLEWOOD AVENUE WIDENING: PHASE I: CREATE A NEW NB 3RD LANE FROM ABOUT 140' SOUTH OF RAIL TRACKS & EXTENDING NORTH TO 156TH STREET VIA STRIPING WITH AN ESTIMATED STRIPING LENGTH OF 485 LF; NO PHYSICAL WIDENING PROPOSED. PHASE II: CONSTRUCT A NEW WB RIGHT-TURN ONLY AT THE NW CORNER OF INGLEWOOD & MARINE WITH AN ESTIMATED TOTAL LENGTH OF 319 LF. UPGRADE A TOTAL OF 3 TRAFFIC SIGNALS.	$2,924
LOS ANGELES	LOCAL HIGHWAY	LAE3201	LAE3201	0	CONSTRUCTION OF A TRAFFIC SIGNAL AT THE INTERSECTION OF OSO AVE. AND VANOWEN ST.	$125
LOS ANGELES	LOCAL HIGHWAY	LAF1100	1OM0702	0	SAN GABRIEL BLVD. INTERSECTION IMPROVEMENTS AT BROADWAY AND AT LAS TUNAS. MODIFY & UPGRADE TRAFFIC SIGNALS FOR IMPROVED EFFICIENCY AND INSTALL ADA COMPLIANT RAMPS AS NEEDED. PROJECT WILL USE TOLL CREDITS. *OCT 2017 UPDATE: CITY PLANS TO REPURPOSE FUNDS TO LAS TUNAS PEDESTRIAN ENHANCEMENT PROJECT LAE2389*	$130
LOS ANGELES	LOCAL HIGHWAY	LAF1104	1AL04	0	RANCHO VISTA BLVD (RVB) GRADE SEPARATION AT SIERRA HWY/UPRR/METROLINK RR CROSSING AND APPLICABLE CONNECTOR RAMPS/ROADS AND AUXILIARY ROADS AND IMPROVEMENTS: PHASE 1-CONSTRUCT NEW 2 LANE ROAD - 4TH STREET EAST FROM 3RD STREET EAST TO TECHNOLOGY DRIVE. WIDENING TECHNOLOGY DRIVE (P-8) FROM DIVISION STREET TO SIERRA HWY (4-6 LANES). ALSO SIGNALIZED INTERSECTIONS, RIGHT/LEFT TURN POCKETS, BIKE AND PEDESTRIAN LANES (APROX 1.5 MI), PAVEMENT TRANSITIONS, TRAFFIC STRIPING, AND DRAINAGE IMPROVEMENTS.	$5,665
LOS ANGELES	LOCAL HIGHWAY	LAF1104B	1AL04	0	PHASE 2-CONSTRUCT A RAILROAD GRADE SEPARATION OF RANCHO VISTA BOULEVARD AT BOTH SIERRA HIGHWAY AND THE DOUBLE-TRACK AT-GRADE CROSSING OF THE SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY (SCRRA) METRO-LINK AND UNION PACIFIC RAILROAD (UPRR) TRACKS. THE PROJECT EXTENDS EASTERLY ON RANCHO VISTA BOULEVARD FROM FAIRWAY DRIVE TO 10TH STREET EAST AND SOUTHERLY ON SIERRA HIGHWAY FROM APPROXIMATELY 400 FEET NORTH OF EAST AVENUE O-8 TO AVENUE P-8	$78,000
LOS ANGELES	LOCAL HIGHWAY	LAF1141	1AL04	0	VICTORY BL WIDENING FROM OWENSMOUTH AVE TO DE SOTO AV. WIDEN THE SOUTH SIDE OF VICTORY BL FROM OWENSMOUTH AVE TO DE SOTO AV TO PROVIDE AN ADDITIONAL EB TRAVEL LANE	$11,655
LOS ANGELES	LOCAL HIGHWAY	LAF1300	1ITS04	0	NORTH COUNTY TRAFFIC FORUM ITS EXPANSION. MULTIJURISDICTIONAL PROJECT WILL UPGRADE CENTRAL TOC SOFTWARE AND SIGNAL CONTROLLERS; CONNECT TO LA COUNTY IEN; AND ADD TRAFFIC SIGNALS/CORRIDORS TO EXISTING INTERCONNECT SYSTEM. (5 SIGNALS)	$15,603
LOS ANGELES	LOCAL HIGHWAY	LAF1311	1ITS04	0	SOUTH BAY FORUM TRAFFIC SIGNAL CORRIDORS PROJECT. DESIGN & CONSTRUCTION OF MULTIJURISDICTIONAL TRAFFIC SIGNAL SYNCHRONIZATION, INTERSECTION OPERATIONAL IMPROVEMENTS, AND INTELLIGENT TRANSP. SYSTEM COMPONENTS ON REGIONAL ARTERIALS. SYNCHRONIZES 50 CONSECUTIVE INTERSECTIONS.	$8,731
LOS ANGELES	LOCAL HIGHWAY	LAF1312	1ITS04	0	GATEWAY CITIES FORUM TRAFFIC SIGNAL CORRIDORS, PHASE V. DESIGN AND CONSTRUCTION OF MULTIJURISDICTIONAL TRAFFIC SIGNAL SYNCHRONIZATION AND INTERSECTION OPERATIONAL IMPROVEMENTS ON REGIONAL ARTERIALS IN THE GATEWAY CITIES REGION. INCLUDES 86 CONSECUTIVE INTERSECTIONS.	$16,893
LOS ANGELES	LOCAL HIGHWAY	LAF1321	1ITS04	0	SAN GABRIEL VALLEY FORUM TRAFFIC SIGNAL CORRIDORS PROJECT. DESIGN & CONSTRUCTION OF MULTIJURISDICTIONAL TRAFFIC SIGNAL SYNCHRONIZATION, INTERSECTION OPERATIONAL IMPROVEMENTS, AND INTELLIGENT TRANSPORTATION SYSTEM COMPONENTS. SYNCHRONIZES 83 CONSECUTIVE INTERSECTIONS.	$18,786
LOS ANGELES	LOCAL HIGHWAY	LAF1338	1AL04	0	HIGHWAY-RAIL GRADE CROSSING IMPROVEMENT SYSTEM. PROVIDE UPGRADES TO TRAFFIC SIGNAL EQUIPMENT AT HIGHWAY-RAIL GRADE CROSSINGS IN LA TO IMPROVE SAFETY.	$6,338
LOS ANGELES	LOCAL HIGHWAY	LAF1502	1NL04	0	SAN FERNANDO BIKEWAY. IMPLEMENT A CLASS I BIKEWAY ALONG SAN FERNANDO BLVD, VICTORY PLACE AND BURBANK WESTERN CHANNEL TO COMPLETE THE BURBANK LEG OF A 12 MILE BIKEWAY.	$8,239
LOS ANGELES	LOCAL HIGHWAY	LAF1505	1O1007	0	SAN FERNANDO PACOIMA WASH BIKE PATH. THE SAN FERNANDO PACOIMA WASH BIKE PATH WILL BE A 1.6-MILE LONG CLASS I FACILITY ALONG THE PACOIMA WASH IN SAN FERNANDO. IT INCLUDES 3 BRIDGES, 5 OVERPASSES AND 8 ACCESS POINTS.	$3,543

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	LOCAL HIGHWAY	LAF1506	7120004	0	BIKE COMPATIBLE RDWY SAFETY AND LINKAGE ON PALOS VERDES DR. THE PROJECT WILL HAVE A CLASS II BIKE LANE ON BOTH SIDES OF PALOS VERDES DRIVE SOUTH, WITH AN UNPAVED SHOULDER FOR EMERGENCY USE. (DISTANCE 0.8 MILES)	$788
LOS ANGELES	LOCAL HIGHWAY	LAF1511	1NL04	0	EASTSIDE LIGHT RAIL BIKE INTERFACE PROJECT. PROJECT INCLUDES DESIGN AND CONSTRUCTION OF BIKE ROUTES WITH APPROPRIATE SIGNAGE AND STRIPING TO ACCESS METRO GOLD LINE STATIONS (CLASS II: 4.5 MILES, CLASS III & BIKE BLVD: 2.8 MILES).	$1,691
LOS ANGELES	LOCAL HIGHWAY	LAF1520	1NL04	0	IMPERIAL HIGHWAY BIKE LANES. THIS PROJECT INVOLVES THE MODIFICATION OF THE MEDIAN ISLAND AND THE WIDENING OF IMPERIAL HIGHWAY ALONG 1000 FT EAST OF PERSHING DRIVE TO ACCOMMODATE BIKE LANES. BIKE LANE LENGTH OF 0.25.	$2,322
LOS ANGELES	LOCAL HIGHWAY	LAF1524	1NL04	0	SAN FERNANDO RD. BIKE PATH PH. IIIA - CONSTRUCTION. RECOMMEND PHASE IIIA-CONSTRUCTION OF A CLASS I BIKE PATH WITHIN METRO OWNED RAIL RIGHT-OF-WAY ALONG SAN FERNANDO RD. BETWEEN BRANFORD ST. AND TUXFORD ST INCL BRIDGE. 2 MILE BIKEPATH.	$12,714
LOS ANGELES	LOCAL HIGHWAY	LAF1528	1NL04	0	SAN GABRIEL RIVER BIKE PATH GAP CLOSURE AT WILLOW STREET. CREATION OF OFF-STREET BICYCLE PATH TO ACHIEVE BICYCLE ROUTE GAP CLOSURE ON WILLOW STREET FROM THE SAN GABRIEL RIVER BIKE PATH WEST TO STUDEBAKER ROAD. BIKE PATH DISTANCE .5 MILES.	$978
LOS ANGELES	LOCAL HIGHWAY	LAF1535	1NL04	0	BICYCLE WAYFINDING SIGNAGE PROGRAM. WAYFINDING SIGNS TO DIRECT BICYCLISTS, AND EDUCATE MOTORISTS, TO THE LOCATIONS OF DEDICATED BIKE PATHS, LANES AND ROUTES, DESTINATIONS, AND TRANSIT HUBS THROUGHOUT LOS ANGELES.	$504
LOS ANGELES	LOCAL HIGHWAY	LAF1609	1O1008	0	MAIN STREET BUS STOP AND PEDESTRIAN IMPROVEMENTS INCLUDING SIDEWALK AND TRANSIT STOP IMPROVEMENTS. DESIGN AND CONSTRUCT BUS STOP AND PEDESTRIAN IMPROVEMENTS THAT WILL INCREASE THE USAGE AND CAPACITY OF PEDESTRIAN FACILITIES ALONG A 0.4 MILE STRETCH OF MAIN STREET; SIDEWALK ENHANCEMENTS, CURB EXTENSION, ACCESS RAMPS, STREET FURNITURE ALONG MAIN BETWEEN 2ND AND 4TH (0.25 MILES)	$1,856
LOS ANGELES	LOCAL HIGHWAY	LAF1611	1NL04	0	CESAR CHAVEZ TRANSIT CORRIDOR (110 FWY TO ALAMEDA). INSTALLATION OF PEDESTRIAN/TRANSIT RIDER AMENITIES INC. BUS STOP GARDENS AT THREE INTERSECTIONS, NEW PEDESTRIAN LIGHTING, STREET TREES IN A LANDSCAPED PARKWAY & WAYFINDING SIGNAGE.	$2,350
LOS ANGELES	LOCAL HIGHWAY	LAF1612	1NL04	0	CENTURY CITY URBAN DESIGN AND PEDESTRIAN CONNECTION PLAN. PROJECT WILL IMPLEMENT SIDEWALK IMPROVEMENTS, DECORATIVE CROSSWALKS, MEDIAN ISLAND, CURB RAMPS, PEDESTRIAN LIGHTING, SHELTERS, BENCHES, TRASH RECEPTACLES & STREET TREES. THE PHYSICAL IMPROVEMENTS WILL CONSIST OF A MEANDERING PEDESTRIAN WALKWAY, SOLAR-POWERED PEDESTRIAN SCALE LIGHTING, STREET LIGHTING, TRASH RECEPTACLES, BUS BENCHES, (10)BICYCLE RACKS.	$3,342
LOS ANGELES	LOCAL HIGHWAY	LAF1615	1NL04	0	EASTSIDE LIGHT RAIL PEDESTRIAN LINKAGE. IMPROVE PEDESTRIAN LINKAGES TO METRO'S GOLD LINE LRT ON 1ST ST BETWEEN SOTO ST TO RIVERA ST AND FRESNO ST TO CONCORD ST. PEDESTRIAN LINKAGE ELEMENTS TO INCLUDE SIDEWALK IMPROVEMENTS, STREET TREES, CROSSWALK ENHANCEMENTS, PEDESTRIAN LIGHTING, AND STREETSCAPE AMENITIES. THE PROJECT'S PURPOSE IS TO PROMOTE AND FACILITATE PEDESTRIAN ACTIVITY AND INCREASE PEDESTRIAN SAFETY LEADING TO METRO'S GOLD LINE EASTSIDE EXTENSION STATIONS.	$2,990
LOS ANGELES	LOCAL HIGHWAY	LAF1617	1NL04	0	HOLLYWOOD PEDESTRIAN/TRANSIT CROSSROADS PHASE II. DESIGN AND INSTALL PEDESTRIAN AND TRANSIT USER ENHANCEMENTS, EXTENDING THE ORIGINAL HOLLYWOOD PEDESTRIAN/TRANSIT IMPROVEMENT PROJECT TO INCLUDE HIGHLAND AVENUE AND VINE STREET.DISTANCE 0.56 MILES.	$860
LOS ANGELES	LOCAL HIGHWAY	LAF1634	1NL04	0	EL PUEBLO PEDESTRIAN IMPROVEMENTS PHASE I, II, III, & IV. DESIGN AND CONSTRUCTION OF ENHANCED FACILITIES TO IMPROVE & ASSIST PEDESTRIAN MOVEMENT IN THE EL PUEBLO DISTRICT & OTHER LANDMARKS IN DOWNTOWN LA. WAYFINDING ELEMENT IN TDM F1718.	$12,763
LOS ANGELES	LOCAL HIGHWAY	LAF1649	1NL04	0	WILLOW STREET PEDESTRIAN IMPROVEMENT PROJECT. THIS PROJECT PROVIDES PEDESTRIAN-ORIENTED IMPROVEMENTS TO WILLOW ST INCLUDING MEDIANS, PEDESTRIAN LIGHTING, LANDSCAPING, SIGNAGE, BUS SHELTER REPLACEMENTS, AND CROSSWALK TREATMENTS.	$3,097
LOS ANGELES	LOCAL HIGHWAY	LAF1708	1TL104	0	HOLLYWOOD INTEGRATED MODAL INFORMATION SYSTEM. INSTALLATION OF ELECTRONIC, DIRECTION AND PARKING AVAILABILITY SIGNS WITH INTERNET CONNECTIVITY TO PROVIDE ADVANCE AND REAL-TIME INFORMATION INTENDED TO INCREASE TRANSIT RIDERSHIP	$2,708
LOS ANGELES	LOCAL HIGHWAY	LAF1718	1NL04	0	EL PUEBLO PEDESTRIAN IMPROVEMENTS PHASE I, II, III & IV. WAYFINDING ELEMENT OF ENHANCED PEDESTRIAN FACILITIES TO IMPROVE AND ASSIST PEDESTRIAN MOVEMENT IN THE EL PUEBLO DISTRICT & OTHER LANDMARKS IN DOWNTOWN LA. ALSO IN PED MODE (F1634)	$1,756

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	LOCAL HIGHWAY	LAF1844	1NL04	0	ANGELS WALK CRENSHAW. TO PROMOTE PEDESTRIAN ACTIVITY WITHIN THE PROJECT LIMITS WITH A GUIDEBOOK AND 15 ON-STREET INFORMATION MARKERS (HISTORIC STANCHIONS) AT STRATEGIC LOCATIONS.	$764
LOS ANGELES	LOCAL HIGHWAY	LAF1845	1NL04	0	ANGELS WALK HIGHLAND PARK. TO PROMOTE PEDESTRIAN ACTIVITY WITHIN THE PROJECT LIMITS WITH A GUIDEBOOK AND 15 ON-STREET INFORMATION MARKERS AT STRATEGIC LOCATIONS.	$784
LOS ANGELES	LOCAL HIGHWAY	LAF3124	LAF3124	0	FIRESTONE BOULEVARD CAPACITY IMPROVEMENTS. INCREASE THE NUMBER OF LANES FROM 4 TO 6 ON FIRESTONE BLVD FROM CALIFORNIA AVENUE TO ALAMEDA STREET WITHIN THE ROW, RAISED LS MEDIANS, SIDEWALKS, BUS SHELTERS & PULLOUTS, C&G, STREET LIGHTING, & UTILITY RELOCATION.	$13,529
LOS ANGELES	LOCAL HIGHWAY	LAF3125	1AL04	0	RAMONA CORRIDOR TRANSIT CENTER ACCESS PROJECT. CONSTRUCT A NEW UNDERPASS STRUCTURE ON RAMONA BLVD UNDER SANTA ANITA AVE TO ACCESS THE LOWER LEVEL OF THE EL MONTE TRANSIT CENTER. THE PROPOSED BUS TUNNEL RAMPS WILL BEGIN EAST OF THE SANTA ANITA AVENUE AND RAMONA BOULEVARD INTERSECTION ON RAMONA BOULEVARD AND THE TUNNEL WILL CONTINUE UNDER SANTA ANITA AVENUE (ALONG ROMONA BOULEVARD) TO THE LOWER LEVEL OF THE EL MONTE TRANSIT CENTER AND INCLUDES 1 BUS ONLY LANE IN EACH DIRECTION.	$15,830
LOS ANGELES	LOCAL HIGHWAY	LAF3136	1A1005	0	WIDEN THE OLD ROAD FROM NORTH OF MAGIC MOUNTAIN PKWY TO HENRY MAYO DR TO 1200 FT WEST OF THE OLD ROAD. PROJECT IS LOCATED ON THE OLD RD.FROM APPROXIMATELY 700 FT NORTH OF MAGIC MOUNTAIN PARKWAY TO HENRY MAYO DR FROM THE OLD ROAD TO THE SR126 HOOK RAMPS, AND RYE CANYON RD BTWN THE OLD RADD AND AVENUE STANFORD. WIDENING FROM 4 TO 6 LANES TO REDUCE BOTTLENECK. TOLL CREDITS WILL BE USED TO MATCH STPL FUNDS FOR $4,613 IN CONSTRUCTION PHASE IN FY20/21.	$61,798
LOS ANGELES	LOCAL HIGHWAY	LAF3144	1AL04	0	FOOTHILL BLVD AND SIERRA HWY INTERSECTION IMPROVEMENTS. WIDEN FOOTHILL BL TO PROVIDE AN ADDITIONAL N/B THROUGH LANE, RESTRIPE SIERRA HWY TO PROVIDE ADDITIONAL W/B RIGHT TURN LANE, & SIGNALIZE THE INTERSECTION. NEW LANE LENGTH IS APPROXIMATELY 280FEET.	$1,860
LOS ANGELES	LOCAL HIGHWAY	LAF3146	1AL04	0	HIGHLAND AVENUE WIDENING-ODIN STREET TO FRANKLIN AVENUE. WIDEN THE EXISTING ROADWAY FROM 75 FT TO 87 FT TO ADD ADDITIONAL ONE RIGHT TURNING TRAFFIC LANE ALONG HIGHLAND AVE & UPGRADE THE HIGHWAY TO MAJOR HIGHWAY STANDARDS.	$5,804
LOS ANGELES	LOCAL HIGHWAY	LAF3171	1AL04	0	DE SOTO AVE WIDENING: RONALD REAGAN FWY TO DEVONSHIRE ST.. MINOR WIDENING OF DE SOTO AVE FR SR-118 TO DEVONSHIRE ST TO PROVIDE UNIFORM RODWAY WIDTH IN EACH DIRECTION AS WELL AS INSTALLING 10' SIDEWALK, CURB AND GUTTER. SIDEWALK IS 1.1 MILES, 90% OF THE SIDEWALKS ALONG THE PROJECT LIMITS WILL BE NEW.	$11,536
LOS ANGELES	LOCAL HIGHWAY	LAF3175	1AL04	0	CULVER BOULEVARD REALIGNMENT PROJECT. CULVER BL. WIDENING W/ FRONTAGE ROAD NARROWING, SEPARATED BY REBUILT BIKE/PED MEDIAN, W/ RAISED MEDIAN, TURN LANES, TRAFFIC SIGNAL, COUNTDOWN PED HEADS AND OTHER IMPROVEMENTS. THE PROJECT LIMITS ARE SEPULVEDA BL. TO THE WEST AND ELENDA STREET TO THE EAST, LOCATED ENTIRELY WITHIN THE CITY OF CULVER CITY. ALL OF THE REALIGNMENT WILL BE WITHIN THE EXISTING PUBLIC RIGHT-OF-WAY. SAFTEA-LU 3069 PG 119 STAT. 1375. EARMARK REPURPOSING 2016-DEMO ID:CA636,$1,972,580	$6,746
LOS ANGELES	LOCAL HIGHWAY	LAF3301	1ITS04	0	METRO GOLD LINE AT-GRADE CROSSING MOBILITY ENHANCEMENTS. DEPLOYMENT OF ITS AT SIGNALIZED INTERSECTIONS ADJACENT TO METRO GOLD LINE AT-GRADE CROSSINGS TO PROVIDE ADAPTIVE TRAFFIC SIGNAL CONTROL TO IMPROVE MOBILITY & ENHANCE SAFETY. PROJECT INCLUDES 14 INTERSECTIONS.	$1,695
LOS ANGELES	LOCAL HIGHWAY	LAF3304	1ITS04	0	WOODRUFF AV FIBER-OPTIC TRAFFIC SIGNAL COMMUNICATIONS PROJ. INSTALL FIBER-OPTIC COMMUNICATION & VIDEO DETECTION SYSTEM ON WOODRUFF AV & INTERCONNECT IT TO EXISTING FIBER BACKBONE TO DEVELOP AN ETHERNET-BASED COMMUNICATION NETWORK.	$923
LOS ANGELES	LOCAL HIGHWAY	LAF3307	1ITS04	0	INTERSECTION IMPROVEMENTS ON BONITA AVE. AT CATARACT AVE. INSTALLATION OF NEW TRAFFIC SIGNAL, LIGHTING ON BONITA AVE AT CATARACT AVE AND THE SYNCHRONIZATION OF EXISTING SIGNALS ALONG BONITA AVE BETWEEN EUCLA AVE AND EASTERLY CITY LIMIT. NEW TRAFFIC SIGNAL ON BONITA AVENUE AT CATARACT AVENUE, AND SYNCHRONIZATION OF THE EXISTING SIGNALS ON BONITA AVENUE AT EUCLA AVENUE, SAN DIMAS AVENUE, IGLESIA STREET, WALNUT AVENUE, SAN DIMAS CANYON ROAD WITH THE NEW SIGNAL (5 CONSECUTIVE SIGNALS).	$1,674
LOS ANGELES	LOCAL HIGHWAY	LAF3308	1ITS04	0	SAN GABRIEL VALLEY FORUM TRAFFIC SIGNAL CORRIDORS PROJECT. DESIGN AND CONSTRUCTION OF MULTIJURISDICTIONAL TRAFFIC SIGNAL SYNCH, INTERSECTION OPERATIONAL IMPROVEMENTS, AND INTELLIGENT TRANSPORTATION SYSTEM COMPONENTS ON REGIONAL ARTERIALS. APROX. 183 SIGNALS TOTAL.	$24,812

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	LOCAL HIGHWAY	LAF3309	1ITS04	0	GATEWAY CITIES FORUM TRAFFIC SIGNAL CORRIDORS PROJ, PHASE VI. DESIGN AND CONSTRUCT MULTIJURISDICTIONAL TRAFFIC SIGNAL SYNCHRONIZATION, INTERSECTION OPERATIONAL IMPROVEMENTS & ITS COMPONENTS ON REGIONAL ARTERIALS IN GATEWAY CITES AREA. (APROX. 126 SIGNALS)	$14,786
LOS ANGELES	LOCAL HIGHWAY	LAF3310	1ITS04	0	SOUTH BAY FORUM TRAFFIC SIGNAL CORRIDORS PROJECT. DESIGN AND CONSTRUCTION OF MULTIJURISDICTIONAL TRAFFIC SIGNAL SYNCHRONIZATION, OPERATIONAL IMPROVEMENTS & ITS COMPONENTS ON ARTERIALS IN THE SOUTH BAY AREA OF LA COUNTY. (APROX 40+ SIGNALS)	$12,980
LOS ANGELES	LOCAL HIGHWAY	LAF3311	1ITS04	0	INFORMATION EXCHANGE NETWORK (IEN) TRAFFIC MANAGEMENT SYSTEM PHASE III. INCLUDING 1) SOFTWARE THAT WILL AUTOMATICALLY GENERATE IEN INTERSECTION, 2) ON-LINE WEB TUTORIAL 3) IEN COMMAND/DATA INTERFACE INSTALLATION AND SUPPORT 4) ENHANCEMENT TO THE IEN WHICH WILL ENABLE A USER TO KNOW WHEN A TRAFFIC SIGNAL IS GIVING A PRIORITY TO TRANSIT VEHICLES 5) EXISTING TRAFFIC SIGNAL CONTROLLER AND FIRMWARE UPGRADES SO THEY CAN COMMUNICATE WITH THE IEN. (PREVIOUSLY 1ITS04)	$3,486
LOS ANGELES	LOCAL HIGHWAY	LAF3502	1NL04	0	REDONDO BEACH BICYCLE TRANSPORTATION PLAN IMPLEMENTATION. IMPLEMENT CLASS II AND III BIKE FACILITIES IDENTIFIED IN THE CITY OF REDONDO BEACH'S ADOPTED BICYCLE TRANSPORTATION PLAN. APPROXIMATELY 2.1 CENTERLINE MILES OF BIKE LANES AND 15.8 CENTERLINE MILES OF BIKE ROUTES THROUGHOUT THE CITY OF REDONDO BEACH.	$1,949
LOS ANGELES	LOCAL HIGHWAY	LAF3503	1NL04	0	THE SOUTH WATERFRONT BIKE PATH GAP CLOSURE IS THE CONSTRUCTION OF A NEW 1,400-FOOT CLASS II BIKE PATH SEGMENT THAT CLOSES AN EXISTING GAP IN THE AREA AND WILL INCLUDE A MID-BLOCK CROSSING, CURB BULB OUTS, SOLAR FLASHING BEACON, AND WAYFINDING SIGNAGE FROM THE AREA NEAR SPECIAL EVENTS PARK TO THE VICINITY OF THE HOTEL MAYA EMPLOYMENT CENTER.	$907
LOS ANGELES	LOCAL HIGHWAY	LAF3505	1NL04	0	BIKE NETWORK LINKAGES TO EXPOSITION LIGHT RAIL PROJECT. BIKE NETWORK ENHANCEMENTS TO SUPPORT EXPOSITION LINE. INCREASED SAFETY AND CONVENIENCE WITH SIGNAL DETECTION, HIGHLY VISIBLE LANE MARKINGS AND NEW BIKE RACKS. THE PROJECT AREA IS LOCATED THROUGHOUT THE CITY OF SANTA MONICA AND NO MORE THAN TWO MILES FROM THE PROPOSED EXPOSITION LIGHT RAIL LINE STATIONS.	$3,429
LOS ANGELES	LOCAL HIGHWAY	LAF3509	7120004	0	BURBANK CHANNEL BIKEWAY REGIONAL GAP CLOSURE - DESIGN AND CONSTRUCT A CLASS 1 BICYCLE AND PEDESTRIAN PATH ALONG THE BURBANK WESTERN FLOOD CONTROL CHANNEL. THE PROJECT INCLUDES BIKEWAY TREATMENTS AT THREE CONTROLLED LOCAL STREET CROSSINGS (1) FLOWER ST/ OLIVE AVE, 2) VERDUGO/BIKE PATH, 3) PROVIDENCIA/ LAKE ST.), AND A GRADE SEPARATED CROSSING AT ALAMEDA AV. THE PROJECT LIMITS ON THE BURBANK WESTERN FLOOD CONTROL CHANNEL ARE FROM OLIVE AVE/FLOWER ST TO ALAMEDA AVE FOR APPROXIMATELY 0.79 MILES.	$4,384
LOS ANGELES	LOCAL HIGHWAY	LAF3514	1NL04	0	DESIGN AND CONSTRUCT 0.28 MILES CLASS I BIKE FACILITY NORTH OF I-10 FROM MOTOR AVE. TO 500 FEET EAST OF DUNLEER DR. (CONTINUOUS BIKEWAY FROM EXPOSITION PARK TO SANTA MONICA BEACH).	$5,521
LOS ANGELES	LOCAL HIGHWAY	LAF3515	1NL04	0	SAN FERNANDO RD. BIKE PATH PH. IIIB CONSTRUCTION. CONSTRUCT 2.75 MILE CLASS I BIKE PATH WITHIN METRO RIGHT-OF-WAY ALONG SAN FERNANDO RD. BETWEEN TUXFORD ST. AND COHASSET ST. TO COMPLETE 12-MILE BIKEWAY.. THE PROJECT IS LOCATED WITHIN THE CITY OF LOS ANGELES, IN THE COMMUNITY OF SUN VALLEY. THE PROJECT CONSISTS OF A CLASS I FACILITY 12 FEET IN WIDTH AND 2.75 MILES IN LENGTH BETWEEN TUXFORD ST. AND COHASSET ST. (BURBANK CITY LIMIT).	$12,716
LOS ANGELES	LOCAL HIGHWAY	LAF3516	1AL04	0	LOS ANGELES RIVER BIKE PATH PHASE IV - CONSTRUCTION. CONSTRUCT CLASS I BIKEWAY ON THE SOUTH BANK OF THE LOS ANGELES RIVER FLOOD CONTROL CHANNEL FROM RIVERSIDE DRIVE TO FOREST LAWN DRIVE ON/OFF RAMPS, A DISTANCE OF UNDER ONE MILE.	$2,284
LOS ANGELES	LOCAL HIGHWAY	LAF3518	1NL04	0	THE DAISY CORRIDOR BICYCLE BOULEVARD WILL CONSTRUCT ONE(1)BICYCLE BOULEVARD ALONG ONE CORRIDOR KNOWN AS THE DAISY CORRIDOR IN LONG BEACH. THE PROPOSED BIKE BOULEVARD ALONG THE DAISY CORRIDOR IS A NORTH-SOUTH ROUTE BETWEEN BROADWAY AND 70TH ST. THE PROJECT CONSISTS OF TRAFFIC CALMING ELEMENTS, ONE PED ACTIVED AND A FULL TRAFFIC SIGNAL, AND THREE (3) SHORT SEGMENTS OF BIKE LANE(CLASS II).	$5,796
LOS ANGELES	LOCAL HIGHWAY	LAF3519	1NL04	0	NORTH COUNTY BIKEWAYS. INSTALL THREE CLASS II AND THREE CLASS III BIKEWAY SEGMENTS, INCLUDING SIGNAGE, STRIPING, ROAD WIDENING, & ROAD SHOULDER IMPROVEMENTS. (APROX. 3.88 MILES OF BIKE LANES AND 3.18 MILES OF BIKE ROUTES.)	$2,645

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	LOCAL HIGHWAY	LAF3521	1AL04	0	WILLOWBROOK AREA BIKEWAY IMPROVEMENTS. INSTALL A BIKE PATH AND TWO BIKE ROUTES IN THE WILLOWBROOK AREA TO IMPROVE MOBILITY. (SHARROWS AND BIKE ROUTE DISTANCE IN MILES 0.68)	$571
LOS ANGELES	LOCAL HIGHWAY	LAF3522	1AL04	0	CORDOVA STREET ROAD DIET PROJECT. CONVERT THE VEHICULAR-ORIENTED STREET TO A COMPLETE STREET BY REMOVING 2 VEHICULAR TRAFFIC LANES TO ACCOMMODATE BIKE AND PED FACILITIES. CITY OF PASADENA- HILL STREET TO ARROYO PARKWAY.	$2,712
LOS ANGELES	LOCAL HIGHWAY	LAF3607	1NL04	0	ARCADIA GOLD LINE STATION PEDESTRIAN LINKAGE PROJECT. DESIGN AND CONSTRUCTION OF PEDESTRIAN IMPROVEMENTS AROUND THE GOLD LINE ARCADIA STATION, CONNECTING THE COMMUNITIES WITH THE REGIONAL RAIL SYSTEM.	$2,379
LOS ANGELES	LOCAL HIGHWAY	LAF3615	1NL04	0	LONG BEACH BLVD. PEDESTRIAN IMPROVEMENT PROJECT. PROJECT PROVIDES PEDESTRIAN-ORIENTED IMPROVEMENTS TO LONG BEACH BOULEVARD INCLUDING PEDESTRIAN LIGHTING, STREET TREES, AND CROSSWALK TREATMENTS.	$2,521
LOS ANGELES	LOCAL HIGHWAY	LAF3624	1NL04	0	DOWNTOWN TORRANCE PEDESTRIAN IMPROVEMENT PROJECT TO INCREASE CONNECTIVITY, IMPROVE PEDESTRIAN SAFETY, AND REDUCE AUTOMOBILE DEPENDENCY. SCOPE INCLUDES CHOKERS/BULB-OUTS, LANDSCAPING, PAVERS AND/OR STAMPED PAVEMENT CROSSINGS. THE STREETS BORDERING THE PROJECT AREA SERVE THREE DIFFERENT TORRANCE TRANSIT BUS ROUTES (LINES 1, 3, AND 5). THESE ROUTES INTERSECT AT THREE POINTS IN THE DOWNTOWN AREA, MAKING THIS A PRIME LOCATION TO IMPROVE THE CONNECTIONS TO THE SOUTH BAY AND DOWNTOWN LOS ANGELES.	$1,118
LOS ANGELES	LOCAL HIGHWAY	LAF3628	1AL04	0	WILLOWBROOK AREA ACCESS IMPROVEMENTS TO MLK MACC. THIS PROJECT WILL CONSTRUCT SIDEWALK IMPROVEMENTS AND RELOCATE SIGNAL FACILITIES BETWEEN THE IMPERIAL/WILMINGTON METRO RAIL STATION AND THE MLK MACC. THE PROJECT IS LOCATED IN THE UNINCORPORATED WILLOWBROOK AREA NEAR THE ROSA PARKS METRO RAIL STATION AND THE MLK JR. MULTI-SERVICE AMBULATORY CARE CENTER (MACC) TOLL CREDITS WILL BE USED TO MATCH STPL.	$6,590
LOS ANGELES	LOCAL HIGHWAY	LAF3631	1NL04	0	WESTLAKE MACARTHUR PARK PEDESTRIAN IMPROVEMENT PROJECT. INSTALL PEDESTRIAN IMPROVEMENTS INCL PEDESTRIAN LIGHTING, SIDEWALK ENHANCEMENTS, STREET FURNITURE & TREES, ENHANCED CROSSWALKS, & BUS STOP AMENITIES.	$1,674
LOS ANGELES	LOCAL HIGHWAY	LAF3632	1NL04	0	WESTERN AV BUS STOP & PEDESTRIAN IMPROVEMENT PROJECT. INSTALL PEDESTRIAN AND TRANSIT AMENITIES TO ENHANCE THE PEDESTRIAN ENVIRONMENT ALONG WESTERN AV BTW EXPOSITION BL & I-10 FREEWAY.	$1,472
LOS ANGELES	LOCAL HIGHWAY	LAF3640	1NL04	0	LANI - EVERGREEN PARK STREET ENHANCEMENT PROJECT. INCREASE PEDESTRIAN SAFETY AND ACCESS BY PROVIDING IMPROVED CROSSWALKS, NEW BUS SHELTERS AND STREET TREES TO ENHANCE CONNECTIVITY BETWEEN TRANSIT AND AREA LANDMARKS.. THE PROPOSED PROJECT IS LOCATED IN THE BOYLE HEIGHTS COMMUNITY OF LOS ANGELES.	$1,075
LOS ANGELES	LOCAL HIGHWAY	LAF3644	1AL04	0	BROADWAY HISTORIC THEATER DISTRICT PEDESTRIAN IMPROVEMENTS 4TH-6TH STREETS. THE PROJECT WILL IMPROVE PEDESTRIAN SAFETY BY INSTALLING CURB EXTENSIONS, WIDENING SIDEWALKS, IMPROVING PEDESTRIAN LIGHTING, ENHANCING CROSSWALKS, AND PROVIDE PEDESTRIAN AMENITIES; BENCHES, STREET TREES, LANDSCAPED BUFFERS FROM TRAFFIC AND 10 BIKE RACKS. UTILIZING TOLL CREDITS TO MATCH ATP FUNDS.	$7,690
LOS ANGELES	LOCAL HIGHWAY	LAF3646	1NL04	0	ARTS DISTRICT/LITTLE TOKYO GOLD LINE STATION LINKAGES. PEDESTRIAN ENHANCEMENTS INCLUDING SIDEWALK/PATH PAVING; PED LIGHTS; STREET TREES/PLANTING; DISTRICT SIGNAGE; ENTRY ELEMENTS; STREET FURNITURE; CROSSWALK PAVING; AND BIKE PARKING. (10 BIKE RACKS)	$5,308
LOS ANGELES	LOCAL HIGHWAY	LAF3647	1NL04	0	MENLO AVE/MLK VERMONT EXPO STATION PEDESTRIAN IMPROVEMENTS. IMPROVE PEDESTRIAN ACCESS TO THE NEW EXPO STATION ON VERMONT AVE BY INSTALLING SIDEWALKS, LANDSCAPING, AND LIGHTING ALONG MENLO AVE. AND MLK JR. BLVD. PLUS A MEDIAN ON MLK BLVD.	$3,302
LOS ANGELES	LOCAL HIGHWAY	LAF3650	1NL04	0	WESTERN AVE EXPO LINE STATION LINKAGE PROJECT (SOUTH). PROJECT WILL DESIGN AND CONSTRUCT PEDESTRIAN & SAFETY ENHANCEMENTS INTENDED TO INCREASE THE USAGE OF PUBLIC TRANSPORTATION AND CREATE A LINK TO METRO EXPO LR STATION AT WESTERN & EXPOSITION. PROPOSED IMPROVEMENTS INCLUDE SIDEWALK IMPROVEMENTS, SAFETY LIGHTING AT BUS STOPS, STREET FURNITURE, AND ENHANCED CROSSWALKS.	$858

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	LOCAL HIGHWAY	LAF3651	1NL04	0	EASTSIDE LIGHT RAIL PEDESTRIAN LINKAGES, PHASE II. ENHANCE MULTI-MODAL ACCESS TO THE MARIACHI & SOTO GOLD LINE STATIONS, FOCUSING ON 1ST STREET. PEDESTRIAN IMPROVEMENTS TO ENHANCE MULTI-MODAL ACCESS TO THE MARIACHI & SOTO GOLD LINE STATIONS, FOCUSING ON FIRST ST. & INTERSECTING CORRIDORS OF BOYLE, ST. LOUIS, STATE, AND SOTO STREETS (ENCOMPASSING APPROXIMATELY 0.5 MILES ON EACH CROSS STREET). PROJECT ELEMENTS TO INCLUDE NEW PEDESTRIAN CROSSING SIGNALS.	$3,934
LOS ANGELES	LOCAL HIGHWAY	LAF3653	1NL04	0	PASADENA AVE PED CONNECTION TO GOLD LINE HERITAGE SQ STATION. THIS PROJECT WILL IMPLEMENT SIDEWALK IMPROVEMENTS, STREET FURNITURE, SAFETY LIGHTING, STREET TREES, AND ENHANCED CROSSWALKS ALONG PASADENA AVE BETWEEN BROADWAY TO TO FIGUEROA ST. THIS PROJECT WILL IMPROVE PEDESTRIAN CONNECTIVITY TO THE GOLD LINE HERITAGE SQUARE STATION.	$2,567
LOS ANGELES	LOCAL HIGHWAY	LAF3656	1AL04	0	CENTRAL AVENUE HISTORIC CORRIDOR STREETSCAPE. CENTRAL AVE: WASHINGTON BL-SLAUSON AVE; PEDESTRIAN/TRANSIT IMPROVEMENTS AT HIGH VOLUME INTERSECTIONS-TRANSIT STOPS W/WIDER LANDSCAPED SIDEWALK AREAS/ENHANCED PEDESTRIAN CROSSINGS.	$2,588
LOS ANGELES	LOCAL HIGHWAY	LAF3657	1AL04	0	BEVERLY BOULEVARD TRANSPORTATION ENHANCEMENTS. PROVIDE TRANSIT-ORIENTED STREETSCAPE IMPROVEMENTS TO INCREASE PED SAFETY & TRANSIT USE ALONG BEVERLY BL, VERMONT, ALVARADO, TOLUCA. TREE ROOT PRUNING, TREE WELLS, ADA ACCESS, LANDSCAPING.	$1,374
LOS ANGELES	LOCAL HIGHWAY	LAF3701	1ITS04	0	PASADENA ARTS ENHANCED PASSENGER INFORMATION. ENHANCEMENT OF THE PASADENA AREA RAPID TRANSIT SYSTEM VEHICLE ARRIVAL INFORMATION SYSTEM VIA TELEPHONE AND 26-50 WAYSIDE SIGNS..	$893
LOS ANGELES	LOCAL HIGHWAY	LAF3714	1AL04	0	ARROYO VERDUGO COMMUTE MANAGER SYSTEM. DEVELOPMENT OF A CUSTOMIZED TDM-SPECIFIC GEOGRAPHICALLY BASED WEBSITE.	$670
LOS ANGELES	LOCAL HIGHWAY	LAF3721	1AL04	0	ANGELS WALK SILVERLAKE. PROMOTE PEDESTRIAN ACTIVITY WITHIN THE PROJECT LIMITS WITH A GUIDEBOOK AND 15 ON-STREET INFORMATION MARKERS (HISTORIC STANCHIONS) AT STRATEGIC LOCATIONS.	$844
LOS ANGELES	LOCAL HIGHWAY	LAF3722	1AL04	0	ANGELS WALK BOYLE HEIGHTS. PROMOTE PEDESTRIAN ACTIVITY WITHIN THE PROJECT LIMITS WITH A GUIDEBOOK AND 15 ON-STREET INFORMATION MARKERS (HISTORIC STANCHIONS) AT STRATEGIC LOCATIONS.	$818
LOS ANGELES	LOCAL HIGHWAY	LAF3726	1TDL04	0	FIRST AND LAST MILE TRANSIT CONNECTIVITY OPTIONS. IMPLEMENT A PILOT SHARED FLEET VEHICLE PROGRAM THAT INCLUDES, BIKES, ALTERNATIVE GREEN VEHICLES FOR FIRST & LAST MILES FROM UNION STATION TO AND OTHER DOWNTOWN LOCATIONS.	$1,641
LOS ANGELES	LOCAL HIGHWAY	LAF3849	1O1009	0	PIONEER ARTERIAL TRANSPORTATION ENHANCEMENTS. CONSTRUCT 1 MILE OF LANDSCAPED MEDIAN ISLANDS INCLUDING GATEWAY SIGNAGE ALONG THE CENTER OF PIONEER BOULEVARD FROM ALONDRA BOULEVARD TO ROSECRANS AVENUE. THE PROJECT IS LOCATED WITHIN THE RIGHT-OF-WAY OF PIONEER BOULEVARD AND EXTENDS FROM ALONDRA BOULEVARD TO THE DOWNTOWN NORWALK 5-POINTS INTERSECTION AT ROSECRANS AVENUE.	$2,866
LOS ANGELES	LOCAL HIGHWAY	LAF5100	LAF5100	0	SR57/60 CONFLUENCE, IMPROVE GRAND AVENUE INTERSECTION AT GOLDEN SPRINGS DRIVE: WIDEN GRAND AVE, FROM SR-60 FREEWAY TO LAVENDER DRIVE, A DISTANCE OF 0.2 MILES. PROJECT WILL ADD 1 THRU SB LANE AND 2 THRU NB LANE. WIDEN GOLDEN SPRINGS DRIVE BETWEEN COPLEY DR AND RACQUET CLUB DRIVE. ADD WB LEFT-TURN LANE AND A DEDICATED RIGHT-TURN LANE, WIDEN SIDEWALKS AND ADD PEDESTRIAN COUNTDOWN SIGNALS.	$16,819
LOS ANGELES	LOCAL HIGHWAY	LAF5108	1AL04	0	GARFIELD AVE/WASHINGTON BL MULTIMODAL INTERSECTION IN THE CITY OF COMMERCE, PROJECT WILL IMPROVE INTERSECTION BY ADDING A DEDICATED RIGHT-TURN POCKET ON SOUTHBOUND GARFIELD. ON WASHINGTON BL, ONE RIGHT-TURN POCKET WILL BE ADDED IN THE WESTBOUND DIRECTION. PED FEATURES INCLUDE WIDER NEW 5-FOOT SIDEWALKS ALONG GARFIELD AV AND WASHINGTON BL, THE RELOCATION OF BUS STOPS, HIGH VISIBILITY CROSSWALKS, ADA-COMPLIANT CURB RAMPS, RAILROAD TRACK CROSSINGS, AND PEDESTRIAN-ACTUATED TRAFFIC SIGNALS.	$978
LOS ANGELES	LOCAL HIGHWAY	LAF5110	1AL04	0	FULLERTON ROAD AT PATHFINDER ROAD, ET AL. PROJECT SCOPE INCLUDES WIDENING AND RESTRIPING THE INTERSECTIONS OF PATHFINDER RD AT FULLERTON RD AND PATHFINDER RD AT BREA CANYON CUTOFF TO ADD TURN LANES. THE PROJECT WILL ADD A 5-FOOT WIDE CLASS II BIKE LANE ON BOTH SIDES OF PATHFINDER RD LEADING FROM THE INTERSECTION OF PATHFINDER RD AT FULLERTON RD TO THE PATHFINDER COUNTY PARK ENTRANCE, A ONE-QUARTER MILE DISTANCE.	$918

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	LOCAL HIGHWAY	LAF5115	1AL04	0	AVENUE L ROADWAY WIDENING PROJECT; WIDEN AVENUE L FROM ONE LANE TO TWO LANES IN EACH DIRECTION FROM 40TH ST WEST TO 57TH ST (TOTAL DISTANCE 1.7 MI) INCLUDE LEFT- AND RIGHT-TURN POCKETS WHERE AVENUE L INTERSECTS WITH 40TH, 42ND, 45TH, 50TH AND 55TH STREETS, CURBS AND GUTTER RECONSTRUCTION, A 12-FOOT WIDE CLASS II BIKE LANE IN EACH DIRECTION AND 8-FOOT WIDE SIDEWALKS ON BOTH SIDES OF THE STREET.	$11,297
LOS ANGELES	LOCAL HIGHWAY	LAF5121	1AL04	0	BALBOA BL WIDENING AT DEVONSHIRE ST. THIS PROJECT WILL IMPROVE THE INTERSECTION OF BALBOA BL AND DEVONSHIRE ST BY WIDENING BALBOA BL BY THREE FEET FROM DEVONSHIRE ST. TO 0.1 MILE SOUTH OF DEVONSHIRE ST. THIS WIDENING WILL ENABLE THE INTERSECTION OF BALBOA BL AND DEVONSHIRE ST TO BE RESTRIPED AND RECONFIGURED TO ACCOMMODATE DUAL LEFT-TURN LANES IN THE NORTHBOUND AND SOUTHBOUND DIRECTIONS OF BALBOA BL. THE PROJECT INCLUDES CURB AND GUTTER WORK AND MODIFICATIONS TO THE EXISTING SIDEWALK.	$1,858
LOS ANGELES	LOCAL HIGHWAY	LAF5125	1AL04	0	RAMONA BLVD, VALLEY BLVD, & VALLEY MALL INTERSECTION IMPROVEMENT. CITY WILL RECONFIGURE THE FIVE-WAY INTERSECTION IN ORDER TO ENHANCE THE INTERSECTION. TRAFFIC SIGNAL UPGRADE-DUAL LEFT-TURN LANES ON VALLEY BL AND RIGHT-TURN POCKETS ON RAMONA BL. CREATE ADDITIONAL CURB AREA FOR BICYCLE RACKS, PEDESTRIAN AMENITIES, BUS PADS, TURNOUTS, AND CLASS II BIKE LANES LESS THAN 1/4 MILE.	$3,137
LOS ANGELES	LOCAL HIGHWAY	LAF5207	1AL04	0	ALAMEDA STREET DOWNTOWN LA: GOODS MOVEMENT, PHASE I. THIS PROJECT WILL PROVIDE CONGESTION RELIEF, IMPROVE MOBILITY/REDUCE CONFLICTS, AND IMPROVE SAFETY FOR BOTH AUTOS AND TRUCKS BY PROVIDING INTERSECTION IMPROVEMENTS. PROJECT WILL ALSO REMOVE ABANDONED RAIL LINES, REPAIR PAVEMENT, ADD NEW STREET LIGHTING, AND CONSTRUCT PEDESTRIAN IMPROVEMENTS.	$7,132
LOS ANGELES	LOCAL HIGHWAY	LAF5300	1ITS04	0	CITY OF INGLEWOOD ITS - PHASE IV. 2.5 MILES OF FIBER-OPTICS ON LA CIENEGA BLVD., CENTINELA AVE., FLORENCE AVE. AND PRAIRIE AVE. NEW CCTV, SPEED DETECTION SYSTEMS AND WEB-BASED TRAVELER INFORMATION. UPGRADE THE CURRENT TRAFFIC CONTROL SYSTEM (TCS) TO ADAPTIVE TCS AND REPLACE 4 TYPE 170 CONTROLLERS WITH TYPE 2070 CONTROLLERS ON PRAIRIE AVE. THERE ARE APPROXIMATELY 23 INTERSECTIONS THAT WILL RECEIVE VARIOUS ITS IMPROVEMENTS. AND, UPGRADE LEGACY ETHERNET SWITCHES TO ENHANCE OPERATIONAL SYSTEM.	$1,245
LOS ANGELES	LOCAL HIGHWAY	LAF5301	1ITS04	0	GRANT AVENUE SIGNAL IMPROVEMENTS. THIS PROJECT IS LOCATED IN REDONDO BEACH IN THE SOUTH BAY SUBREGION ON GRANT AV BETWEEN INGLEWOOD AV AND AVIATION BL. THE PROJECT WILL UPGRADE SIX EXISTING TRAFFIC SIGNALS. THE PROJECT INVOLVES SYNCHRONIZATION, BIKE DETECTION, SIGNAL REPLACEMENT, VIDEO DETECTION, ADAPTIVE SIGNAL COORDINATION, WIRELESS CONNECTION AND INTEGRATION INTO THE REDONDO BEACH TRAFFIC MANAGEMENT CENTER (TMC).	$1,535
LOS ANGELES	LOCAL HIGHWAY	LAF5303	1ITS04	0	DEPLOYS AN ADAPTIVE TRAFFIC SIGNAL SYSTEM ON 12 CORRIDORS WITH 101 TRAFFIC SIGNALS: MCBEAN PKWY, MAGIC MOUNTAIN PKWY, WILEY CANYON RD, ORCHARD VILLAGE RD, LYONS AV, RAILROAD AV, NEWHALL AV, BOUQUET CNYN RD, GOLDEN VALLEY RD, NEWHALL RANCH RD, SIERRA HWY, AND VIA PRINCESSA.	$2,183
LOS ANGELES	LOCAL HIGHWAY	LAF5304	1ITS04	0	TRAFFIC SIGNAL SYSTEM MODERNIZATION. THE PROJECT BOUNDARIES ARE FROM AVE H TO AVE N AND 70TH ST WEST TO 30TH ST EAST. IT WILL REPLACE 28 MILES OF COPPER CABLE WITH FIBER OPTIC IN EXISTING CONDUIT, INSTALL NEW ETHERNET SWITCHES IN EXISTING CONTROLLER CABINETS, UPDATE EXISTING FIBER BACKBONE EQUIPMENT, INSTALL EQUIPMENT TO VIEW IMAGES REMOTELY THROUGH EXISTING VIDEO DETECTION, AND INSTALL WIRELESS COMMUNICATIONS TO REMOTE SIGNALIZED INTERSECTIONS.	$2,691
LOS ANGELES	LOCAL HIGHWAY	LAF5305	1ITS04	0	MOBILITY CORRIDORS - ROSE BOWL ACCESS SYSTEMS ALONG COLORADO BL, LINCOLN BL AND ORANGE GROVE BL IN THE CITY OF PASADENA. SIGNAL SYNCHRONIZATION OF 28 INTERSECTIONS - UPGRADED AND SIGNAL SYNC. PROJECT IMPROVEMENTS INCLUDE: NEW 332-TYPE TRAFFIC-SIGNAL CABINETS, ADVANCED TYPE 2070 TRAFFIC-SIGNAL CONTROLLERS, NEW VEHICULAR VIDEO-DETECTION SYSTEMS AND ADVANCED COMMUNICATION SYSTEMS (FIBER OPTIC CABLE AND COMMUNICATION DEVICES NECESSARY) TO ALLOW FOR CONNECTIVITY TO THE CITY'S TMC.	$1,623
LOS ANGELES	LOCAL HIGHWAY	LAF5306	1ITS04	0	BURBANK TRAFFIC RESPONSIVE SIGNAL SYSTEM; UPGRADE 20 SIGNALS ON HOLLYWOOD WAY AND 18 ON BUENA VISTA ST., CONNECT 38 SIGNALS TO THE FIBER-OPTIC CABLE-TRUNK LINE, AND PURCHASE FIBER-OPTIC MODEMS. INCLUDES A DEMAND-RESPONSIVE TRAFFIC SIGNAL SYSTEM ALONG HOLLYWOOD WAY AND BUENA VISTA ST., LICENSE, SYSTEM INTEGRATION AND TESTING OF THE QUICK TRACK ADAPTIVE CONTROL SOFTWARE.	$743
LOS ANGELES	LOCAL HIGHWAY	LAF5307	1ITS04	0	GLENDALE SUB-REGIONAL TRAFFIC MANAGEMENT CENTER. PROJECT WILL CONNECT TO THE TRAFFIC SIGNAL NETWORK CITYWIDE AND WILL DESIGN AND IMPLEMENT A SUBREGIONAL TRAFFIC MANAGEMENT CENTER(TMC)., SYSTEM WILL BE INTEGRATED WITH METRO'S REGIONAL INTEGRATION OF ITS (RIITS) AND THE COUNTY INFORMATION EXCHANGE NETWORK (IEN) SYSTEMS.	$696

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	LOCAL HIGHWAY	LAF5308	1ITS04	0	SOUTH PASADENA'S ATMS, CENTRAL TCS AND FOIC FOR FAIR OAKS AV. THIS PROJECT IS LOCATED IN SOUTH PASADENA ON FAIR OAKS AV BETWEEN COLUMBIA ST AND HUNTINGTON DR. IT WILL ESTABLISH A FIBER-OPTIC BACKBONE COMMUNICATION SYSTEM CONNECTION BETWEEN 12 SIGNALS ON FAIR OAKS AV AND CITY HALL AND INSTALL THE ATMS/CENTRAL MANAGEMENT/CONTROL SYSTEM AT ITS CITY HALL BUILDING. FUNDS ARE FOR DESIGN AND CONSTRUCTION COSTS.	$580
LOS ANGELES	LOCAL HIGHWAY	LAF5309	1ITS04	0	CITY OF AZUSA TRAFFIC MANAGEMENT SYSTEM. THIS PROJECT WILL UPGRADE TRAFFIC SIGNALS AT 43 INTERSECTIONS IN THE CITY OF AZUSA. THE PROJECT WILL FUND THE DESIGN AND CONSTRUCTION/IMPLEMENTATION OF CONTROLLERS, WIRING, DETECTION, CONDUIT, FIBER OPTIC, COUNTDOWN PEDESTRIAN HEADS, SIGNALS, VIDEO DETECTION, CCTV CAMERAS AND TRAFFIC CONTROL AND MONITORING UPGRADES AT THE 43 INTERSECTIONS.	$5,846
LOS ANGELES	LOCAL HIGHWAY	LAF5310	1ITS04	0	RAMONA BOULEVARD/BADILLO STREET/COVINA BOULEVARD TSSP/BSP. IMPLEMENTION OF A TRAFFIC SIGNAL SYNCHRONIZATION PROJECT (TSSP) ON RAMONA BL/BADILLO ST/COVINA BL FROM SANTA ANITA AV TO THE 57 FREEWAY. A BUS SIGNAL PRIORITY (BSP) PROJECT WILL BE IMPLEMENTED ON RAMONA BL/BADILLO ST FROM TYLER AV TO GRAND AV TO GIVE TRANSIT PRIORITY FOR FOOTHILL TRANSIT OPERATIONS (APROX. 48 SIGNAL LOCATIONS)	$4,242
LOS ANGELES	LOCAL HIGHWAY	LAF5314	1AL04	0	GATEWAY CITIES FORUM TRAFFIC SIGNAL CORRIDORS PROJECT - IMPROVE TRAFFIC SIGNAL OPERATIONS BY UPGRADING EACH TRAFFIC SIGNAL TO FEDERAL AND STATE STANDARDS, PROVIDING ADDITIONAL VEHICLE DETECTION TO ENABLE OPERATION AS A FULLY TRAFFIC-ACTUATED SIGNAL, INSTALLING THE APPROPRIATE COMPONENTS TO ENABLE EACH SIGNAL TO BE CAPABLE OF TIME-BASED COORDINATION AND RETIMING SIGNALS TO IMPROVE THE OVERALL PROGRESSION OF TRAFFIC.(APROXIMATLY 17 SIGNALS INCLUDED)	$2,481
LOS ANGELES	LOCAL HIGHWAY	LAF5315	1AL04	0	SAN GABRIEL VALLEY FORUM TRAFFIC SIGNAL CORRIDORS PROJECT. THIS PROJECT INCLUDES 6 INTERSECTIONS AT MYRTLE AV/PECK RD BETWEEN HUNTINGTON DR AND CLARK ST AND PROVIDES FOR SYSTEM WIDE COORDINATION, TIMING AND OPERATIONAL IMPROVEMENTS AND TRAFFIC SIGNAL SYNCHRONIZATION, EQUIPMENT UPGRADES AND INTERSECTION OPERATIONAL IMPROVEMENTS. (APROX. 20+ SIGNALS)	$1,241
LOS ANGELES	LOCAL HIGHWAY	LAF5316	1ITS04	0	SOUTH BAY FORUM TRAFFIC SIGNAL CORRIDORS PROJECT - SYSTEMWIDE COORDINATION, TIMING AND OPERATIONAL IMPROVEMENTS AND TRAFFIC SIGNAL SYNCHRONIZATION, EQUIPMENT UPGRADES AND INTERSECTION OPERATIONAL IMPROVEMENTS IN SOUTH BAY REGION. 25 SIGNALS SYSTEM WIDE. ADDITIONALLY, THIS PROJECT WILL INSTALL ANY WARRANTED AND FEASIBLE ROADWAY IMPROVEMENTS ALONG THE ROUTES TO IMPROVE OVERALL PROGRESSION.	$1,880
LOS ANGELES	LOCAL HIGHWAY	LAF5317	1ITS01	0	ITS PLATFORM UPGRADES-THIS PROJECT INCLUDES TWO PARTS: COMPUTER NETWORK ARCHITECTURE UPGRADE (CNA) AND COMMUNICATIONS SYSTEM & CENTRAL COMPUTER CORE UPGRADE (CSC). THE CNA WILL INCREASE CAPACITY OF THE ATSAC CENTRAL COMPUTER NETWORK. THE CSC INVOLVES UPGRADE OF NEW SOFTWARE COMMUNICATIONS STACKS TO INCREASE CAPABILITY OF EACH COMMUNICATIONS CHANNEL TO TRANSMIT VARIOUS TRAFFIC DATA.	$2,875
LOS ANGELES	LOCAL HIGHWAY	LAF5501	1O1007	0	CITY OF COVINA BICYCLE NETWORK-CONSTRUCT CLASS II BIKE LANES ON CITRUS AV, FRONT ST, SECOND AV, BADILLO ST, CYPRESS ST, HOLLENBECK AVE, COVINA ST, AND COLLEGE ST. CONSTRUCT CLASS III BIKE LANES ON BADILLO ST. THIS PROJECT PROVIDES DIRECT CONNECTIVITY TO A REGIONALLY SIGNIFICANT BIKE-TRANSIT HUB IDENTIFIED IN METRO'S 2006 BICYCLE TRANSPORTATION STRATEGIC PLAN. THE PROJECT WILL PROVIDE BIKE TRAFFIC SIGNAL DETECTOR LOOPS, ADJUSTMENTS TO TRAFFIC SIGNALS, AND SECURE BIKE PARKING IN DOWNTOWN COVINA.	$1,272
LOS ANGELES	LOCAL HIGHWAY	LAF5508	1O1007	0	PROJECT WILL DESIGN AND CONSTRUCT A BICYCLE AND PEDESTRIAN BRIDGE ACROSS THE LOS ANGELES RIVER IN THE CITY OF BURBANK AND THE CITY OF LOS ANGELES. PROJECT WOULD CONSTRUCT 0.1 MILE OF CLASS III BIKE ROUTE ON BOB HOPE DR BETWEEN RIVERSIDE DR AND THE NORTH BANK LA RIVER AND 0.1 MILE OF CLASS I BIKE PATH ACROSS THE LA RIVER BETWEEN BOB HOPE DRIVE AND THE FOREST LAWN DR / MEMORIAL DR INTERSECTION IN THE CITY OF BURBANK AND CITY OF LOS ANGELES.	$849
LOS ANGELES	LOCAL HIGHWAY	LAF5514	1O1007	0	VERMONT AVE BIKE LANE - MANCHESTER BLVD TO EL SEGUNDO BLVD. FUNDS ARE REQUESTED TO DESIGN AND CONSTRUCT CLASS II BIKE LANES ON VERMONT AV (3.0 MILES). SHORT TERM BICYCLE RACKS (14) ARE ALSO PROPOSED AT KEY DESTINATIONS. TOLL CREDITS WILL BE USED TO MATCH STPL.	$1,230

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	LOCAL HIGHWAY	LAF5515	1O1007	0	FLORENCE METRO BLUE LINE STATION BIKEWAY ACCESS IMPROVEMENTS.DESIGN AND CONSTRUCT 11.19 MILES OF CLASS III BIKE ROUTES WITH SHARROWS AND ENHANCED TREATMENTS (BICYCLE BOULEVARD). SHORT-TERM BICYCLE PARKING WILL BE PROVIDED AND LIMIT LINE LOOP DETECTORS WILL BE UPGRADED TO DETECT BICYCLES AT ALL REQUIRED SIGNALIZED INTERSECTIONS. TOLL CREDITS WILL BE USED TO MATCH ATP.	$1,327
LOS ANGELES	LOCAL HIGHWAY	LAF5516	7120004	0	INSTALLATION OF CLASS II BIKE LANES ON SANTA ANITA AVE FROM KLINGERMAN ST TO END OF CITY LIMITS SOUTH OF MERCED AVE (1.5 MI) AND ON MERCED AVE FROM FERN AVE TO SANTA ANITA AVE (1.3 MI) WHILE CLASS III BIKE ROUTES WITH SHARED-LANE MARKINGS WILL BE INSTALLED ON LERMA AVE FROM MERCED AVE TO SW CITY LIMITS (0.3 MI) AND ON THIENES AVE FROM TYLER AVE TO SE CITY LIMITS (1 MI). THE SCOPE OF WORK ALSO INCLUDES INSTALLATION OF BIKE PARKING AT THE CIVIC CENTER AND WAYFINDING/SIGNAGE.	$485
LOS ANGELES	LOCAL HIGHWAY	LAF5519	1O1007	0	THIS PROJECT IS LOCATED IN THE CITY OF LOS ANGELES. CONSTRUCTION OF BICYCLE FRIENDLY STREET TREATMENTS: AT LEAST 100 DIRECTIONAL SIGNS, AT LEAST 500 SHARED LANE MARKINGS, AND BICYCLE DETECTORS AND MARKINGS PROVIDED TO AT LEAST 15 SIGNALIZED INTERSECTIONS. OTHER TREATMENTS WILL INCLUDE TRAFFIC CALMING DEVICES AND DIVERSION, WHICH INCLUDE AT LEAST ONE DIVERTER AND ROUNDABOUT.	$732
LOS ANGELES	LOCAL HIGHWAY	LAF5522	1O1008	0	FOOTHILL BLVD. LINK BIKEWAY & PEDESTRIAN GREENBELT PROJECT, BRIGGS AVE. TO ALTA CANYADA RD, CONSTRUCT 1.5 MILES OF CLASS II BIKE LANES, BIKE AND BUS FACILITIES, RAISED MEDIAN AND 0.5 MILES OF PEDESTRIAN BELTWAY WITH LIGHTING AND HARDSCAPE.	$2,038
LOS ANGELES	LOCAL HIGHWAY	LAF5525	1O1007	0	TO DESIGN AND CONSTRUCT CURB-SIDE BICYCLE PARKING (BICYCLE CORRAL) THAT WILL SERVE EACH COUNCIL DISTRICT. THE PROJECT REQUIRES SURFACE MODIFICATIONS TO CURBSIDE PARKING AREAS FOR INSTALLING AT LEAST 150 BIKE RACKS.	$1,215
LOS ANGELES	LOCAL HIGHWAY	LAF5620	1O1008	0	EXPO LINE - TRANSIT/PEDESTRIAN LINKAGES - WEST. IT WILL FUND PEDESTRIAN IMPROVEMENTS BY INSTALLING DECORATIVE SIDEWALKS, STREET TREES, NEW AND UPGRADED ACCESS RAMPS, TRASH RECEPTACLES, BENCHES, BICYCLE RACKS, PEDESTRIAN LIGHTING, AND DECORATIVE CROSSWALKS. FUNDS ARE REQUESTED FOR DESIGN AND CONSTRUCTION COSTS. PEDESTRIAN LINKAGES 2.5 MILES.	$2,890
LOS ANGELES	LOCAL HIGHWAY	LAF5624	1TR1023	0	WASHINGTON BLVD PEDESTRIAN TRANSIT ACCESS(HOOPER/ALAMEDA) II, LOCATED ON WASHINGTON BL BETWEEN HOOPER AV AND ALAMEDA ST AND ON LONG BEACH AV BETWEEN WASHINGTON BL AND 20TH ST. PEDESTRIAN IMPROVEMENTS, PEDESTRIAN LIGHTING, CROSSWALK ENHANCEMENTS, CURB EXTENSIONS, NEW RAILROAD CROSSING SIGNALS, AND NEW ACCESS TO THE STATION FROM THE SOUTH. DISTANCE 0.59 MILES.	$2,296
LOS ANGELES	LOCAL HIGHWAY	LAF5629	1O1008	0	ORANGE LINE-SHERMAN WAY PEDESTRIAN LINKS. PEDESTRIAN AND BIKE IMPROVEMENTS LINKING METRO ORANGE LINE SHERMAN WAY STATION WITH NEARBY DESTINATIONS. IMPROVEMENTS DESIGNED TO IMPROVE SAFETY INCLUDE PEDESTRIAN LIGHTING, WAYFINDING SIGNAGE, CURB EXTENSIONS, BENCHES, ADA-CURB CUTS, ETC.	$1,441
LOS ANGELES	LOCAL HIGHWAY	LAF5632	1O1008	0	HOLLYWOOD/WESTERN STREETSCAPE PUBLIC AND PEDESTRIAN IMPROVEMENTS ON HOLLYWOOD BLVD BETWEEN GOWER ST AND WESTERN AV AND ON WESTERN AV BETWEEN HOLLYWOOD BL AND CARLTON WAY. INSTALLATION OF NEW SIDEWALK PAVING, CURB RAMPS, BUS SAFETY LIGHTING, TRASH RECEPTACLES, BENCHES, BIKE RACKS, STREET TREES, LANDSCAPING, CURB EXTENSIONS, PUBLIC ART, AND DECORATIVE CROSSWALKS.	$3,923
LOS ANGELES	LOCAL HIGHWAY	LAF5704	1TR1023	0	METRO GREEN LINE VERMONT STATION WAYFINDING SIGNAGE. THIS PROJECT IS LOCATED IN THE UNINCORPORATED COMMUNITY OF WEST ATHENS/ WESTMONT WITHIN ONE-AND-A-HALF MILE RADIUS OF THE METRO GREEN LINE VERMONT STATION.. THIS WAYFINDING SIGNAGE PROJECT WILL DIRECT CYCLISTS AND PEDESTRIANS WHO ARE TRAVELING TO OR FROM THE GREEN LINE VERMONT STATION.	$496
LOS ANGELES	LOCAL HIGHWAY	LAF5705	1TR1023	0	SHARED PARKING PROGRAM/SMART PARKING DETECTION SYS IN DOWNTOWN AREA; I-10 FWY, EL MONTE BUSWAY, EL MONTE TRANSIT CTR, TRANSIT VILLAGE, AND EL MONTE METROLINK STATION. COMPREHENSIVE PARKING STRATEGY PLAN. INCLUDES SMART PARKING DETECTION SYSTEM AND SHARED PARKING PROGRAM. UTILIZE MOBILE COMMUNICATION DEVICES TO ASSESS THE PARKING AVAILABILITY AT MULTIPLE PARKING LOTS. PROVIDE REAL-TIME INVENTORY OF PARKING SPACES.	$630
LOS ANGELES	LOCAL HIGHWAY	LAF5707	1O1008	0	ANGELS WALK CENTRAL AVENUE. THIS PROJECT WILL PROVIDE 15 ON-STREET INFORMATION MARKERS (HISTORIC STANCHIONS), GUIDE BOOKS AND DIGITAL ACCESS ON THE INTERNET TO GUIDE PEDESTRIANS AND TRANSIT USERS IN A SIGNIFICANT SEGMENT OF CENTRAL AV, INFORMING THEM OF THE HISTORY AND CULTURE OF THE AREA. IT WILL ALSO LINK THE PEDESTRIAN TO DOWNTOWN VIA CONNECTIONS TO PUBLIC TRANSIT OPTIONS ALONG THIS ANGELS WALK ROUTE.	$858

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	LOCAL HIGHWAY	LAF5803	1O1008	0	AVENUE I CORRIDOR IMPROVEMENTS, 15TH ST W TO 10TH ST W. PROJECT IS LOCATED IN LANCASTER ALONG AVE I BETWEEN 15TH ST W AND 10TH ST W. IT WILL INSTALL STREETSCAPE IMPROVEMENTS TO INCLUDE LANDSCAPING, BIKE PATH, BUFFER, SIDEWALK, BUS STOP IMPROVEMENTS, CENTERLINE MEDIANS, ADDITIONAL PARALLEL PARKING FOR NON-RESIDENTIAL USES, AND ADA ACCESSIBILITY.	$744
LOS ANGELES	LOCAL HIGHWAY	LAF5808	1O1009	0	ATLANTIC AVENUE STREETSCAPE ENHANCEMENTS. THIS PROJECT IS LOCATED IN LONG BEACH ALONG ATLANTIC AV BETWEEN MARKET ST AND SOUTH ST. IT WILL INSTALL STREETSCAPE IMPROVEMENTS, SHADE TREES, PEDESTRIAN LIGHTING AND DECORATIVE PAVEMENT FEATURES. FUNDS ARE REQUESTED FOR DESIGN, CONSTRUCTION AND INSTALLATION COSTS. THE ORIGINAL SCOPE OF THIS PROJECT WAS REDUCED BY ELIMINATING THE SECTION BETWEEN SOUTH ST AND ARTESIA BL.	$643
LOS ANGELES	LOCAL HIGHWAY	LAF5821	1O1009	0	VALENCIA TRIANGLE LANDSCAPE BEAUTIFICATION PLAZA. WILL INSTALL STREETSCAPE IMPROVEMENTS INCLUDING A LANDSCAPED ISLAND ENHANCEMENT, BENCHES, ENHANCED SIDEWALKS, BUS STOP PEDESTRIAN LIGHTING, AND A CROSSWALK ENHANCEMENT. FUNDS ARE REQUESTED FOR DESIGN, CONSTRUCTION AND INSTALLATION COSTS.	$851
LOS ANGELES	LOCAL HIGHWAY	LAF7101	1AL04	0	PRAIRIE AVENUE MOBILITY PROJECT : (1) WIDENS PRAIRIE AV INTERESECTIONS AT EL SEGUNDO BL AND AT ROSECRANS AV TO CONSTRUCT DOUBLE LEFT-TURN POCKETS FOR TRAFFIC FLOW IMPROVEMENT AND TO INSTALL CLASS III BIKE ROUTES ON BOTH SIDES. (2) TRAFFIC SIGNAL UPGRADE AND SYNCHRONIZATION OF 8 INTERSECTIONS BETWEEN 118TH AND MARINE. (3) INSTALLS CLASS III BIKE EQUIPMENTS, IMPROVES PEDESTRIAN FACILTIES, AND UPGRADES ADA ACCESS RAMPS, NEW MEDIAN CURBS AND LANDSCAPING AT INTERSECTIONS.	$5,500
LOS ANGELES	LOCAL HIGHWAY	LAF7105	1AL04	0	DOCKWEILER DR EXTENSION (1 OF 2): EXTENDS THE TWO LANES IN EACH DIRECTION ON DOCKWEILER DR TO EXISTING 13TH ST CROSSING AND UPGRADE SUBSTANDARD RAIL CROSSING AT 13TH ST. CONSTRUCTS 8-FT SIDEWALKS AND CLASS II BIKE LANES ON BOTH SIDES. INCLUDES PED/BIKE FACILITIES AND LANDSCAPING.	$9,332
LOS ANGELES	LOCAL HIGHWAY	LAF7109	1AL04	0	SOTO STREET WIDENING FROM MULTNOMAH STREET TO MISSION ROAD : (1) WIDENS SOTO ST BETWEEN MULTNOMAH ST AND NORTH MISSION RD (0.6 MILE) FROM A BI-DIRECTIONAL 1-LANE ROADWAY TO 2-LANE ROADWAY IN EACH DIRECTION. (2) WIDENS EXISTING SIDEWALKS FROM 4 FT TO 8 FT FOR WHEELCHAIR ACCESSIBILITY. (3) CONSTRUCTS CLASS II BIKE LANE IN BOTH DIRECTIONS, PEDESTRIAN LIGHTING, A NEW STRIPED MEDIAN, AND SHOULDERS ON BOTH SIDES OF THE STREET.	$9,330
LOS ANGELES	LOCAL HIGHWAY	LAF7117	1AL04	0	REDONDO AVENUE AND ANAHEIM STREET INTERSECTION IMPROVEMENTS : (1) WIDENS REDONDO AV AND ANAHEIM ST INTERSECTION AND RELOCATE BUS STOPS AND UTILITIES TO LENGTHEN LEFT-TURN POCKETS IN WESTBOUND AND EASTBOUND DIRECTIONS ON ANAHEIM ST. (2) ADDS EXCLUSIVE RIGHT-TURN LANE ON SOUTHBOUND APPROACH ON REDONDO AV. (3) INSTALLS BUS STOP ENHANCEMENTS, BIKE-SENSITIVE LOOP DETECTORS, AND BIKE RAMPS AT INTERSECTION CORNERS.	$1,236
LOS ANGELES	LOCAL HIGHWAY	LAF7118	1AL04	0	FLORENCE AVENUE BRIDGE OVER SAN GABRIEL RIVER : (1) REHABILITATE EXISTING UNDIVIDED 4-LANE BRIDGE ON FLORENCE AV BETWEEN LESTERFORD AV AND LITTLE LAKE RD AT THE SAN GABRIEL RIVER CROSSING AND WIDEN TO A DUAL 45-FT-WIDE, 3-LANE BRIDGE (6 LANES TOTAL, 14 FT SEPARATION). (2) IMPROVES 200-FT APPROACHES ON EACH SIDE OF THE BRIDGE WITH WIDENED/ADA-COMPLIANT SIDEWALKS AND 2 FT WIDER SHOULDER TO IMPROVE CYCLIST SAFETY. SIDEWALKS ARE NEW. NO BIKE FACILITIES.	$16,474
LOS ANGELES	LOCAL HIGHWAY	LAF7119	1AL04	0	HUNTINGTON DRIVE MULTIMODAL CAPACITY ENHANCEMENTS : (1) CONSTRUCT A SECOND LEFT-TURN LANE AT THE 2 INTERSECTIONS AT SAN MARINO AV AND AT SAN GRABIEL BL (EASTBOUND ON HUNTINGTON DR AND NORTHBOUND ON SAN MARINO AV AND SAN GABRIEL BL) TO INCRESE CAPACITY AND TRAFFIC FLOW. (2) MODIFIES SIGNAL TIMING TO SHORTEN THE LEFT-TURN MOVEMENT ON HUNTINGTON DR. (3) EXTENDS SIDEWALKS AND ENHANCE PEDESTRIAN FACILITIES.	$1,445
LOS ANGELES	LOCAL HIGHWAY	LAF7120	1AL04	0	EASTERN AVENUE AND FLORENCE AVENUE RSTI PROJECT : (1) WIDEN FLORENCE AVE AT INTERSECTION OF FLORENCE AVE AND EASTERN AVE TO ACCOMMODATE 2 WESTBOUND LEFT-TURN LANES AND A WESTBOUND DEDICATED RIGHT-TURN LANE. (2) WIDENS SIDEWALKS FROM 5 FT TO 8 FT ON FLORENCE AV AND INCLUDES HIGH VISIBILITY CROSSWALKS, PEDESTRIAN-LEVEL LIGHTING, LANDSCAPING, AND UPGRADED TRAFFIC SIGNAL TIMING.	$3,384

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	LOCAL HIGHWAY	LAF7121	1AL04	0	RANCHO VISTA BOULEVARD WIDENING : WIDENS TWO SEGMENTS OF RANCHO VISTA BLVD (TOTAL 1.4 MILES) BEWTEEN 23RD ST W AND 15TH ST W (0.9 MILE) AND BETWEEN ARNIE QUINONES PARK AND WEST AV N (0.5 MILES), TO ACCOMMODATE 3 CONTINUOUS LANES WITHOUT GAPS OR BOTTLENECKS, 10-FT SIDEWALK, AND 5-FT CLASS III BIKE ROUTE IN EACH DIRECTION.	$7,500
LOS ANGELES	LOCAL HIGHWAY	LAF7123	1AL04	0	MAGNOLIA BOULEVARD WIDENING (NORTH SIDE) - CAHUENGA BOULEVARD TO VINELAND : (1) WIDENS MAGNOLIA BL FROM A 50-FT TO A 65-FT ROADWAY FOR APPROXIMATELY 3,000 LINEAR FEET FROM CAHUENGA BL TO VINELAND AV TO ACCOMODATE A CENTER LEFT-TURN LANE, ON-STREET PARKING, AND TWO TRAFFIC LANES IN EACH DIRECTION. (2) INSTALL 8-FT CONTINOUS SIDEWALK. (3) IMPROVEMENTS TO TRAFFIC SIGNALS, LIGHTS, AND GENERAL LANDSCAPING.	$8,402
LOS ANGELES	LOCAL HIGHWAY	LAF7125	1OM0702	0	SHERMAN WAY WIDENING BETWEEN WHITSETT AVENUE TO HOLLYWOOD FREEWAY : (1) WIDEN A SOUTH SIDE OF SHERMAN WY BY APPROX 20 FT TO PROVIDE A THROUGH AND DEDICATED RIGHT-TURN ONLY LANE ONTO THE HOLLYWOOD FWY SOUTHBOUND ON-RAMP. (2) INSTALLS PEDESTRIAN FACILITIES AND LANDSCAPING. (3) WIDENS THE OUTSIDE CURB LANE BY 6 FT TO ACCOMMODATE SAFER BIKE TRAVEL.	$1,481
LOS ANGELES	LOCAL HIGHWAY	LAF7131	1AL04	0	CENTURY BOULEVARD EXTENSION BETWEEN GRAPE STREET AND ALAMEDA STREET : EXTENDS CENTURY BL BY APPROX 2,600 FT FROM GRAPTE ST TO ALAMEDA ST WITH A 2 LANE ROADWAY, SIDEWALKS ON BOTH SIDES, CLASS II BIKE LANE, PED/BIKE FACILITIES, AND LANDSCAPING.	$11,129
LOS ANGELES	LOCAL HIGHWAY	LAF7201	1AL04	0	COMMERCE GOODS MOVEMENT ATLANTIC BOULEVARD: WASHINGTON BOULEVARD TO COMO STREET: IMPLEMENTS SOUTHBOUND RIGHT-TURN OVERLAP SIGNAL PHASING FROM ATLANTIC BL ONTO WASHINGTON BL TO IMPROVE MOBILITY FOR TRUCKS AND VEHICLES;STREETSCAPE IMPROVEMENTS, SUCH AS RAISED MEDIANS, CROSSING IMPROVEMENTS. PED IMPROVEMENTS INCLUDE RAISED MEDIANS, HAWK INSTALLATION AT UNCONTROLLED CROSSWALKS, MISC. SIDEWALK AND ADA IMPROVEMENTS. A LITTLE OVER A 1/2 MILE STRETCH.	$1,172
LOS ANGELES	LOCAL HIGHWAY	LAF7204	1AL04	0	PIER B STREET FREIGHT CORRIDOR RECONSTRUCTION : (1) REALIGNS PIER B ST BETWEEN PICO AV AND PIER A WY AND WIDENS INTO 2 LANES IN EACH DIRECTION TO IMPROVE GOODS MOVEMENT MOBILITY AND ENHANCE PEDISTRIAN TRAVEL. (2) CONSTRUCTS NEW SIDEWALK ON THE SOUTH SIDE OF PIER B ST. 3) CLOSE THE AT-GRADE RAILROAD CROSSING AT 9TH STREET.	$150,000
LOS ANGELES	LOCAL HIGHWAY	LAF7205	1AL04	0	ALAMEDA STREET WIDENING FROM ANAHEIM STREET TO 300 FT. SOUTH OF PCH : (1) WIDENS ALAMEDA ST BETWEEN ANAHEIM ST AND 300 FT SOUTH OF PACIFIC COAST HIGHWAY FROM 2 TO 3 LANES IN EACH DIRECTION FOR CONGESTION RELIEF AND IMPROVE GOODS MOVEMENT MOBILITY.	$9,708
LOS ANGELES	LOCAL HIGHWAY	LAF7207	1AL04	0	ANAHEIM STREET WIDENING - FARRAGUT AVENUE TO DOMINGUEZ CHANNEL : WIDEN ANAHEIM ST BETWEEN FARRAGUT AV AND DOMINGUEZ CHANNEL FROM 2 TO 3 LANES IN EACH DIRECTION FOR CONGESTION RELIEF AND IMPROVE GOODS MOVEMENT MOBILITY. THIS UPGRADES THE ARTERIAL TO MAJOR HIGHWAY STANDARDS.	$6,566
LOS ANGELES	LOCAL HIGHWAY	LAF7301	1ITS04	0	INTELLIGENT TRANSPORTATION SYSTEMS (ITS) PHASE VI : (1) COORDINATES SIGNAL TIMING ALONG 19 CORRIDORS TO ENHANCE THE ADAPTIVE SYSTEMS PERFORMANCE. (2) INSTALLS ADDITIONAL SYSTEM DETECTION AT STRATEGIC LOCATIONS. (3) COMPLETES THE CITYS FIBER OPTIC INTERCONNECTION SYSTEM ALONG AVENUE SCOTT, AVENUE STANFORD, AND COPPERHILL DR TO COMMUNICATE WITH CITYS EMERGENCY OPERATIONS CENTER	$2,430
LOS ANGELES	LOCAL HIGHWAY	LAF7303	1ITS04	0	NETWORK-WIDE SIGNAL SYNC WITH VID & ARTERIAL PERFORMANCE MEASUREMENT SYSTEM FOR ATCS : (1) OPTIMIZES SIGNAL COORDINATION TIMING NETWORK-WIDE. (2) UPGRADES MAJOR INTERSECTIONS WITH ENHANCED SYSTEM DETECTION AND ARTERIAL PERFORMANCE MEASUREMENT CAPABILITIES ALONG WASHINGTON BL, SEPULVEDA BL, JEFFERSON BL, AND OTHERS. (16 SIGNALS THAT ARE SYNCHED)	$1,236
LOS ANGELES	LOCAL HIGHWAY	LAF7304	1ITS04	0	NORTH COUNTY ITS - PALMDALE EXTENSION (FIBER FROM AVENUE R 40TH EAST - 70TH EAST & AVENUE S 55TH EAST - 60TH EAST; NEW SIGNALS AT R/65TH EAST, R/70TH EAST AND S/60TH EAST, ALSO INCLUDE 8 CCTV'S)	$3,750

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	LOCAL HIGHWAY	LAF7305	1ITS04	0	GATEWAY CITIES FORUM TRAFFIC SIGNAL CORRIDOR PROJECT : DESIGNS AND CONSTRUCTS ITS IMPROVEMENTS ALONG NORWALK BL, SAN ANTONIO DR, PIONEER BL BETWEEN BEVERLY BL AND CARSON ST INCLUDING SYNCHRONIZATION AND RETIMING OF TRAFFIC SIGNALS, EQUIPMENT UPGRADES, SYSTEM DETECTION, CCTV CAMERAS (UPTO 14 CCTVS), AND CHANGEABLE MESSAGE SIGNS.	$4,048
LOS ANGELES	LOCAL HIGHWAY	LAF7306	1ITS04	0	FOOTHILL BOULEVARD TRAFFIC SIGNAL CORRIDOR PROJECT : (1) TRAFFIC SIGNAL SYNCHRONIZATION, EQUIPMENT UPGRADES AND INTERSECTION OPERATIONAL IMPROVEMENTS FOR 28 INTERSECTIONS ALONG FOOTHILL BL BETWEEN LOWELL AV AND CROWN AV. (2) INSTALLS TWO (2) CLOSED CIRCUIT TELEVISION (CCTV) CAMERAS AND WIRELESS NETWORK COMMUNICATIONS INFRASTRUCTURE WHICH WILL PROVIDE FOR EXPANSION OF ADVANCED TRANSPORTATION MANAGEMENT SYSTEM (ATMS) ALONG FOOTHILL BL.	$3,660
LOS ANGELES	LOCAL HIGHWAY	LAF7307	1ITS04	0	SAN GABRIEL VALLEY FORUM TRAFFIC SIGNAL CORRIDOR PROJECT : IMPLEMENTS ITS ENHANCEMENTS INCLUDING SYNCHRONIZATION AND RETIMING OF TRAFFIC SIGNALS, EQUIPMENT UPGRADES, SYSTEM DETECTION, CCTV CAMERAS, AND CHANGEABLE MESSAGE SIGNS TO EXPAND ADVANCED TRANSPORTATION MANAGEMENT SYSTEM (ATMS).	$4,531
LOS ANGELES	LOCAL HIGHWAY	LAF7308	1ITS04	0	EAST LOS ANGELES TRAFFIC SIGNAL CORRIDOR PROJECT : (1) SYNCHRONIZES TRAFFIC SIGNALS AND IMPLEMENTS UPGRADES AT 13 SIGNALIZED INTERSECTIONS ALONG 3.5 MILE SEGMENT OF EASTERN AV. BETWEEN MEDFORD ST AND OLYMPIC BLVD. (2) INSTALLS FIBER OPTIC COMMUNICATIONS ALONG CESAR CHAVEZ AV, RAMONA BL, AND ATLANTIC BL TO CONNECT TRAFFIC SIGNALS TO LADPW ADVANCED TRANSPORTATION MANAGEMENT SYSTEM (ATMS).	$3,510
LOS ANGELES	LOCAL HIGHWAY	LAF7309	1ITS04	0	TWEEDY BOULEVARD SIGNAL SYNCHRONIZATION PROJECT : (1) INTERCONNECTS 18 TRAFFIC SIGNALS USING FIBER OPTIC CABLE AND WIRELESS COMMUNICATIONS (2) SYNCHRONIZES SIGNAL TIMING TO IMPROVE TRAFFIC FLOW, AND REDUCES DELAYS ALONG THE 2.7-MILE ARTERIAL. (3) INSTALL A CLOSED CIRCUIT TELEVISION CAMERA (CCTV) AT THE INTERSECTION OF LONG BEACH BL TO SUPPORT THE ADVANCE TRANSPORTATION MANAGEMENT SYSTEMS (ATMS).	$1,646
LOS ANGELES	LOCAL HIGHWAY	LAF7310	1ITS04	0	SOUTH BAY FORUM TRAFFIC SIGNAL CORRIDORS PROJECT : PROJECT AREA IS NORMANDIE AV BETWEEN 92ND ST AND EL SEGUNDO BL, MANHATTAN BEACH BL BETWEEN MANHATTAN AV AND VAN NESS AV, AND HAWTHORNE BL BETWEEN IMPERIAL HIGHWAY AND MANHATTAN BEACH BL. PROJECT SCOPE INCLUDES (1) SYNCHRONIZATION AND RETIMING TRAFFIC SIGNALS, EQUIPMENT UPGRADES, SYSTEM DETECTION, CCTV CAMERAS, CHANGEABLE MESSAGE SIGNS. (2) UPGRADE TRAFFIC SIGNAL OPERATIONS TO BE CAPABLE OF TIME-BASED COORDINATION.	$7,550
LOS ANGELES	LOCAL HIGHWAY	LAF7311	1ITS04	0	DOWNEY CITYWIDE TRANSIT PRIORITY SYSTEM PROGRAM : (1) SYNCHRONIZES TRAFFIC SIGNALS ALONG EXISTING TRANSIT ROUTES. (2) INSTALLS NEW FIBER OPTIC COMMUNICATION ALONG 5.5 MILES OF ARTERIAL STREETS TO CONNECT SIGNALS TO THE CENTRAL TRAFFIC MANAGEMENT CENTER. (3) INSTALLS AND INTEGRATES TRANSIT PRIORITY SYSTEM WITH THE TRAFFIC SIGNAL SYSTEM.	$1,807
LOS ANGELES	LOCAL HIGHWAY	LAF7312	1ITS04	0	HUNTINGTON PARK SIGNAL SYNCHRONIZATION & BUS SPEED IMPROVEMENT : (1) SYNCHRONIZES SIGNALIZED INTERSECTIONS, RECONFIGURES TRAFFIC LANES TO ALLOW DUAL TURNING LANES, INSTALLS CHANGEABLE MESSAGE SIGNS ALONG PACIFIC BL. (2) SIGNAL IMPROVEMENTS INCLUDING CONTROLLER UPGRADES, NEW MASTS, VIDEO ACTIVATED TRAFFIC CONTROLLERS, AND SYNCHRONIZATION OF SIGNALIZED MID-BLOCK PEDESTRIAN CROSSINGS ON PACIFIC BL.	$1,186
LOS ANGELES	LOCAL HIGHWAY	LAF7314	1ITS04	0	SANTA FE AVENUE SYNCHRONIZATION ENHANCEMENT PROJECT : (1) UPGRADES TRAFFIC SIGNALS ALONG THE SANTA FE AV CORRIDOR AND REPLACES OBSOLETE EQUIPMENTS. (2) REPLACES EXISTING SIGNAL CONTROLLERS WITH ADVANCED TRAFFIC CONTROLLERS TO CONNECT WITH THE ADAPTIVE TRAFFIC CONTROL SYSTEM (ATCS). (3) INSTALLS CCTVS AND CLASS III BIKE ROUTE ALONG SANTA FE AV. (4) FURNISHS PEDESTRIAN PUSH BUTTONS AND LED COUNTDOWN PEDESTRIAN HEADS.	$3,199
LOS ANGELES	LOCAL HIGHWAY	LAF7317	1ITS04	0	PASADENA AREA RAPID TRANSIT SYSTEM TSP : DESIGNS AND INSTALLS TRANSIT SIGNAL PRIORITY EQUIPMENTS FOR 23 PASADENA AREA RAPID TRANSIT SYSTEM (ARTS) BUSES AND 42 INTERSECTIONS. ENHANCEMENTS INCLUDE INSTALLATION OF TRAFFIC SIGNAL CONTROLLERS AND CABINETS, AND CLOSED CIRCUIT TELEVISION CAMERAS (CCTV).	$1,448

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	LOCAL HIGHWAY	LAF7318	1ITS04	0	ADAPTIVE TRAFFIC CONTROL NETWORK - PHASE II : INSTALLS ADAPTIVE TRAFFIC CONTROL CAPABILITIES ALONG CALIFORNIA BL BETWEEN ST. JOHN AV AND LAKE AV, DEL MAR BL BETWEEN ST. JOHN AV TO OAK KNOLL AV, ARROYO PARKWAY BETWEEN UNION ST TO FILLMORE ST, AND FOOTHILL BL BETWEEN SIERRA MADRE BL TO MICHILLINDA AV. ENHANCEMENTS INCLUDE CABINET AND CONTROLLER UPGRADES, ADAPTIVE TRAFFIC CONTROL HARDWARE & SOFTWARE INSTALLATION, AND COMMUNICATION HARDWARE TO CONNECT TO THE CITYS FIBER OPTICS INFRASTRUCTURE.	$2,072
LOS ANGELES	LOCAL HIGHWAY	LAF7319	1ITS04	0	INGLEWOOD ITS - PHASE V : (1) DESIGNS AND CONSTRUCTS COMPUTERIZED TRAFFIC CONTROL AND MONITORING SYSTEMS. (2) EXPANDS CENTRAL TRAFFIC CONTROL AND ADVANCE TRAFFIC MANAGEMENT AT 39 INTERSEECTIONS (3) IMPROVES 6.13 MILES OF FIBER OPTIC COMMUNICATIONS, (4) EXPANDS CLOSED CIRCUIT TELEVISION CAMERAS (CCTV) AT 10 INTERSECTIONS, (5) INSTALLS CHANGEABLE MESSAGE SIGNS (CMS) AT 2 INTERSECTIONS, AND (6) INSTALLS EW COMMUNICATION HUBS AT 3 INTERSECTIONS.	$1,918
LOS ANGELES	LOCAL HIGHWAY	LAF7320	1ITS04	0	THIS PROJECT WILL ENHANCE THE EXISTING TRAFFIC MANAGEMENT SYSTEM WITH THE INSTALLATION OF VIDEO DETECTION SYSTEMS. THE NEW EQUIPMENT WILL FACILITATE DETECTION OF BICYCLES AT INTERSECTIONS RESULTING IN ENHANCED MULTI-MODAL SIGNAL TIMING. THE DETECTION OF BICYCLES AT INTERSECTIONS WOULD OPTIMIZE SIGNAL TIMING AND CREATE SHORTER CALL TIMES FOR THE TRANSIT CORRIDORS. NEW TRAFFIC SIGNAL POLES MAY BE REQUIRED TO INSTALL THE VIDEO EQUIPMENT.	$676
LOS ANGELES	LOCAL HIGHWAY	LAF7321	1ITS04	0	GLENDALE REGIONAL ARTERIAL TRAFFIC PERFORMANCE MEASUREMENT SYSTEM : IMPLEMENTS ARTERIAL PERFORMANCE MEASUREMENT SYSTEM IN THE GLENDALE TRAFFIC MANAGEMENT CENTER (GTMC) TO EXTRACT INFO FROM REAL-TIME INTELLIGENT TRANSPORTATION SYSTEMS (ITS). SYSTEM WILL PROVIDE REAL-TIME CORRIDOR CONDITIONS AND PERFORMANCE MEASURES TO LOS ANGELES COUNTY INFORMATION EXCHANGE NETWORK (IEN).	$673
LOS ANGELES	LOCAL HIGHWAY	LAF7322	1ITS04	0	BROADWAY INTERSECTION IMPROVEMENTS TRAFFIC SIGNAL MODIFICATION : DESIGN AND MODIFY FIVE SIGNALIZED INTERSECTIONS ON BROADWAY BETWEEN ALONDRA BLVD AND VICTORIA ST TO INCLUDE LONGER SIGNAL MAST ARMS TO IMPROVE VISIBILITY OF SIGNAL INDICATIONS, IMPROVE LIGHTING, UPGRADE SIGNAL CABINET AND EQUIPMENT, IMPROVE SIGNAL TIMING, AND IMPROVE THE OPERATION OF THE INTERSECTIONS BY ADDING PROTECTIVE/PERMISSIVE LEFT-TURN PHASING AS WARRANTED.	$814
LOS ANGELES	LOCAL HIGHWAY	LAF7500	1O1007	0	HAWTHORNE BOULEVARD CLASS II BICYCLE LANES: (1) INSTALLS 1.0 MILE OF CLASS 2 BIKE LANES ON HAWTHORNE BLVD FOR BOTH DIRECTIONS. (2) PROVIDES BICYCLE PARKING.	$234
LOS ANGELES	LOCAL HIGHWAY	LAF7502	1O1007	0	REGIONAL BIKEWAY PROJECT. THE PROJECT WILL INSTALL A BICYCLE/PEDESTRIAN BRIDGE, CLASS II BICYCLE LANES, A CLASS I SHARED- USE PATH, TRAFFIC CALMING MEDIANS, SIDEWALKS, CURB RAMPS, SIGNAL MODIFICATIONS, AND WAYFINDING SIGNAGE, CONNECTING TO TWO REGIONAL CLASS I ROUTES.	$4,918
LOS ANGELES	LOCAL HIGHWAY	LAF7506	1O1007	0	CHANDLER BIKEWAY EXTENSION: (1) IMPLEMENT CLASS 1 BIKE/PEDESTRIAN PATH (0.5MI) ON THE CHANDLER ROW FROM MARIPOSA TO THE SAN FERNANDO BIKEWAY. (2) INSTALL HIGH-VISIBILITY CROSSWALKS AT INTERSECTIONS AND WAYFINDING SIGNAGE.	$3,299
LOS ANGELES	LOCAL HIGHWAY	LAF7507	1O1007	0	BALLONA CREEK BIKE PATH CONNECTIVITY PROJECT AT HIGUERA BRIDGE: (1) INSTALLS NEW ACCESS RAMP (300 FT) FROM THE HIGUERA ST BRIDGE TO THE EXISTING BALLONA CREEK BIKE PATH WITH WAYFINDING SIGNAGE.	$822
LOS ANGELES	LOCAL HIGHWAY	LAF7508	1O1007	0	VINCENT COMMUNITY BIKEWAYS. INSTALL 2 MILES OF BIKE PATHS ALONG THE BIG DALTON WASH BETWEEN IRWINDALE AVE AND LARK ELLEN AVE AND BETWEEN ARROW HWY AND CITRUS AVE, AND 1.3 MILES OF BIKE LANES AND 1.4 MILES OF BIKE ROUTES TO CONNECT TO THE EXISTING AND PROPOSED BIKEWAYS IN THE SURROUNDING AREAS.	$4,399
LOS ANGELES	LOCAL HIGHWAY	LAF7512	1O1007	0	WEST ATHENS 110TH BICYCLE BLVD GAP CLOSURE. BICYCLE BOULEVARD ON LOHENGRIN AVENUE/110TH STREET BETWEEN IMPERIAL HWY AND DENKER AVE (0.80 MILES) AND ON 110TH STREET BETWEEN BUDLONG AVE AND VERMONT AVE (0.25 MILES).	$806

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	LOCAL HIGHWAY	LAF7516	1O1007	0	MULHOLLAND HIGHWAY GAP CLOSURE: (1) BIKE/PED IMPROVEMENTS ON MULHOLLAND HWY AND ON OLD TOPANGA CANYON RD. (2) INSTALLATION OF 0.5 MILE-CLASS 2 BIKE LANES ON MULHOLLAND HWY, NEW SIDEWALKS (1,450 FT), RAMPS AND RETAINING WALLS.	$545
LOS ANGELES	LOCAL HIGHWAY	LAF7519	1O1007	0	WHITTIER GREENWAY TRAIL EAST EXTENSION : THIS PROJECT IS LOCATED IN THE CITY OF WHITTIER. IT WILL IMPLEMENT A TWO-MILE CLASS I BIKE/ PEDESTRIAN PATH ON A CITY-CONTROLLED EASEMENT ALONG THE UNION PACIFIC RAILROAD CORRIDOR FROM MILLS AV TO LEFFINGWELL RD, AND IT WILL ALSO PROVIDE A TRAILHEAD EAST OF MILLS AV. THE PROJECT PROMOTES A REGIONAL BIKEWAY CORRIDOR BY EXTENDING THE 4.5-MILE WHITTIER GREENWAY TRAIL EAST AT THE CITY AND LA COUNTY LIMITS. $247 IN TOLL CREDITS ADDED IN FY 20 TO MATCH CMAQ	$3,089
LOS ANGELES	LOCAL HIGHWAY	LAF7520	1O1007	0	EL MONTE REGIONAL BICYCLE COMMUTER ACCESS IMPROVEMENTS: (1) INSTALLS A 200-FOOT BICYCLE/PEDESTRIAN BRIDGE ACROSS THE RIO HONDO RIVER APPROXIMATELY 300 FEET SOUTHWEST OF THE SAN BERNARDINO (I-10) FREEWAY (2) INSTALLS 0.74 MILE CLASS 2 BIKE LANES ON TYLER AV, AND MERCED AV. (3) INSTALLS 1.46 MILE CLASS 3 BIKE ROUTES ON RAMONA BL, VALLEY BL, TOWNEWAY DR, AND BROCKWAY ST.Ÿ(3) IMPLEMENTS WAYFINDING/SIGNAGE, BRIDGE LIGHTING, BRIDGE ACCESS POINTS, AND THE RIO HONDO BIKE PATH UNDER I-10.	$1,416
LOS ANGELES	LOCAL HIGHWAY	LAF7521	1O1007	0	BICYCLE TRANSPORTATION PLAN IMPLEMENTATION PHASE II: (1) ROAD DIET WITH BIDIRECTIONAL CLASS 2 BIKE LANES ON PROSPECT AV (3.33MI) AND ON CATALINA AV (1.63MI). (2) INSTALLS BULBOUTS AT STOP-CONTROLLED INTERSECTIONS ON CATALINA. (3) INSTALLS ROUNDABOUT ON NORTH HARBOR DR AT YACHT CLUB WY AND AT HERONDO ST. (4) INSTALLS HIGH-VISIBILITY CROSSWALKS AT ALL-WAY CONTROLLED INTERSECTIONS AND AT CROSSINGS APPROACHING THE ROUNDABOUT.	$1,953
LOS ANGELES	LOCAL HIGHWAY	LAF7522	1O1007	0	DELTA AVENUE BICYCLE BOULEVARD. THIS NORTH-SOUTH BICYCLE BOULEVARD ON DELTA AVE (APPROXIMATELY 3 MILES) IN WEST LONG BEACH WILL CONSIST OF CLASS II LANE SEGMENTS AND SHARROW MARKINGS, TRAFFIC CIRCLES, A ROUNDABOUT, AND WAYFINDING SIGNAGE TO NEARBY METRO BLUE LINE STATIONS AND LA RIVER BIKE PATH.	$1,336
LOS ANGELES	LOCAL HIGHWAY	LAF7524	7120004	0	LA VERNE REGIONAL COMMUTER BICYCLE GAP CLOSURE PROJECT. A RANGE OF PROPOSED ENHANCEMENTS WILL SIGNIFICANTLY IMPROVE THE BICYCLE INFRASTRUCTURE IN THE CITY OF LA VERNE AND STRENGTHEN REGIONAL CONNECTIVITY BY CLOSING CRITICAL GAPS IN AN INTEGRATED BIKE NETWORK SPANNING THE NORTHEASTERN SAN GABRIEL VALLEY.	$1,872
LOS ANGELES	LOCAL HIGHWAY	LAF7600	1O1008	0	ALHAMBRA PEDESTRIAN IMPROVEMENT/WALKING VIABILITY PROJECT ON VALLEY: (1) INSTALLS ADA CURB RAMPS. (2) INSTALLS BUS STOP IMPROVEMENTS, INCLUDING PEDESTRIAN BENCHES, COVERED SHELTERS, TRASH CANS, WAYFINDING/SIGNAGE, CROSSWALK ENHANCEMENTS, PEDESTRIAN HYBRID BEACONS, PEDESTRIAN LIGHTING, PEDESTRIAN COUNTDOWN SIGNALS, AND REMOVING OBSTRUCTIONS FROM WALKWAYS.	$1,028
LOS ANGELES	LOCAL HIGHWAY	LAF7609	1O1007	0	HAWTHORNE/LENNOX GREEN LINE STATION COMMUNITY LINKAGES. THE PROJECT INCLUDES PEDESTRIAN AND BICYCLE FACILITY IMPROVEMENTS, WAYFINDING, AND LANDSCAPING ON MAJOR CORRIDORS NEAR THE HAWTHORNE/LENNOX STATION METRO GREEN LINE STATION.	$3,008
LOS ANGELES	LOCAL HIGHWAY	LAF7610	7120004	0	AVIATION /LAX GREEN LINE STATION COMMUNITY LINKAGES.THE PROJECT INCLUDES IMPROVEMENTS ON CORRIDORS NEAR THE METRO AVIATION/LAX STATION INCLUDING PEDESTRIAN AND BICYCLE FACILITIES, WAYFINDING SIGNS, LANDSCAPING AND TRAFFIC CALMING. AN APPROXIMATE TOTAL OF 2 MILES OF BIKEWAY AND 2.5 MILES OF UPGRADED PEDESTRIAN FACILITIES WILL BE IMPLEMENTED.	$2,506
LOS ANGELES	LOCAL HIGHWAY	LAF7612	1O1008	0	LONG BEACH BOULEVARD PEDESTRIAN IMPROVEMENTS. IMPROVE LONG BEACH BOULEVARD STREETSCAPE WITH UPGRADED PEDESTRIAN LIGHTING, ENHANCED CROSSWALKS, FLASHING BEACONS, SIDEWALK REPAIRS, CURB RAMPS, AND BICYCLE RACKS.	$2,586
LOS ANGELES	LOCAL HIGHWAY	LAF7615	1O1008	0	MARKET STREET PEDESTRIAN & STREETSCAPE ENHANCEMENTS: COMPLETE STREET IMPROVEMENTS INCLUDING CLASS II/IV BIKE LANES, BULBOUTS, WAYFINDING SIGNAGE, CROSSWALK AND TRANSIT STOP ENHANCEMENTS, CONSTRUCTION OF AT LEAST FOUR CURB RAMPS, PEDESTRIAN LIGHTING, TRAFFIC SIGNAL INSTALLATION/UPGRADES, FLASHING BEACONS, LANDSCAPING AND STREET TREES, RELOCATING OBSTRUCTIONS AND UTILITIES ALONG APPROXIMATELY 1.9 MILES OF THE MARKET ST. CORRIDOR FROM THE LA RIVER TO CHERRY AVE.	$4,620

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	LOCAL HIGHWAY	LAF7620	1O1008	0	COMMUNITY LINKAGES TO CIVIC CENTER AND LONG BEACH BLVD METRO STATION. PEDESTRIAN SAFETY IMPROVEMENTS ON BULLIS RD FROM MARTIN LUTHER KING JR. BLVD TO FERNWOOD AVE AND FROM FERNWOOD AVE WEST TO THE LONG BEACH GREEN LINE STATION AND EHNANCED PEDESTRIAN CROSSINGS AT KEY INTERVALS FERNWOOD AVE BETWEEN BULLIS RD AND FIRST AVE.	$2,891
LOS ANGELES	LOCAL HIGHWAY	LAF7622	1O1008	0	LANI-WEST BOULEVARD COMMUNITY LINKAGES PROJECT: PEDESTRIAN IMPROVEMENTS ON W 67TH ST, CRENSHAW BL, FLORENCE AV, AND WEST BL WHICH INCLUDE INSTALLING 8 BUS SHELTERS, 32 PEDESTRIAN LIGHTS, 130 STREET TREES, BENCHES, WAYFINDING SIGNAGE, BIKE SHARROWS, AND NEW AND ENHANCED CROSSWALKS.	$1,724
LOS ANGELES	LOCAL HIGHWAY	LAF7624	1O1008	0	WALK PICO! A CATALYST FOR COMMUNITY VITALITY & CONNECTIVITY: (1) INSTALLS NEW SIDEWALK, SIDEWALK BUFFER, LANDSCAPING, STREET TREES, PED/BIKE WAYFINDING SIGNAGE, CURB RAMPS, PED LIGHTING, BENCHES, TRASH RECEPTACLES, PED REFUGE MEDIAN, RECTANGULAR RAPID FLASHING BEACONS, TRAFFIC DIVERTERS, ROUNDABOUTS, CONTINENTAL CROSSWALKS, ADVANCE STOP BARS, CURB EXTENSIONS, AND ACCESSIBLE PEDESTRIAN SIGNAL, SHARROWS. (2) REMOVES OBSTRUCTIONS FROM THE WALKWAY.	$2,301
LOS ANGELES	LOCAL HIGHWAY	LAF7628	1O1008	0	WATTS STREETSCAPE IMPROVEMENTS PHASE 2: INSTALLS ADA RAMPS, LANDSCAPING STREET TREES, STREET FURNITURE, PED LIGHTING, CROSSWALK ENHANCEMENTS, CURB EXTENSIONS, SHARROWS, AND PED & BIKE WAYFINDING SIGNAGE.	$836
LOS ANGELES	LOCAL HIGHWAY	LAF7634	7120004	0	DESIGN WORK TO IMPROVE CONDITIONS FOR PEDESTRIANS IN ORDER TO INCREASE PEDESTRIAN SAFETY, AND TO IMPROVE THE PEDESTRIAN ENVIRONMENT IN ORDER TO PROMOTE WALKING AS A VIABLE FORM OF TRANSPORTATION, AND ENCOURAGE THE USE OF PUBLIC TRANSIT.	$2,776
LOS ANGELES	LOCAL HIGHWAY	LAF7636	1O1008	0	BROADWAY STREETSCAPE IMPLEMENTATION (8TH – 9TH): IMPLEMENTS CURB EXTENSIONS, WIDENED SIDEWALKS, PED LIGHTING, STREET FURNITURE, STREET TREES AND BIOFILTRATION PLANTERS, CROSSWALK ENHANCEMENTS, AND DECORATIVE EDGE BAND PAVING.	$2,981
LOS ANGELES	LOCAL HIGHWAY	LAF7702	1TR1023	0	DOWNTOWN HUNTINGTON PARK I-PARK SYSTEM IMPLEMENTATION : PROVIDES 4 CHANGEABLE MESSAGING PARKING SIGNS, 12 WAYFINDING PARKING SIGNS, 10 BICYCLE RACKS, AND 6 BICYCLE LOCKERS AT THE DOWNTOWN SHARED PARKING DISTRICT ALONG PACIFIC BL TO IMPROVE BICYCLE ACCESS AND IMPROVE TRAFFIC CIRCULATION.	$780
LOS ANGELES	LOCAL HIGHWAY	LAF7703	1TR1023	0	EXPERIENCELA 3.0-MOBILITY IN THE CLOUD : DEVELOPS AND IMPLEMENTS CLOUD COMPUTING BASED SOFTWARE TECHNOLOGY TO PROVIDE TRANSIT USERS LOCATION SPECIFIC INFORMATION VIA PERSONAL MOBILE DEVICES AND INTERACTIVE KIOSKS AT KEY TRANSPORTATION FACILITIES.	$974
LOS ANGELES	LOCAL HIGHWAY	LAF7704	1TR1023	0	MULTI-MODAL WAYFINDING: CONGESTION REDUCTION/STATION ACCESS : IMPROVES VEHICLE, PEDESTRIAN, AND BICYCLE CIRCULATION BY PROVIDING 306 WAYFINDING SIGNS, 6 TRANSIT MAP CASES, AND 12 ELECTRONIC PARKING GUIDANCE SIGNS. IT WILL SERVE THE SURROUNDING AREA OF THE METRO EXPO LINE STATIONS, DOWNTOWN, AND CIVIC CENTER.	$1,612
LOS ANGELES	LOCAL HIGHWAY	LAF7708	1TR1023	0	INTERACTIVE BICYCLE BOARD DEMO PROJECT : INSTALLS 12 INTERACTIVE DISPLAY SCREENS AND 96 BICYCLE COUNTERS TO ENCOURAGE GREATER USE OF BICYCLES AND REDUCING VEHICLE MILES TRAVELED.	$684
LOS ANGELES	LOCAL HIGHWAY	LAF7709	1O1007	0	GLENDALE REGIONAL BIKE PARKING NETWORK : PROVIDES 2 HIGH CAPACITY BIKE PARKING FACILITIES AND 20 WAYFINDING SIGNS FOR BICYCLE USERS WITHIN THE CITY OF GLENDALE, SPECIFICALLY GLENDALE LARRY ZARIAN TRANSPORTATION CENTER AND THE GLENDALE MARKETPLACE/PUBLIC LIBRARY.	$1,661
LOS ANGELES	LOCAL HIGHWAY	LAF7806	1O1008	0	VERMONT AVENUE STREETSCAPE IMPROVEMENT PROJECT: (1) INSTALLS STREETSCAPE IMPROVEMENTS THAT INCLUDE LANDSCAPING AND PLANTING OF DROUGHT TOLERANT TREES, PERMEABLE CONCRETE PAVERS, NON-PERMEABLE INTERLOCKING CONCRETE PAVERS AT BUS STOPS, AND DECORATIVE CROSSWALKS. (2) LANDSCAPING WILL HAVE AUTOMATED IRRIGATION SYSTEM AND FLOW-THROUGH FILTRATION PLANTERS.	$956
LOS ANGELES	LOCAL HIGHWAY	LAF7807	1AL04	0	EXPO STATION 4TH STREET LINKAGES TO DOWNTOWN AND CIVIC CENTER. IMPROVES PEDESTRIAN AND BICYCLIST LINKAGES ON A 0.2-MILE SEGMENT OF 4TH STREET TO SUPPORT SAFER FIRST- AND LAST-MILE ACCESS AND CONNECTIVITY TO THE FUTURE EXPO TERMINUS STATION, CENTRAL BUSINESS DISTRICT, CIVIC CENTER AND OTHER LOCAL DESTINATIONS.	$2,016

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	LOCAL HIGHWAY	LAF7814	1TR1023	0	LADOT STREETS FOR PEOPLE: TRANSIT CORRIDOR PARKLETS AND PLAZAS: INSTALLS 12 PARKLETS AND 3 PLAZAS. THE LIMITS OF THE PARKLETS WILL BE EQUAL TO TWO CURBSIDE PARKING SPACES (APPRX. 40X 6). THE PLAZA LIMIT VARIES RANGING FROM 2,000 TO 6,000 SF.	$546
LOS ANGELES	LOCAL HIGHWAY	LAF7817	1AL04	0	VERMONT AVENUE STORMWATER CAPTURE & GREEN STREET TRANSIT PROJECT.	$2,937
LOS ANGELES	LOCAL HIGHWAY	LAF9101	1AL04	0	PROJECT INCLUDES DESIGN FEATURES TO ACCOMMODATE THE FUTURE WIDENING OF I-405 OFF-RAMPS (PENDING DETAILS WHEN CALTRANS WILL PERFORM THIS), RE-STRIPING, TRAFFIC SIGNAL UPGRADES AT FIVE LOCATIONS, TURN POCKETS WHERE GEOMETRICALLY POSSIBLE, 0.7 MILES OF CLASS II BIKE LANES, CONCRETE BUS PADS, PAVEMENT UPGRADE, ADDITION OF LANDSCAPED MEDIAN ISLANDS, AND CONCRETE REPAIRS FOR ADA COMPLIANCE. MINIMAL RIGHT-OF-WAY WILL BE REQUIRED FOR INSTALLING ADDITIONAL TURN POCKETS.	$5,197
LOS ANGELES	LOCAL HIGHWAY	LAF9102	1O1007	0	5 INTERSECTION LOCATIONS; SIGNAL IMPROVEMENT INCLUDE UPGRADE TRAFFIC SIGNAL CONTROLLER AND CABINET ENABLING, REWIRING OF THE SIGNALIZED INTERSECTION TO ENSURE COMMUNICATION BETWEEN SIGNAL EQUIPMENT; UPGRADE PEDESTRIAN SIGNALS TO COUNT DOWN TYPE AND PUSH BUTTONS, INSTALL BATTERY BACKUP SYSTEM TO MINIMIZE DISRUPTION OF TRAFFIC DURING POWER OUTAGE NEW VEHICLE DETECTION INCLUDING BICYCLE LOOPS/SENSORS; NEW BIKE LANE WILL BE ONE MILE (EACH WAY).	$4,562
LOS ANGELES	LOCAL HIGHWAY	LAF9109	1O1007	0	RECONSTRUCTION OF THE EXISTING WIDE MEDIAN ON SUNSET BY SETTING BACK 2.0 FT. ON EACH SIDE; RE-STRIPING TO ADD CLASS II BIKE LANES ON A .6-MI STRETCH OF SUNSET BLVD.	$970
LOS ANGELES	LOCAL HIGHWAY	LAF9110	2016A319	0	GARVEY AVENUE REGIONAL ACCESS & CAPACITY IMPROVEMENT PROJECT FOCUSES ON RELIEVING HEAVY TRAFFIC CONGESTION THROUGH IMPROVED LEVEL OF SERVICE (LOS) AND CAPACITY.	$3,308
LOS ANGELES	LOCAL HIGHWAY	LAF9111	1AL04	0	INTERSECTION IMPROVEMENTS ON FLORENCE AVE AT JABONERIA RD. AND IRA AVE. INCLUSIVE OF DEDICATED RIGHT-TURN LANES; LEFT-TURN PHASING; SIGNAL, PEDESTRIAN, AND ROADWAY IMPROVEMENTS.	$1,417
LOS ANGELES	LOCAL HIGHWAY	LAF9114	1AL04	0	WIDEN FULLERTON ROAD FROM SR-60 EB RAMP TO CAMINO BELLO SOUTH OF COLIMA ROAD (0.45 MILE) TO ADD ONE LANE IN EACH DIRECTION AND INSTALL 2.2 MILES OF ENHANCED CLASS III BIKE FACILITIES ALONG BATSON AVENUE, PARALLEL TO FULLERTON	$8,759
LOS ANGELES	LOCAL HIGHWAY	LAF9116	1AL04	0	MICHILLINDA AVENUE INTERSECTIONS IMPROVEMENT PROJECT: THE PROPOSED PROJECT INCLUDES VARIOUS ROADWAY, INTERSECTION, SIGNAL, AND PEDESTRIAN IMPROVEMENTS ON MICHILLINDA AVENUE BETWEEN FOOTHILL BOULEVARD AND COLORADO BOULEVARD	$1,134
LOS ANGELES	LOCAL HIGHWAY	LAF9118	1AL04	0	LYONS AV/DOCKWEILER DR EXTENSION (2 OF 2): CONSTRUCT DOCKWEILER DRIVE GAP CLOSURE BETWEEN 12TH ST. AND EXISTING TERMINUS OF DOCKWEILER DR, JUST WEST OF VALLE DEL ORO. CONSTRUCTS 8-FT SIDEWALKS AND CLASS II BIKE LANES ON BOTH SIDES.	$10,421
LOS ANGELES	LOCAL HIGHWAY	LAF9119	1AL04	0	SAN PEDRO WATERFRONT MOTORIZED/NON-MOTORIZED ACCESS IMPROVEMENTS: HARBOR BOULEVARD & SAMPSON WAY REALIGNMENT/ INTERSECTION CONSOLIDATION; CLASS II BIKE LANES (0.4 MILE)	$11,206
LOS ANGELES	LOCAL HIGHWAY	LAF9123	1AL04	0	IMPLEMENT COMPLETE STREETS ELEMENTS ON COLORADO BOULEVARD BY INSTALLING NEW SIGNALS (TWO NON CONSECUTIVE INTERSECTIONS), TURN LANES, MEDIAN ISLANDS, BUMP-OUTS, AND PEDESTRIAN LIGHTING.	$2,193
LOS ANGELES	LOCAL HIGHWAY	LAF9130	1O1007	0	ESTABLISHING A GREAT STREET (OR MULTIMODAL CORRIDOR) IN LONG BEACH - IMPLEMENTING THE CITY'S STREET PRIORITIZATION FRAMEWORK. IMPROVEMENT INCLUDES ROUND-ABOUT, BUS SHELTER UPGRADE, BULB-OUT, ENHANCED CROSSING, AND CLASS II BIKE LANE (3 MILES)	$7,198
LOS ANGELES	LOCAL HIGHWAY	LAF9131	1AL04	0	CONSTRUCT 2 MILES OF NEW COMPLETE STREETS TO ALLEVIATE BURDEN TO EXISTING ARTERIAL NETWORK, WHILST PROVIDING NECESSARY ACCESS TO EXISTING AND PROPOSED MEDICAL FACILITIES	$12,931
LOS ANGELES	LOCAL HIGHWAY	LAF9200	1AL04	0	EASTERN AVENUE OPERATIONAL IMPROVEMENTS: SIGNALING, SIDEWALK, AND BUS STOP IMPROVEMENTS ON EASTERN AVENUE TO REDUCE TRAFFIC CONGESTION AND INCREASE SAFETY AND COMFORT FOR TRANSIT USERS.	$893

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	LOCAL HIGHWAY	LAF9202	1AL04	0	THE PROPOSED PROJECT WILL IMPROVE TRAFFIC CONDITIONS AND SAFETY ALONG MANCHESTER BOULEVARD AND LA CIENEGA BOULEVARD AT THREE INTERSECTION IN THE CITY OF INGLEWOOD. THEY INCLUDE, MANCHESTER/ASH/I-405, MANCHESTER/LA CIENEGA AND LA CIENEGA/FLORENCE. IMPROVEMENTS INCLUDE RAISED MEDIANS, INCREASE OF CURB RADII, TRAFFIC SIGNAL OPERATIONS/MODIFICATIONS AND RESTRIPING.	$1,542
LOS ANGELES	LOCAL HIGHWAY	LAF9204	1AL04	0	SLAUSON AVENUE - WESTERN AVENUE TO CRENSHAW BOULEVARD: IMPROVE A 1.26 MILE SECTION OF SLAUSON BY INCREASING CURB RADII, INSTALLING NEW SIGNALIZATION EQUIPMENT AT KEY INTERSECTIONS, RECONSTRUCTING FAILING AC PAVEMENT, PROVIDING STREET LIGHTING, AND INSTALLING ADA COMPLIANT CURB RAMPS	$2,412
LOS ANGELES	LOCAL HIGHWAY	LAF9206	1AL04	0	IMPROVEMENTS AT THREE INTERSECTIONS AND INSTALLATION OF BIKE FACILITIES ON HYPERION AVE AND GLENDALE BLVD CORRIDORS, TO ENHANCE GOODS MOVEMENT AND IMPLEMENT MULTI-MODAL ELEMENTS	$8,733
LOS ANGELES	LOCAL HIGHWAY	LAF9207	1AL04	0	ENHANCE GOODS MOVEMENT BY INCREASING TURNING RADII, UPGRADING SIGNALS, ADDING LIGHTING & SIGNAGE, REMOVING OLD RAILROAD TRACKS, IMPROVING STORM DRAINS, & ELIMINATING HAZARDS	$12,027
LOS ANGELES	LOCAL HIGHWAY	LAF9300	1ITS04	0	THE PROPOSED PROJECT IS TO SYNCHRONIZE AND ADD INTERCONNECT ALONG LAS VIGENES ROAD AND SYNCHRONIZE MULHOLLAND HIGHWAY AND OLD TOPANGA CANYON ROAD	$738
LOS ANGELES	LOCAL HIGHWAY	LAF9301	1O1012	0	ROUTE 210: IMPLEMENTATION OF I-210 CONNECTED CORRIDORS TRANSPORTATION MANAGEMENT SYSTEM THAT INTEGRATES FREEWAY RAMP METERS, ARTERIAL SIGNAL SYSTEMS, TRANSIT SYSTEMS AND TRAVELER INFORMATION [EA 32910].	$6,456
LOS ANGELES	LOCAL HIGHWAY	LAF9302	1ITS04	0	THE DESIGN AND CONSTRUCTION OF TRAFFIC SIGNAL SYNCHRONIZATION AND INTELLIGENT TRANSPORTATION SYSTEM IMPROVEMENTS AND INSTALLATION OF PERFORMANCE MEASUREMENT DEVICES IN THE SAN GABRIEL VALLEY AREA.	$9,134
LOS ANGELES	LOCAL HIGHWAY	LAF9303	1ITS04	0	SOUTH BAY FORUM TRAFFIC SIGNAL CORRIDOR PROJECT. THIS PROJECT INCLUDES TRAFFIC SIGNAL SYNCHRONIZATION ON CRENSHAW BOULEVARD BETWEEN 120TH STREET AND ROSECRANS AVENUE AND DEL AMO BOULEVARD BETWEEN AVALON BOULEVARD AND SUSANA ROAD (APPROX. 15+ SIGNALS) AND ALSO INCLUDES SYSTEMWIDE COORDINATION TIMING, OPERATIONAL IMPROVEMENTS AND ITS.	$5,073
LOS ANGELES	LOCAL HIGHWAY	LAF9304	1ITS04	0	THE DESIGN AND CONSTRUCTION OF TRAFFIC SIGNAL SYNCHRONIZATION AND INTELLIGENT TRANSPORTATION SYSTEM IMPROVEMENTS AND INSTALLATION OF PERFORMANCE MEASUREMENT DEVICES IN THE GATEWAY CITIES AREA	$9,603
LOS ANGELES	LOCAL HIGHWAY	LAF9305	1ITS04	0	ANTELOPE VALLEY TRAFFIC SIGNAL CORRIDOR PROJECT. THIS PROJECT INCLUDES TRAFFIC SIGNAL SYNCHRONIZATION ON 50TH STREET WEST/RANCHO VISTA BOULEVARD BETWEEN AVENUE L AND PEONZA LANE (APPROX. 10+ SIGNALS) AND ALSO INCLUDES SYSTEMWIDE COORDINATION TIMING, OPERATIONAL IMPROVEMENTS AND ITS.	$2,758
LOS ANGELES	LOCAL HIGHWAY	LAF9306	1ITS04	0	ITS PHASE VII WILL ENHANCE SAFETY AND MOBILITY BY DEPLOYING BICYCLE DETECTION, FIBER OPTIC GAP CLOSURE AND CONNECTED CORRIDOR FIELD DEVICES. THE ORIGINAL SCOPE OF THIS PROJECT WAS REDUCED BY ELIMINATING BICYCLE DETECTION AT 16 INTERSECTIONS REDUCING THE COUNT FROM 28 TO 12 INTERSECTIONS AND $700,000.	$2,687
LOS ANGELES	LOCAL HIGHWAY	LAF9307	1ITS04	0	CITY OF INGLEWOOD ITS PHASE VI PROJECT: 5,280 FEET OF FIBER OPTIC ALONG PINCAY DRIVE; REPLACE 170 CONTROLLERS WITH TYPE 2070 CONTROLLERS AT TWELVE INTERSECTIONS; TRAFFIC SIGNAL SYNCHRONIZATION ALONG PINCAY DRIVE BETWEEN PRAIRIE AND CRENSHAW; INSTALL CHANGEABLE MESSAGE SIGN AT CENTURY/PRAIRIE; AND MODERNIZING CITY HALL TMC TO PROVIDE ADAPTIVE TRAFFIC CONTROL AND MEET CURRENT STANDARDS.	$1,508
LOS ANGELES	LOCAL HIGHWAY	LAF9308	1ITS04	0	THIS PROJECT WILL MODERNIZE THE INFORMATION TECHNOLOGY (IT) COMPONENTS FOR ATSAC'S ATCS, TPS, LRT, HRI, AND CMS AS ITS SYSTEM FOR IMPROVED RELIABILITY AND SUSTAINABILITY	$2,700
LOS ANGELES	LOCAL HIGHWAY	LAF9309	1AL04	0	THE PROJECT WILL PROVIDE UPGRADES TO TRAFFIC SIGNALS AND RAILROAD CROSSING EQUIPMENT AT HIGHWAY-RAIL GRADE CROSSINGS WHERE BOTH SYSTEMS ARE INTERCONNECTED AND PREEMPTION EXISTS	$5,224

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	LOCAL HIGHWAY	LAF9310	1AL04	0	INSTALL TMC IN DEVELOPMENT SERVICES BUILDING; INSTALL TMC INTERFACE AND VIDEO WALL IN CITY EMERGENCY OPERATIONS CENTER. INSTALL CCTV AT 6 ADDITIONAL LOCATIONS.	$820
LOS ANGELES	LOCAL HIGHWAY	LAF9311	1ITS04	0	THE PROJECT WILL INCLUDE THE DESIGN, CONSTRUCTION AND INSTALLATION OF A DIGITAL VIDEO TRANSPORT SYSTEM FOR CITY'S ATSAC TRANSPORTATION MANAGEMENT SYSTEM IN LOS ANGELES	$2,135
LOS ANGELES	LOCAL HIGHWAY	LAF9313	1ITS04	0	THIS PROJECT IMPROVES OPERATION OF 6 MAJOR ARTERIALS BY SYNCHRONIZING 35 INTERSECTIONS ALONG 6 CORRIDORS, MINOR LANE/SIGNAL MODIFICATION & INSTALLATION OF 3 CHANGEABLE MESSAGE SIGNS.	$968
LOS ANGELES	LOCAL HIGHWAY	LAF9314	1ITS04	0	THE PROJECT CONSISTS OF SIGNAL ENHANCEMENTS THAT WILL INCLUDE SYNCHRONIZATION AND COMMUNICATIONS. ALSO ARE INCLUDED ARE BICYCLE AND PEDESTRIAN IMPROVEMENTS AND INCLUSION OF THE CORRIDOR INTO AN ADAPTIVE TRAFFIC CONTROL SYSTEM	$3,258
LOS ANGELES	LOCAL HIGHWAY	LAF9315	1ITS04	0	TRAFFIC RESPNOSIVE SYSTEM INVOLVING ADVANCED TRAFFIC CONTROLLERS, COMMUNICATIONS, VIDEO SURVEILANCE, AND BICYCLE AND SYSTEM DETECTION FOR 33 INTERSECTIONS IN THE CITY OF BURBANK	$2,065
LOS ANGELES	LOCAL HIGHWAY	LAF9502	1O1007	0	MONTEREY PASS ROAD COMPLETE STREETS BIKE PROJECT IS A 1.6 MILE CORRIDOR PROVIDING MULTIMODAL TRANSPORTATION ALTERNATIVES INCREASING PED, BIKE & TRANSIT USE FOR THE FIRST LAST MILE.	$3,988
LOS ANGELES	LOCAL HIGHWAY	LAF9504	1O1007	0	E. PASADENA & E. SAN GABRIEL BIKEWAY ACCESS IMPROVEMENTS: INSTALL APPROXIMATELY 4.8 MILES OF BIKE LANES AND ENHANCED BIKE ROUTES IN THE EAST PASADENA AND EAST SAN GABRIEL COMUNITIES	$2,252
LOS ANGELES	LOCAL HIGHWAY	LAF9511	1O1007	0	SOUTH WHITTIER COMMUNITY BIKEWAY ACCESS IMPROVEMENTS: CONSTRUCTION OF CLASS II & CLASS III BIKE FACILITIES IN THE UNINCORPORATED COUNTY AREA OF SOUTH WHITTIER ALONG WITH VARIOUS PEDESTRIAN INTERSECTION IMPROVEMENTS	$3,988
LOS ANGELES	LOCAL HIGHWAY	LAF9513	1O1007	0	RAILROAD AVENUE CLASS I BIKE PATH: PROJECT WILL ADD 1.45 MILES OF CLASS I BIKE PATH ON RAILROAD AVENUE AND ENHANCE CONNECTIVITY TO THE JAN HEIDT NEWHALL METROLINK STATION TO THE CITY'S BICYCLE TRAIL NETWORK	$10,180
LOS ANGELES	LOCAL HIGHWAY	LAF9520	1O1007	0	MID-CITY LOW STRESS BICYCLE ENHANCEMENT CORRIDORS: THE PROJECT IS A COMPILATION OF BICYCLE WAYFINDING AND TRAFFIC CALMING TREATMENTS ALONG TWO NEIGHBORHOOD CORRIDORS IN MID-CITY AREA TO SUPPORT REGIONAL LOW-STRESS BICYCLE NETWORK	$2,290
LOS ANGELES	LOCAL HIGHWAY	LAF9525	1O1007	0	THIS PROJECT IMPLEMENTS 17 MILES OF CLASS II BIKE LANES ON EIGHT ROADWAYS (SEVEN OF THEM WITH ROAD DIETS) PROVIDING ENHANCED ACCESS TO ACTIVITY CENTERS AND MULTI-MODAL ASSETS SUCH AS THE GREEN LINE AND BIKE PATHS.	$2,847
LOS ANGELES	LOCAL HIGHWAY	LAF9526	1O1007	0	POMONA ATP PHASE 2 BICYCLE NETWORK FOR COMMUNITY ASSETS: NEARLY 9 MILES OF BIKEWAYS ALONG 5 ROADS, IMPROVING ACCESS TO COMMUNITY DESTINATIONS AND ASSETS, ENHANCING ACCESS TO THE LOCAL AND REGIONAL MULTI-MODAL TRANSPORTATION NETWORK.	$3,551
LOS ANGELES	LOCAL HIGHWAY	LAF9527	1O1007	0	PROJECT WILL CONSTRUCT A 3.1 MILE CYCLETRACK ALONG CHANDLER BOULEVARD, CONNECTIN THE CHANDLER AND ORANGE LINE BIKE PATHS AND BRIDGING A GAP IN THE LOW-STRESS BICYCLE NETWORK	$3,972
LOS ANGELES	LOCAL HIGHWAY	LAF9530	1O1007	0	ENHANCE SAFETY/IMPROVE NON-MOTORIZED TRANSPORTATION TRAVELS ALONG CENTRAL AV BY INSTALLING PROTECTIVE BUFFERED BIKE LANES, IMPROVING INTERSECTION CROSSINGS AND CLOSING SIDEWALK GAPS	$1,439
LOS ANGELES	LOCAL HIGHWAY	LAF9533	1O1007	0	NEW BICYCLE CONNECTOR RAMP FROM THE REGIONAL BEACH BIKE PATH TO THE SANTA MONICA PIER LINKING THE CITY'S BICYCLE NETWORK AS WELL AS THE SANTA MONICA DOWNTOWN/4TH STREET EXPO STATION.	$1,312
LOS ANGELES	LOCAL HIGHWAY	LAF9534	1O1007	0	THE GLENDALE-LA RIVERWALK BRIDGE IS A CLASS I ACTIVE TRANSPORTATION FACILITY (310 FT) CROSSING THE LA RIVER, CONNECTING THE LA RIVER BIKE PATH (L.A.) & THE RIVERWALK BIKE PATH (GLENDALE)	$3,838
LOS ANGELES	LOCAL HIGHWAY	LAF9537	1TR1023	0	BEVERLY HILLS BIKE SHARE PROGRAM: REGIONALLY-COMPATIBLE, PUBLIC BICYCLES FOR LOCAL/REGIONAL NON VEHICLE MOBILITY, FIRST/LAST MILES CONNECTION TO BUS AND PURPLE LINE RAIL TRANSIT, REDUCE AIR POLLUTANTS, PROMOTE HEALTHY LIFESTYLES	$564

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	LOCAL HIGHWAY	LAF9600	1O1008	0	CITY OF AVALON FIVE-CORNER COMPREHENSIVE PEDESTRIAN PROJECT: THE PROJECT PROPOSES TO CONSTRUCT NEW-PERMENANT SIDEWALKS, MEDIAN SAFETY ISLANDS, TRAFFIC CALMING (ROUND-ABOUT) AND LIGHTING IN ORDER TO PROVIDE SAFER ACCESS FOR PEDESTRIANS. THE TOTAL PROJECT IS APPROXIMATELY .25 MILES IN LENGTH.	$2,221
LOS ANGELES	LOCAL HIGHWAY	LAF9601	1O1008	0	COMPLETE STREET IMPROVEMENTS INCLUDING PEDESTRIAN SAFETY/ACCESS, TRANSIT, BICYCLE AND PLACE MAKING FEATURES WITHIN THE WEST HOLLYWOOD DESIGN DISTRICT ALONG MELROSE AVE FROM SAN VICENTE BLVD TO THE EAST CITY LIMIT AT CROFT AVENUE.	$3,927
LOS ANGELES	LOCAL HIGHWAY	LAF9602	1O1008	0	DESIGN AND CONSTRUCTIONS OF AESTHETIC, ACCESSIBLE AND SAFETY IMPROVEMENTS FOR PEDESTRIANS AT SELECTED CROSSWALKS WITHIN BEVERLY HILLS TO ATTRACT PEDESTRIAN WALKING AND TRANSIT USE.	$653
LOS ANGELES	LOCAL HIGHWAY	LAF9605	1O1008	0	THE CUDAHY CITY WIDE COMPLETE STREETS IMPROVEMENT PROJECT FOCUSES ON THE ATLANTIC AVENUE CORRIDOR AND CITY WIDE MULTIMODAL TRANSPORTATION IMPROVEMENTS FOR THE FIRST/LAST MILE. PROJECT IS APPROXIMATELY 1.1 MILES LONG.	$3,284
LOS ANGELES	LOCAL HIGHWAY	LAF9613	1O1008	0	SOUTH LAKE AVE PEDESTRIAN IMPROVEMENT - 1.06 MILE PEDESTRIAN IMPROVEMENTS INCLUDING MID-BLOCK CROSSWALK/PEDESTRIAN CROSSING SIGNALS, VEHICULAR TURN LANES, BUS TRANSITION BAY, CURBS, PEDESTRIAN INFILL LIGHTING, STREET FURNITURE, LANDSCAPE ELEMENTS.	$2,887
LOS ANGELES	LOCAL HIGHWAY	LAF9619	1O1008	0	THIS PROJECT WILL IMPLEMENT A SERIES OF STREETSCAPE IMPROVEMENTS ON SANTA MONICA BOULEVARD DESIGNED TO INCREASE PEDESTRIAN SAFETY, SUPPORT MULTIPLE MODES AND PROMOTE TRANSIT USE.	$1,434
LOS ANGELES	LOCAL HIGHWAY	LAF9620	1O1008	0	FIRST/LAST MILE CONNECTIONS FOR THE BALDWIN PARK TRANSIT CENTER: IMPROVE PEDESTRIAN INFRASTRUCTURE BY PROVIDING SAFE AND EFFICIENT NON-MOTORIZED CONNECTIONS TO AND FROM PUBLIC TRANSIT FACILITIES AND DESTINATIONS WITHIN THE DOWNTOWN AREA.	$822
LOS ANGELES	LOCAL HIGHWAY	LAF9621	1O1008	0	STRENGTHEN FIRST/LAST MILE CONNECTIVITY ON MELROSE AVENUE THROUGH PEDESTRIAN/BIKE-FRIENDLY IMPROVEMENTS TO RESTORE THE AVENUE'S REPUTATION AS A RETAIL AND ENTERTAINMENT DESTINATION. IMPROVEMENTS INCLUDE HIGH VISIBILITY CROSSWALKS, TREES, BULB-OUTS, LIGHTING, AND BUS STOP BENCHES AND SHADES.	$3,906
LOS ANGELES	LOCAL HIGHWAY	LAF9623	1O1008	0	DESIGN AND CONSTRUCTION OF PEDESTRIAN IMPROVEMENTS/STREETSCAPE ENHANCEMENTS TO PROVIDE LINKAGES TO MAJOR TRANSIT ALONG BEVERLY BOULEVARD, TEMPLE STREET, VIRGIL AVENUE AND SILVER LAKE BOULEVARD	$3,465
LOS ANGELES	LOCAL HIGHWAY	LAF9624	1O1008	0	FIRST/LAST MILE COMPLETE STREETS IMPROVEMENTS CONNECTING TROPICO AND ATWATER VILLAGE TO REGIONAL CONNECTIONS THROUGH THE GLENDALE'S AMTRAK/METROLINK STATION AND METRO RAPID BUSES	$2,268
LOS ANGELES	LOCAL HIGHWAY	LAF9625	1O1007	0	THE PROJECT IS LOCATED ON 17TH ST AND EXTENDS FROM THE NORTH SIDE OF WILSHIRE BLVD TO THE SOUTH SIDE OF PICO. THE PROJECT WILL IMPROVE PEDESTRIAN SCALE LIGHTING, CURB BULB-OUTS, LANDSCAPING PRIMARILY ON ONE SIDE OF THE STREET, PROVIDE TRAFFIC CALMING, WAYFINDING, AND ROADWAY RECONFIGURATION. THE PROJECT WILL CONSTRUCT A 0.6 MILE SEPARATED CYCLE TRACK ALONG 17TH ST AND THE CONSTRUCTION OF 0.8 MILE BIKE BLVD ALONG MICHIGAN AVE BETWEEN LINCOLN BLVD AND 19TH.	$4,301
LOS ANGELES	LOCAL HIGHWAY	LAF9626	1O1008	0	MIDTOWN COMMERICAL CORRIDORS IMPROVEMENT PROJECT (PED MODE): PEDESTRIAN IMPROVEMENTS INVOLVING HIGH VISIBILITY CROSSWALKS, LED CROSSWALK LIGHTING, PEDESTRIAN SIGNALS, AND PEDESTRIAN DETECTION FOR 33 INTERSECTIONS IN THE CITY OF BURBANK	$1,016
LOS ANGELES	LOCAL HIGHWAY	LAF9628	1O1008	0	IMPLEMENT SHARED STREET CONCEPTS ON 1ST STREET TO IMPROVE THE EAST/WEST CONNECTIVITY BETWEEN THE TRANSIT GALLERY AND THE EAST VILLAGE: CONSTRUCT FIRST PED GALLERY (30 FT LONG) TO IMPROVE EAST-WEST PED CONNECTIONS B/W DIFFERENT AREAS WITHIN EAST VILLAGE INCLUDING BENCHES, PLANTS, MOVABLE PLANTERS, AND GATEWAY ARCH ETC. WILL PROVIDE ROOM FOR EVENT SPACE, FARMERS MARKETS, AND VENDORS.	$3,623
LOS ANGELES	LOCAL HIGHWAY	LAF9800	1O1007	0	INSTALL BIKE PATH AMENITIES COUPLED WITH BIKE PATH ACCESS WAY IMPROVEMENTS AND NEW ACCESS WAY INSTALLATIONS TO ENCOURAGE AND ENABLE BROADER USE OF COUNTY BIKE PATHS	$4,866
LOS ANGELES	LOCAL HIGHWAY	LAF9802	1TR1023	0	THE SEED PROGRAM WILL PROVIDE NO-COST, SHORT-TERM EV RENTALS TO PASADENA EMPLOYEES TO GAIN FIRST-HAND EXPERIENCE WITH DRIVING EVS TO THEIR WORKPLACE AND CONNECTING TO TRANSIT	$465

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	LOCAL HIGHWAY	LAF9803	1TR1023	0	CREATE BICYCLE FRIENDLY BUSINESS DISTRICTS THAT COORDINATE WITH BUSINESS DISTRICTS TO OFFER TDM INCENTIVES, PROVIDE APP AND AMENITIES THAT ENCOURAGE SHORT TRIPS BY BICYCLE	$1,029
LOS ANGELES	LOCAL HIGHWAY	LAF9804	1TR1023	0	PROJECT CONSISTS OF THE DEVELOPMENT AND IMPLEMENTATION OF A PARKING MANAGEMENT PROGRAM FOR DOWNTOWN BELLFLOWER & CIRCULATOR TRANSIT SHUTTLE, INCLUDING SOFTWARE & WAYFINDING SIGNAGE	$457
LOS ANGELES	LOCAL HIGHWAY	LAF9805	1TR1023	0	EXPANSION OF LA EXPRESS PARK INTO VENICE WITH DEMAND BASED PARKING PRICING, AND PARKING GUIDANCE INTEGRATED WITH DYNAMIC MESSAGE SIGNS AND WEB/MOBILE APPLICATIONS	$1,091
LOS ANGELES	LOCAL HIGHWAY	LAF9806	1TR1023	0	EXPANSION OF LA EXPRESS PARK INTO EXPOSITION PARK WITH DEMAND BASED PARKING PRICING, AND PARKING GUIDANCE INTEGRATED WITH DYNAMIC MESSAGE SIGNS AND WEB/MOBILE APPLICATIONS	$1,145
LOS ANGELES	LOCAL HIGHWAY	LAF9807	1TR1023	0	TARGETED MULTI-MODAL TRAVEL PLANNING ASSISTANCE & INCENTIVES COUPLED WITH PROMOTION OF SHARED PARKING OPTIONS AT EXPO STATIONS CREATING TRAVEL BEHAVIOR CHANGE TO/FROM SANTA MONICA	$470
LOS ANGELES	LOCAL HIGHWAY	LAF9808	1TR1023	0	PARK OR RIDE: A MOBILE APPLICATION AND PARKING GUIDANCE SYSTEM INFRASTRUCTURE FOR PARKING, EVENT, CONGESTION, AND MULTIMODAL OPTIONS TO ENCOURAGE ALTERNATIVE TRANSPORTATION CHOICES	$1,063
LOS ANGELES	LOCAL HIGHWAY	LAOB422	LAOB422	0	FAIR OAKS AV & SR-110 IMPROVEMENT PROJECT (ROGAN FUNDS, HR5394)EXPAND EXIT OFF-RAMP OF 110 NB, ADD A HOOK RAMP FOR EXISTING ON-RAMP 110 SB.	$9,418
LOS ANGELES	LOCAL HIGHWAY	LARE1701	1AL04	0	PROVIDE FUNDING SHORTFALL TOWARDS THE INSTALLATION OF A NEW ROUNDABOUT, SAFETY IMPROVEMENTS FOR PEDESTRIANS AND CYCLISTS AND STORMWATER LOW IMPACT DEVELOPMENT COMPLIANT IMPROVEMENTS ALONG MISSION ROAD AND MYERS STREET BETWEEN THE SIXTH STREET VIADUCT AND THE SEVENTH STREET VIADUCT. THE ORIGINAL FEDERAL PROJECT WAS ON MISSION ROAD AT THE FIRST STREET VIADUCT INTERSECTION.	$873
LOS ANGELES	LOCAL HIGHWAY	LARE1701D	1O1008	0	THIS PROJECT WILL IMPROVE THE SAFETY OF PEDESTRIAN BY INSTALLING LEADING PEDESTRIAN INTERVAL (LPI), PEDESTRIAN ACTUATED WARNING DEVICES (AWDS), ONE SCRAMBLE CROSSWALK, ONE NEW SIGNAL, AND SAFETY IMPROVEMENT ALONG SUNSET BOULEVARD BETWEEN MICHELTORENA STREET & EDGECLIFF DRIVE. PROJECT LIMITS WILL BE CITYWIDE. TRANSIT LINES THAT WILL BENEFITS FROM THIS PROJECT ARE: METRO BUS 12, 4, 65, 169, 239, 243, 302 SANTA MONICA BLUE BUS 18, AND CULVER CITY 2. SEE ATTACHED LIST OF PROJECT LOCATIONS.	$2,013
LOS ANGELES	LOCAL HIGHWAY	LARE1705	1AL04	0	FIRESTONE BLVD STREET IMPROVEMENTS INSTALLATION OF RAISED LANDSCAPED MEDIANS, REHABILITATION OF EXISTING PAVEMENT AND RE-STRIPING OF ROADWAY FROM 4 TO 6 TRAVEL LANES.	$1,673
LOS ANGELES	LOCAL HIGHWAY	LARE1710	1ITS04	0	THIS PROJECT CONSISTS OF A NEW TRAFFIC SIGNAL AT THE INTERSECTION OF SANTA ANITA AVENUE AND LEROY AVENUE, A PEDESTRIAN CROSSING WARNING LIGHT SYSTEM AT THE INTERSECTION OF SANTA ANITA AVENUE AND ALTA STREET AND OTHER TRAFFIC SIGNAL IMPROVEMENTS AT MISCELLANEOUS LOCATIONS ON SANTA ANITA AVE. SUCH AS CCTV CAMERAS, VIDEO DETECTION SYSTEMS, A GREEN-ARROW RIGHT TURN OVERLAP, ALL WITHIN THE CITY OF ARCADIA.	$684
LOS ANGELES	LOCAL HIGHWAY	LASRTS	7120004	0	GROUPED PROJECTS FOR SAFETY IMPROVEMENT - SAFE ROUTE TO SCHOOL PROGRAM (ATP PROGRAM). PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126. UTILIZING TOLL CREDITS TO MATCH ATP.	$45,292
LOS ANGELES	LOCAL HIGHWAY	LATP16M001	7120004	0	BELLFLOWER AND PARAMOUNT JOINT ACTIVE TRANSPORTATION PLAN.	$125
LOS ANGELES	LOCAL HIGHWAY	LATP16M003	1O1007	0	DOWNEY BIKE SHARE AND SAFETY EDUCATION. COMBINATION INFRASTRUCTURE/NON- INFRASTRUCTURE PROGRAM FOR INSTALLATION OF THREE CENTRALLY LOCATED KIOSK-BASED BIKE SHARE STRUCTURES, INCLUDING SITE PREPARATION, PA&ED, AND A SAFETY EDUCATION AND ENCOURAGEMENT OUTREACH CAMPAIGN.	$294
LOS ANGELES	LOCAL HIGHWAY	LATP16M004	7120004	0	PEDESTRIAN PLAN. THE PEDESTRIAN PLAN SEEKS TO REMOVE EXISTING BARRIERS TO MOBILITY, CLOSE GAPS, AND PLAN FUTURE IMPROVEMENTS OF ROUTES BASED ON PRIORITIZED PEDESTRIAN ACTION PLANNING, AND PROVEN BEST COUNTERMEASURES.	$310

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	LOCAL HIGHWAY	LATP16M006	1O1008	0	UNCONTROLLED CROSSWALK PEDESTRIAN SAFETY ENHANCEMENT PROJECT. THE PROJECT FOCUSES ON 22 EXISTING UNPROTECTED CROSSWALKS NEAR SCHOOLS, EITHER MID-BLOCK OR ACROSS MAJOR ARTERIALS IN THE CITY. THE PROJECT WILL INSTALLING SAFETY ENHANCEMENTS FOR PEDS AT THESE LOCATIONS OR ELIMINATING HAZARDOUS CONDITIONS.	$1,793
LOS ANGELES	LOCAL HIGHWAY	LATP16M007	REG0703	0	CITYWIDE NON MOTORIZED DESIGN GUIDELINES AND ACTIVE TRANSPORTATION ACTION PLAN. PREPARE A CITYWIDE NON MOTORIZED ACTIVE TRANSPORTATION PLAN. PROJECT INCLUDES PLAN ADOPTION, COMMUNITY OUTREACH, TECHNICAL STUDIES, BICYCLE AND PEDESTRIAN COUNTS, AND DESIGN GUIDELINES FOR INFRASTRUCTURE AND SUPPORT FACILITIES. UTILIZING TOLL CREDITS.	$154
LOS ANGELES	LOCAL HIGHWAY	LATP16M009	1O1008	0	COLORADO BL PEDESTRIAN AND BICYCLE ACTIVE TRANSPORTATION IMPROVEMENTS. IMPROVED CONDITIONS FOR THOSE WHO WALK OR BICYCLE IN THE EAGLE ROCK NEIGHBORHOOD OF THE CITY OF LOS ANGELES INCLUDING CURB EXTENSIONS, REFUGE MEDIAN ISLANDS, SIDEWALK IMPROVEMENTS, STREET FURNITURE, PEDESTRIAN LIGHTING, AND BICYCLE LANE IMPROVEMENTS.	$9,843
LOS ANGELES	LOCAL HIGHWAY	LATP16M010	7120004	0	COASTAL BIKE TRAIL CONNECTOR-OCEAN BLVD, LONG BEACH. THIS IS A CLASS I BIKE PATH ON OCEAN BLVD BRIDGE, CONNECTING THE FUTURE BIXBY MEMORIAL BICYCLE PATH TO THE CITY OF LONG BEACH EXISTING/FUTURE BIKE NETWORK (APPROXIMATELY 0.5 MILE). IT WILL CONNECT TO THE LA RIVER BIKE PATH AND CLOSE A GAP IN THE CALIFORNIA COASTAL TRAIL.	$13,749
LOS ANGELES	LOCAL HIGHWAY	LATP16M011	7120004	0	SOUTH WATER FRONT/PIER J BIKE AND PEDESTRIAN PATH. THE PIER J BIKE PATH WILL CONNECT THE PORT TO DOWNTOWN LONG BEACH VIA THE QUEENSWAY BRIDGE BIKEWAY (APPROXIMATELY 1.5 MILES - PROJECT SEGMENTS 2-6). PEDESTRIANS AND BIKE IMPROVEMENTS IN THE PORT WILL PROVIDE ADDITIONAL SAFETY AND MOBILITY FOR NON- MOTORIZED USERS AND CONNECT TO PIER J.	$8,841
LOS ANGELES	LOCAL HIGHWAY	LATP16M013	1AL04	0	DOWNTOWN TORRANCE ACTIVE TRANSPORTATION IMPROVEMENT PROJECT. THE CITY OF TORRANCE WILL ENHANCE PEDESTRIAN AND BIKE USE IN HISTORIC DOWNTOWN BY COMPREHENSIVELY OVERHAULING 100,000 SQUARE FEET OF THE SIDEWALK SYSTEM IN THE PROJECT AREA, TRAFFIC STRIPING, SIGNS, PEDESTRIAN SIGNALS, AND BICYCLE PARKING AMENITIES.	$2,533
LOS ANGELES	LOCAL HIGHWAY	LATP16S002	1AL04	0	PEDESTRIAN GAP CLOSURE IMPROVEMENTS. CONSTRUCTION OF CURB, GUTTER, AND SIDEWALK IMPROVEMENTS TO CLOSE THE GAP BETWEEN EXISTING IMPROVEMENTS IN ORDER TO INCREASE PEDESTRIAN SAFETY AND MOBILITY.	$7,824
LOS ANGELES	LOCAL HIGHWAY	LATP16S003	1AL04	0	UNION STATION MASTER PLAN: ALAMEDA ESPLANADE.THE UNION STATION MASTER PLAN: ALAMEDA ESPLANADE WILL CREATE A MULTI-MODAL CONNECTION BETWEEN UNION STATION AND SURROUNDING DOWNTOWN LOS ANGELES COMMUNITIES THROUGH A ROAD-DIET AND A SHARED PEDESTRIAN AND BICYCLIST ESPLANADE. UTILIZING TOLL CREDITS.	$12,340
LOS ANGELES	LOCAL HIGHWAY	LATP16S004	1O1007	0	BICYCLE FACILITY IMPROVEMENTS: (1) 7.7-MILE CLASS 2 BIKE LANES ON HIGHLAND OAKS DR, FIRST AV, BALDWIN AV, SIERRA MADRE BLVD, SYCAMORE AV, COLORADO BLVD, SANTA CLARA ST, AND HUNTINGTON DR. (2) 8.64-MILE CLASS 3 BIKE LANES ON FIRST AV (SHARROWS), SECOND AV, SIERRA MADRE BL (SHARROWS), ORANGE GROVE AV (ENHANCED BLVD), CAMPUS DR, CAMINO REAL AV, AND LONGDEN AV. (3) BIKE SIGNAL DETECTION & BIKE PARKING AT KEY LOCATIONS.	$1,652
LOS ANGELES	LOCAL HIGHWAY	LATP16S005	1O1007	0	PEDESTRIAN AND BICYCLE NEIGHBORHOOD INTERSECTION ENHANCEMENTS. THIS PROJECT DESIGNS AND CONSTRUCTS PEDESTRIAN & BICYCLE NEIGHBORHOOD INTERSECTION ENHANCEMENTS AT 4 LOCATIONS IDENTIFIED IN THE CITY'S MOBILITY PLAN 2035 AS PART OF THE NEIGHBORHOOD ENHANCED NETWORK, WITH ACCOMPANYING OUTREACH AND EDUCATION.	$2,616
LOS ANGELES	LOCAL HIGHWAY	LATP16S006	1O1008	0	BOYLE HEIGHTS PEDESTRIAN LINKAGES. PEDESTRIAN INFRASTRUCTURE IMPROVEMENTS INCLUDING SIDEWALK REPAIRS, 3,400 LINEAR FEET OF NEW SIDEWALK, AND INSTALLATION OF PEDESTRIAN LIGHTING, CONTINENTAL CROSSWALKS, AND CURB RAMPS TO IMPROVE CONNECTIVITY WITHIN COMMUNITY AND TO 6TH STREET VIADUCT REPLACEMENT PROJECT. UTILIZING TOLL CREDITS.	$5,000
LOS ANGELES	LOCAL HIGHWAY	LATP16S007	1O1007	0	WEST CARSON COMMUNITY BIKEWAYS. DESIGN AND CONSTRUCT 0.99 MILES OF CLASS II BICYCLE LANES ON LOMITA BOULEVARD AND CARSON STREET, AS WELL AS 0.65 MILES OF CLASS III BICYCLE ROUTE ON 220TH STREET.	$532

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	LOCAL HIGHWAY	LATP16S008	1O1008	0	ROSEMEAD BOULEVARD COMPLETE STREET IMPROVEMENTS PHASE 1. DEVELOP PRELIMINARY DESIGN AND OBTAIN ENVIRONMENTAL CLEARANCE FOR A COMPLETE STREETS TREATMENT WITH BIKE LANES AND ADA- COMPLIANT ACCESSIBILITY ON A 2.6-MILE SEGMENT OF ROSEMEAD BOULEVARD (SR 165) BETWEEN THE CITIES OF SOUTH EL MONTE AND PICO RIVERA.	$1,250
LOS ANGELES	LOCAL HIGHWAY	LATP16S010	7120004	0	MICHIGAN AVE GREENWAY: COMPLETING BIKE/PED EXPO CONNECTION OVER THE I-10. BIKE PATH IMPROVEMENTS, DEDICATED 2-WAY BIKE LANE AND NEW BIKE/PED PATH TO CLOSE GAP IN BIKE NETWORK AND ENHANCE PED ACCESS BY CONNECTING DISCONTINUOUS SEGMENTS OF MICHIGAN AVE. ACROSS I-10 FREEWAY AT THE 20TH ST. OVERCROSSING AND LINKING TO EXPO LRT	$1,234
LOS ANGELES	LOCAL HIGHWAY	LATP16S011	1O1007	0	WHITTIER GREENWAY TRAIL EAST EXTENSION GAP CLOSURE. ACQUISITION OF FINAL 0.5 MILE AND CONSTRUCTION/COMPLETION OF FINAL 2.8 MILES OF THE 7.3-MILE WHITTIER GREENWAY TRAIL, A CLASS I BICYCLE AND PEDESTRIAN TRAIL ALONG SOUTHERN BOUNDARY OF WHITTIER, CONNECTING LA & ORANGE COUNTY.	$5,332
LOS ANGELES	LOCAL HIGHWAY	LATP17M014	1AL04	0	ARTS DISTRICT PEDESTRIAN & CYCLIST SAFETY PROJECT. THE PROJECT WILL ESTABLISH CRITICAL PEDESTRIAN AND CYCLIST CONNECTIONS TO AND WITHIN THE ARTS DISTRICT IN DOWNTOWN LOS ANGELES WHICH IS A HISTORIC INDUSTRIAL NEIGHBORHOOD WITH A COMPLEX STREET SYSTEM THAT CHALLENGES THE MOBILITY OF ALL USERS WHETHER THEY ARE ON FOOT, ON A BIKE OR IN A VEHICLE. UTILIZING TOLL CREDITS TO MATCH ATP FUNDS.	$15,000
LOS ANGELES	LOCAL HIGHWAY	LATP17M015	1AL04	0	THE PROJECT ENTAILS THE DESIGN AND CONSTRUCTION OF ACTIVE TRANSPORTATION IMPROVEMENTS ALONG THE SUBJECT CORRIDOR. COMPONENTS INCLUDE A ROAD RECONFIGURATION (ROAD DIET - 1.3 MILES) VIA THE REDUCTION OF VEHICLE TRAVEL LANES FROM FOUR TO TWO, PROTECTED CLASS IV BIKEWAY, SHARED CENTER LEFT TURN LANE AND KEY INTERSECTION BULB-OUTS.	$1,419
LOS ANGELES	LOCAL HIGHWAY	LATP17M017	7120004	0	CONSTRUCTION OF AN PED/BIKE BRIDGE (350FT) ACROSS THE SAN GABRIEL RIVER WITH CLASS I & II BIKE FACILITIES ON ATHERTON ST FROM STUDEBAKER RD TO SAN CABRIEL RIVER (0.4 MI), BIKE BLVD ON PARK AVE FROM PCH TO ATHERTON ST (0.3 MI), ANAHEIM RD FROM PCH TO BELLFLOWER BLVD (0.7 MI), NEW SIGNAL AND SAFETY IMPROVEMENTS AT PCH & PARK AVE., AND WAYFINDING SIGNAGES ALONG BELLFLOWER BLVD AND MARGO AVE TO CONNECT RESIDENTS TO JOBS AND SHOPPING, STUDENTS TO UNIVERSITY. UTILIZING TOLL CREDITS TO MATCH ATP.	$3,091
LOS ANGELES	LOCAL HIGHWAY	LATP17M018	7120004	0	THE PROJECT WILL INSTALL ONE-WAY PROTECTED CYCLE TRACKS (CLASS II - 1.13 MILES) WITH A RAISED CURBED BUFFER ON PACIFIC BOULEVARD BETWEEN SANTA FE AVENUE AND FRUITLAND AVENUE AND INSTALL SAFETY IMPROVEMENT AT SIGNALIZED AND UNCONTROLLED CROSSWALK LOCATIONS ALONG PACIFIC BOULEVARD AND AT THE UNCONTROLLED CROSS LOCATION AT SANTA FE AVENUE AND 52ND STREET.	$1,931
LOS ANGELES	LOCAL HIGHWAY	LATP17M019	1AL04	0	THE PROJECT WILL REESTABLISH A SAFE AND INTUITIVE CONNECTION BETWEEN UNION STATION AND THE SURROUNDING HISTORIC AND CULTURALLY SIGNIFICANT COMMUNITIES THROUGH THE PARTIAL CLOSURE OF LOS ANGELES STREET AND THE IMPLEMENTATION OF A NEW, DIRECT AND CONSOLIDATED CROSSWALK THAT WILL ALSO FUNCTION AS A SPEED TABLE.	$5,326
LOS ANGELES	LOCAL HIGHWAY	LATP17M021	1AL04	0	THE CITY OF PASADENA WILL INSTALL A 1.5-MILE, TWO-WAY, PROTECTED CYCLE TRACK (CLASS I) ON UNION STREET FROM HILL AVENUE TO ARROYO PARKWAY, INCLUDING NECESSARY SIGNAL UPGRADES WITH ROAD DIET FROM 3 TO 2 LANES. ALSO INSTALLING BIKE BOULEVARD (0.3 MILES, CLASS III) ALONG HOLLISTON AVENUE BETWEEN UNION ST AND CORDOVA ST (NO ROAD DIET.)	$6,619
LOS ANGELES	LOCAL HIGHWAY	LATP17M022	7120004	0	UPGRADE SUBSTANDARD SIDEWALK, HANDICAPPED RAMPS AND DRIVEWAYS TO ADA STANDARDS, INSTALL A PEDESTRIAN TRAFFIC SIGNAL, LOADING/ UNLOADING TURNOUT BAY FOR PARENTS TO DROP OFF CHILDREN, SHARE THE ROAD SIGNS/MARKINGS ON NARROW RESIDENTIAL STREETS TO IMPROVE SAFETY OF CYCLISTS AND ENHANCE THE SCHOOL CROSSWALK WITH IN-ROADWAY LIGHTED MARKERS.	$623
LOS ANGELES	LOCAL HIGHWAY	LATP17M023	7120004	0	PROMOTE MULTI-MODAL CONNECTIONS TO OTHER MAJOR THOROUGHFARES BY INCORPORATING BIKE LANES, UPGRADING ADA RAMPS, REPAIRING UPLIFTED OR UNEVEN SIDEWALKS, AND ENHANCING TRAFFIC CALMING BY INSTALLING SAFETY PEDESTRIAN REFUGE ALONG NORWALK BOULEVARD TO REDUCE SPEED LIMIT. IMPROVEMENTS ALONG NORWALK (1.24 MILES) AND ARTESIA (1.15 MILES) BOULEVARDS BETWEEN CITY LIMITS TO CITY LIMITS.	$2,327
LOS ANGELES	LOCAL HIGHWAY	LATP17M024	7120004	0	DESIGN AND CONSTRUCT A 1.8 MILE BIKE AND PEDESTRIAN PATH (CLASS 1 FACILITY) ALONG THE TOP OF THE DOMINGUEZ CHANNEL LEVEE BETWEEN AVALON BOULEVARD AND 223RD STREET / WILMINGTON AVENUE IN CARSON.	$2,225
LOS ANGELES	LOCAL HIGHWAY	LATP17M025	7120004	0	INSTALL A 1.6 MILE LONG AND 17-FOOT WIDE WALKWAY ADJACENT TO EXISTING MARVIN BRAUDE BIKE TRAIL TO CLOSE THE GAP BETWEEN THE EXISTING WALKWAYS CONNECTING PACIFIC PALISADES AND THE CITY OF SANTA MONICA. THIS WILL INCREASE SAFETY FOR CYCLISTS/PEDESTRIANS WHICH WILL INCREASE USAGE AND PHYSICAL ACTIVITY OPPORTUNITIES.	$2,936

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	LOCAL HIGHWAY	LATP17M026	7120004	0	INSTALL NEW RAISED BIKE LANES AND SIDEWALKS ON AN EXISTING 4-LANE, 0.8-MILE ROADWAY SEGMENT OF TEMPLE AVENUE, BETWEEN THE CITIES OF WALNUT AND POMONA. THIS GAP CLOSURE PROJECT WILL CONNECT BIKE AND PEDESTRIAN FACILITIES, TWO LARGE COLLEGES AND EMPLOYERS IN TO ADJACENT CITIES. SIDEWALK AND BIKE LANE ARE BOTH 0.8 MILES.	$1,847
LOS ANGELES	LOCAL HIGHWAY	LATP17M027	7120004	0	THIS PROJECT WILL CREATE AN 11.3-MILE BIKE AND PEDESTRIAN NETWORK OF TRAILS ALONG THREE FLOOD CONTROL CHANNELS WHICH MAY INCLUDE, BUT NOT LIMITED TO, PAVED PATHWAYS, WAYFINDING SIGNAGE, REST AREAS, HYDRATION STATIONS, NATIVE PLANTINGS FOR AESTHETICS AND SHADE, AND WASTE RECEPTACLES.	$2,242
LOS ANGELES	LOCAL HIGHWAY	LATP17M028	7120004	0	THE PROJECT CONSISTS OF DEDICATED CLASS II BIKE LANES, SIDEWALK CONSTRUCTION, ADA-COMPLIANT CORNER RAMPS, AND PEDESTRIAN LIGHTING AND TRAFFIC SIGNAL IMPROVEMENTS ALONG MONTEBELLO BOULEVARD TO CONNECT RETAIL/EMPLOYMENT CENTERS WITH LOW/MODERATE INCOME HOUSING TO INCREASE ACTIVE TRANSPORTATION-RELATED ACTIVITIES. 1.4 MILES FROM LINCOLN AVE TO PARAMONT BLVD	$5,755
LOS ANGELES	LOCAL HIGHWAY	LATP17M029	7120004	0	PEDESTRIAN INFRASTRUCTURE ALONG A 0.5-MILE SEGMENT OF PICO BOULEVARD TO IMPROVE PEDESTRIAN SAFETY ALONG ONE OF THE CITY'S HIGHEST COLLISION AREAS, AND IMPROVE CONNECTIVITY AND ENCOURAGE WALKING TO HIGH-VOLUME DESTINATIONS LIKE SANTA MONICA COLLEGE, VIRGINIA AVENUE PARK, SANTA MONICA SWIM CENTER, AND LOCAL SCHOOLS AND BUSINESSES.	$1,178
LOS ANGELES	LOCAL HIGHWAY	LATP17S001	7120004	0	THE PROJECT WILL INSTALL A CLASS I BIKEWAY, BIKEWAY LIGHTING, A TRAFFIC SIGNAL, A HAWK PEDESTRIAN SIGNAL, HIGH VISIBILITY CROSSWALKS, ADA CURB RAMPS, STREET FURNITURE, AND FENCING TO PROVIDE SEPARATION OF BIKEWAY USERS FROM ADJACENT LAND USES AND RAILROAD RIGHT OF WAY.	$4,550
LOS ANGELES	LOCAL HIGHWAY	LATP17S004	1AL04	0	SLAUSON BLUE LINE STATION INTERSECTION IMPROVEMENTS - INSTALL CURB EXTENSIONS, CURB RAMPS, COUNTDOWN SIGNAL HEADS, ENHANCED CROSSWALKS, AND ADVANCED STOP BARS.	$1,465
LOS ANGELES	LOCAL HIGHWAY	LATP17S005	1AL04	0	THE CITY OF LOS ANGELES WILL BE IMPLEMENTING COMPLETE STREET TREATMENTS TO IMPROVE JEFFERSON BOULEVARD BETWEEN VERMONT AVENUE AND WESTERN AVENUE, WHICH INCLUDES BUFFERED CLASS II (0.35 MI) AND CLASS IV (0.65 MI) BICYCLE FACILITIES, CURB EXTENSIONS, PEDESTRIAN REFUGE AREAS, PATH IMPROVEMENTS, PEDESTRIAN LIGHTING, AND ADDITIONAL SHADE TREES WITH ROAD DIET FROM 4 TO 2 LANES (1 MILE).	$6,336
LOS ANGELES	LOCAL HIGHWAY	LATP17S006	7120004	0	INSTALL A CLASS I BIKE PATH (750 FT), CLASS II BIKE LANES (2.65 MILES), AND CLASS III BIKE ROUTES (1.61 MILES) ALONG WITH PEDESTRIAN IMPROVEMENTS INCLUDING SIDEWALK, CURB EXTENSIONS, ADA CURB RAMPS, HIGH VISIBILITY CROSSWALKS, RECTANGULAR RAPID FLASHING BEACON, BUS SHELTERS, AND BIKE RACKS.	$826
LOS ANGELES	LOCAL HIGHWAY	LATP17S007	1O0704	0	THIS PROJECT IS PHRASE 2 TO COMPLETE PEDESTRIAN SAFETY ENHANCEMENTS AT THE REMAINING UNCONTROLLED CROSSWALK LOCATION IN THE CITY. THE PROJECT WILL INSTALL RECTANGULAR RAPID FLASHING BEACONS (RRFB) WITH LED LIGHTS, UPDATED SIGNING AND PAVEMENT MARKING AT UNCONTROLLED AND WILL ELIMINATE HAZARDOUS CONDITION WHILE IMPROVING PEDESTRIAN SAFETY. UTILIZING TOLL CREDITS TO MATCH ATP.	$1,054
LOS ANGELES	LOCAL HIGHWAY	LATP17S010	7120004	0	THE PROJECT WILL INSTALL APPROXIMATELY 2.0 LANE MILES OF BIKE LANES (CLASS II) ON SPRING STREET, REPAVE ROADWAY TO MINIMIZE DRAINAGE TO BIKE LANES/LEVEL SURFACE, REVISED STRIPING, SIGNING, MODIFIED PEDESTRIAN WALKWAYS/RAMPS, SIGNAL PEDESTRIAN COUNTDOWN HEADS, SAFETY LIGHTING, CONSTRUCTION OF FILTERRA UNITS, AND OTHER ROADWAY MODIFICATIONS AS NEEDED.	$2,599
LOS ANGELES	LOCAL HIGHWAY	LATP17S011	1AL04	0	LOS NIETOS SAFE ROUTES TO SCHOOL PHASE II - INTERSECTION ENHANCEMENTS INCLUDING CURB RAMP IMPROVEMENTS, BULB-OUTS, A SIGNALIZED CROSSING, NEW SIDEWALK, PEDESTRIAN COUNTDOWN HEADS AND AUDIBLE PUSH BUTTONS.	$1,641
LOS ANGELES	LOCAL HIGHWAY	LATP17S012	7120004	0	THIS PROJECT IS THE FINAL DESIGN AND CONSTRUCTION OF 29.68 MILES OF GAP CLOSURE IN THE BIKE LANE NETWORK IN THE CITIES OF COMPTON AND CARSON. PROJECT ELEMENTS INCLUDE CLASS I, II, AND III BIKE LANE IMPROVEMENTS INCLUDING STRIPING, BIKE SHARROWS, DIRECTIONAL PAINTED GREEN LINES AND WAYFINDING SIGNAGE. UTILIZING TOLL CREDITS TO MATCH ATP.	$1,868
LOS ANGELES	LOCAL HIGHWAY	LATP17S013	1AL04	0	CREATION OF 8-80 FACILITIES THROUGH THE CONSTRUCTION OF TWO BICYCLE BOULEVARDS (CLASS III) ALONG LOMA AVE. AND 20TH ST. (4 MILES), A ROAD DIET (0.9 MILE) ALONG PALO VERDE AVENUE WITH TRAFFIC CALMING, BUFFERED BIKE LANES (CLASS I) AND BRIDGE ADA UPGRADE, INTERSECTION SAFETY IMPROVEMENTS AND AN ENCOURAGEMENT PROGRAM TO REMOVE MENTAL BARRIERS TO WALKING/CYCLING FOR RESIDENTS, WORKERS, UNIVERSITY STUDENTS, SCHOOL CHILDREN, AND VISITORS TO LONG BEACH.	$7,987

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	LOCAL HIGHWAY	LATP17S022	7120004	0	THE USC BIKE SHARE PROJECT WILL INCREASE BIKE MODAL SHARE BY INSTALLING A BIKE-SHARE KIOSK NETWORK AND BIKE FLEET THROUGHOUT MANY KEY LOCATIONS WITHIN PROJECT AREA. PROJECT IS WITHIN 3 NEIGHBORHOODS NEAR DOWNTOWN LOS ANGELES WHERE 5 METRO RAIL STATIONS ARE LOCATED- INCLUDES KEY DESTINATIONS SUCH AS USC, THE LA COLISEUM AND SPORTS ARENA, LA TRADE TECHNICAL COLLEGE, AND MUSEUMS WITHIN EXPOSITION PARK. AN ENCOURAGEMENT AND EDUCATION EFFORT IS INCLUDED. UTILIZING TOLL CREDITS TO MATCH ATP FUNDS.	$2,546
LOS ANGELES	LOCAL HIGHWAY	LATP17S023	7120004	0	THE SAN GABRIEL VALLEY BIKE SHARE WILL INCREASE BICYCLE MODAL SHARE BY INSTALLING A NETWORK OF BIKE-SHARE KIOSKS WITH A FLEET OF BICYCLES THROUGHOUT 15 OF THE 30 SAN GABRIEL VALLEY CITIES. THE PROJECT WILL EXPAND LA METRO'S EXISTING BIKE SHARE NETWORK IN DOWNTOWN LOS ANGELES AND WILL INCLUDE 840 BICYCLES AT 84 BIKE SHARE STATIONS NEAR TRANSIT HUBS, EMPLOYMENT CENTERS, AND COLLEGES. A PUBLIC EDUCATION AND AWARENESS CAMPAIGN IS INCLUDED.	$5,165
LOS ANGELES	LOCAL HIGHWAY	LATP17S024	7120004	0	PHASE II OF COMPREHENSIVE FIRST/LAST MILE IMPROVEMENTS AROUND THE GLENDALE TRANSPORTATION CENTER, CONNECTING THE DISADVANTAGED TROPICO NEIGHBORHOOD IN GLENDALE WITH REGIONAL EMPLOYMENT, MEDICAL, AND RENTAL DESTINATIONS VIA NEW ACTIVE TRANSPORTATION FACILITIES, METRO RAPID/LOCAL AND GLENDALE BEELINE TRANSIT SYSTEMS, AND METROLINK/AMTRAK RAIL SERVICE.	$1,301
LOS ANGELES	LOCAL HIGHWAY	LATP17S025	7120004	0	THE IMPROVEMENTS WOULD CONSIST OF IMPLEMENTING A COMPLETE STREETS ELEMENT THAT INCLUDES CROSSWALK ENHANCEMENTS, BULB-OUT CROSSINGS, NEW CLASS II BIKE LANES, THE UPGRADE OF A CLASS II BIKE LANE TO A CLASS IV FACILITY, MINI-ROUNDABOUTS, SIDEWALK GAP CLOSURES, ADA-COMPLIANT CURB RAMPS, AND UPGRADED TRAFFIC CONTROL DEVICES.	$2,564
LOS ANGELES	LOCAL HIGHWAY	LATP17S026	7120004	0	DELTA AVENUE BETWEEN MISSION ROAD AND WELLS STREET. SIDEWALK INSTALLATION WITH ADA COMPLIANT RAMP ACCESSIBILITY.	$1,175
LOS ANGELES	LOCAL HIGHWAY	LATP17S027	7120004	0	THE CITY OF SANTA MONICA ACTIVE AGING PROJECT INCREASES WALKING, BIKING, AND ROADWAY SAFETY FOR ADULTS AGE 65 AND OVER. THE PROJECT PILOTS COMMUNITY BASED EVENTS, ACTIVE OUTINGS, SEMINARS, AND MARKETING. EVALUATION OF PILOT OUTCOMES WILL INFORM THE ABILITY TO INSTITUTIONALIZE PROGRAMS IN PARTNER ORGANIZATIONS OR FUTURE CITY EFFORTS.	$500
LOS ANGELES	LOCAL HIGHWAY	LATP17S028	7120004	0	DESIGN AND CONSTRUCT 12,000 LF OF CLASS 2 BICYCLE LANES AND IMPROVE 2,000 LF OF SIDEWALK ON ALONDRA BLVD. THIS IS PART OF A LONG-RANGE PROJECT IDENTIFIED IN THE GATEWAY CITIES 2014 STRATEGIC TRANSPORTATION PLAN TO CREATE OVER 14 MILES OF BIKE LANES ALONG THIS CORRIDOR.	$1,089
LOS ANGELES	LOCAL HIGHWAY	LATP17S029	7120004	0	CONSTRUCT 2.3 MILES OF CLASS I SHARED-USE PATH (TRAIL). DEVELOP CONCEPTUAL DESIGNS FOR 6.8 MILE CLASS I TRAIL ALONG WALNUT CREEK AND 15.3 MILES OF ON-STREET CLASS II AND CLASS III BIKEWAYS.	$2,243
LOS ANGELES	LOCAL HIGHWAY	LATP17S030	7120004	0	DESIGN AND CONSTRUCT 1.86 MILES OF CLASS I BIKE PATH ALONG PUENTE CREEK AND 0.37 MILES OF ENHANCED CLASS III BIKE ROUTE ALONG RIMGROVE AND WITZMAN DRIVE ADJACENT TO THE RIMGROVE COUNTY PARK.	$3,700
LOS ANGELES	LOCAL HIGHWAY	LATR02018	1ITS04	0	THE WHITTIER BOULEVARD TRANSIT SIGNAL PRIORITY PROJECT (PROJECT) INCLUDES THE DEPLOYMENT OF ITS INFRASTRUCTURE TO ENHANCE ARTERIAL OPERATIONS AND MONITORING IN EAST LOS ANGELES. WIRELESS COMMUNICATIONS AND UPGRADED CONTROLLER EQUIPMENT WILL BE DEPLOYED ALONG A CRITICAL SEGMENT OF WHITTER BLVD. THAT SERVES METRO RAPID LINE 720 AND PROVIDES PARALLEL CAPACITY TO THE 1-10 EXPRESSLANES.	$615
LOS ANGELES	LOCAL HIGHWAY	LATR02020	1ITS04	0	IMPLEMENT TRANSIT SIGNAL PRIORITY FOR 8.4 MILES FROM THE HARBOR GATEWAY TRANSIT STATION TO 120TH STREET IN THE CITY OF GARDENA. ALSO IMPLEMENTING REAL TIME ARRIVAL INFORMATION THROUGH VARIETY OF MEDIA INCLUDING SMART PHONES, SMS TEXTS, CALL CENTERS, AND WEBSITE. COMPUTER AIDED DISPATCHING (CAD) SYSTEM AND AUTOMATED VEHICLE LOCATION (AVL) SYSTEM WILL ALSO BE IMPLEMENTED.	$2,800
LOS ANGELES	LOCAL HIGHWAY	LSTEA0010	7120004	0	LOS ANGELES COUNTY - SAN JOSE/PUENTE CREEK BIKE TRAILS - ALONG SAN JOSE CREEK FROM WORKMAN MILL RD. TO SAN GABRIEL RIVER CONFLUENCE - CONSTRUCT BIKE TRAIL BRIDGES OVER SAN JOSE CREEK AND SAN GABRIEL RIVER EXTEND BIKE PATH ALONG PUENTE CREEK FROM ITS CONFLUENCE WITH SAN JOSE CREEK BIKE TRAIL EASTWARD TO AZUSA AVENUE.	$1,904
LOS ANGELES	STATE HIGHWAY	18790	18790	710	ROUTE 710: STUDY TO PERFORM ALTERNATIVE ANALYSIS, ENGINEERING AND ENVIRONMENTAL STUDIES TO CLOSE 710 FREEWAY GAP. (EA # 187901, PPN0# 2215)	$70,454

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	STATE HIGHWAY	LA000358	LA000358	5	ROUTE 005: --- FROM ROUTE 134 TO ROUTE 170 HOV LANES (8 TO 10 LANES) (CFP 346)(2001 CFP 8355). (EA# 12180, 12181,12182+12183=1218W,12184, 13350 PPNO 0142F,151E,3985,3986,3987) SAFETEA LU # 570. CONSTRUCT MODIFIED IC @ I-5 EMPIRE AVE, AUX LNS NB & SB BETWEEN BURBANK BLVD & EMPIRE AVE; AND MODIFY EXISTING STRUCTURES. ADD AUXILIARY LANE BETWEEN ALAMEDA AND OLIVE FROM PM 28.43 TO PM 29.78	$621,231
LOS ANGELES	STATE HIGHWAY	LA000512	LA000512	710	BRIDGE NO. 53C0065, OCEAN BLVD, OVER ENTRANCE CHANNEL, UP RR, 1.0 MI E STATE ROUTE 47. REPLACE EXISTING 5 LANE GERALD DESMOND BRIDGE (GDB) WITH NEW 6 LANE BRIDGE.	$1,491,981
LOS ANGELES	STATE HIGHWAY	LA000548	LA000548	10	ROUTE 10: FROM PUENTE TO CITRUS HOV LANES FROM 8 TO 10 LANES & SOUNDWALLS (C-ISTEA 77720, 95 STIP-IIP) (EA# 117080,11172, 1170U, PPNO# 0309N, 0309S)-(USE TOLL CREDITS AS LOCAL MATCH).	$195,580
LOS ANGELES	STATE HIGHWAY	LA0B875	LA0B875	10	ROUTE 10: HOV LANES AND PAVEMENT REHAB FROM CITRUS TO ROUTE 57 (EA# 11934 + 31120 = 1193U, PPNO 0310B+4812=0310B). USE TOLL CREDIT AS LOCAL MATCH.	$264,396
LOS ANGELES	STATE HIGHWAY	LA0B951	LA0B951	71	ROUTE 71: ROUTE 10 TO SAN BERNARDINO COUNTY LINE - EXPRESSWAY TO FREEWAY CONVERSION - ADD 1 HOV LANE AND 1 MIXED FLOW LANE . (2001 CFP 8349, TCRP #50) (EA# 210600, PPNO 2741) (TCRP #50) (USE TOLL CREDITS AS LOCAL MATCH FOR RIP AND EARMARK FUNDS).	$326,392
LOS ANGELES	STATE HIGHWAY	LA0B952	1C0401	710	I-710 CORRIDOR CAPACITY ENHANCEMENT - ADD 1 MIXED FLOW LANES BETWEEN SHORELINE DR AND SR-91 (EACH DIRECTION), ADD 2 TRUCK LANES BETWEEN WILLOW ST AND DEL AMO BLVD (EACH DIRECTION), ADD 1 MIXED FLOW LANES BETWEEN I-105 AND SR-60 (EACH DIRECTION), AND INTERCHANGE IMPROVEMENTS BETWEEN OCEAN BLVD IN LONG BEACH AND SR-60 IN EAST LOS ANGELES	$56,500
LOS ANGELES	STATE HIGHWAY	LA0C8080	LA0C8080	1	ROUTE 1: MANHATTAN BEACH: ON ROUTE 1 BETWEEN 33RD STREET & ROSECRANS AV; ADD ONE THROUGH LN TO NORTH BOUND SEPULVEDA BLVD. TO WIDEN EXISTING STRUCTURE FROM 6 TO 7 THROUGH LANES PPNO 2947. PROJECT USING $1,440 OF FEDERAL FUNDS (80%) AND $360 AGENCY MATCH (20%, PROP. C) IN ENG PHASE. UTILIZING TOLL CREDITS.	$21,129
LOS ANGELES	STATE HIGHWAY	LA0C8099	LA0C8099	126	ROUTE 126: SR-126/COMMERCE CTR DR NEW IC. CONSTRUCT A PARTIAL CLOVERLEAF, GRADE SEPARATED IC AND WIDEN ST 126 FROM .76 KM EAST OF IC TO .85 KM WEST 4-6 LANES. (2001 CFP 8099) (PPNO 3118)	$56,834
LOS ANGELES	STATE HIGHWAY	LA0D393	1M0104	60	GRAND AVENUE/SR 57/60 INTERCHANGE MODIFICATION: RESTRIPE THE EXISTING GRAND AVE, ADD WB ON-RAMP AND ADD WB AUX LANE, ADD SECOND SB LFT TURN LN AT EB RAMP (09 CFP 3137)	$20,401
LOS ANGELES	STATE HIGHWAY	LA0D45	LA0D45	47	SR-47 EXPRESSWAY: CONSTRUCT 4 LANE EXPRESSWAY AND 2-LANE FLYOVER TO SCHUYLER HEIM BRIDGE LA0D45 IS SPLIT INTO TWO PROJECTS; LA0D45 (EXPRESS WAY & FLYOVER) AND LA0D45A (BRIDGE REPLACEMENT)	$420,000
LOS ANGELES	STATE HIGHWAY	LA0D450	1M0104	60	RECONSTRUCT SR 60/GRAND AV INTERCHANGE - WIDEN GRAND AV: SB ADD 1THRU LN (2 EXSTNG); NB ADD 1 THRU LN (3 EXSTNG), REPLACE GRAND AV OC, ADD EB LOOP ON-RAMP, CONSTRUCT ADDITIONAL EB THRU LN FROM GRAND AVE TRAP LN TO SR57 ADD LN, ADD TWO BYPASS RAMP CONNECTORS, ADD AUX LNS EB AND WB FROM EAST TO WEST JUNCTION OF THE CONFLUENCE.	$257,900
LOS ANGELES	STATE HIGHWAY	LA0D451	LA0D451	138	ROUTE 138: ROUTE 138 FROM AVE. T TO ROUTE 18-WIDEN 2 TO 4 THRU LANES WITH MEDIAN TURN LANE. EA# 12721,12722,12723,12724(=29350),12725,12728(= 28580 + 28590 + 28600 + 28620 + 28610 + 28630). PPNO# 3325,3326,3327,3328(=4560),3329,3331(= 4351 + 4352 + 5353 + 4356 + 4354 + 4357) (USE TOLL CREDITS AS LOCAL MATCH)	$248,265
LOS ANGELES	STATE HIGHWAY	LA0D45A	LA0D45	47	SR-47 EXPRESSWAY:REPLACEMENT OF SCHUYLER HEIM BRIDGE (SEGMENT 1): ACTA COMPLETING PE, ROW, AND DESIGN SUPPORT DURING CONSTRUCTION; SAFETEA-LU #712 & #3797.	$91,583
LOS ANGELES	STATE HIGHWAY	LA0D73	LA0D73	5	ROUTE 005: LA MIRADA, NORWALK & SANTA FE SPRINGS-ORANGE CO LINE TO RTE 605 JUNCTION. WIDEN FOR HOV & MIXED FLOW LNS, RECONSTRUCT VALLEY VIEW (EA 2159A0 = 21591, 21592+31320=2159U, 21593, 21594, 21595 PPNO 2808 = 4153, 2808, 4154, 4155, 4156, 4841). TCRP#42.2&42.1 (USE TOLL CREDITS AS LOCAL MATCH)	$1,472,129
LOS ANGELES	STATE HIGHWAY	LA0G1008	1AL04	405	PROJECT OVERSIGHT FOR I-405 AT 182ND STREET/CRENSHAW BLVD OPERATIONAL IMPROVEMENTS. CALTRANS IS THE LEAD FOR THIS PROJECT; HOWEVER; CITY OF TORRANCE WILL OVERSEE THE PORTION OF PROJECT PERTAINING TO THE CRENSHAW/182ND STREET IMPROVEMENTS.	$300

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	STATE HIGHWAY	LA0G1024	REG0703	101	(US 101 @ KANAN) KANAN ROAD CORRIDOR, BETWEEN THOUSAND OAKS BOULEVARD AND CORNELL WAY. PSR-PDS PHASE TO INCLUDE ANALYSIS OF KANAN CORRIDOR BETWEEN THOUSAND OAKS BLVD AND CORNELL WAY IN AGOURA HILLS. PROJECT WILL ANALYZE VARIOUS OPTIONS TO IMPROVE SAFETY AND MOBILITY THROUGH THE CORRIDOR FOR MULTIPLE MODES OF TRANSPORT (VEHICLE, PED, BIKE), AND WILL CONSIDER, AMONG OTHER THINGS, SIGNAL TIMING, INTERCHANGE IMPROVEMENTS, ROAD WIDENING, LANE RECONFIGURING, ETC.	$150
LOS ANGELES	STATE HIGHWAY	LA0G1099	LA0G1099	999	HIGH DESERT CORRIDOR, AN APPROXIMATELY 63-MILE EAST-WEST MULTI-PURPOSE CORRIDOR FROM AVENUE P-8/SR-14 IN LA COUNTY TO BEAR VALLEY ROAD/SR-18 IN SAN BERNARDINO COUNTY. THIS MULTI-PURPOSE CORRIDOR INCLUDES TSM/TDM, FREEWAY, EXPRESSWAY, TOLLWAY, HIGH-SPEED RAIL, GREEN ENERGY TRANSMISSION/PRODUCTION,AND BIKEWAY ELEMENTS (ENGINEERING ONLY).	$6,450
LOS ANGELES	STATE HIGHWAY	LA0G1115	1163S011	605	IMPROVEMENTS TO I-605, SR-60 AND I-10 WHICH MAY INCLUDE ONE ADDITIONAL GENERAL PURPOSE, EXPRESS LANE, OR HOV LANE IN EACH DIRECTION. IMPROVEMENTS WILL BE INCORPORATED AT THE MAINLINE, RAMPS, FREEWAY-TO-FREEWAY AND LOCAL INTERCHANGES, AND ADDITION OF AUXILIARY LANES FOR EACH OF THE CORRIDORS. (PA&ED ONLY)	$37,650
LOS ANGELES	STATE HIGHWAY	LA0G1116	1ITS04	1	ROUTE 001: PACIFIC COAST HIGHWAY AND PARALLEL ARTERIALS FROM I-105 TO I-110: SIGNAL SYNCHRONIZATION (EA 30990 PPNO 4800)	$9,000
LOS ANGELES	STATE HIGHWAY	LA0G1118	1163S010	605	IMPROVEMENTS TO I-605, I-105 AND I-5 WHICH MAY INCLUDE ONE ADDITIONAL GENERAL PURPOSE, EXPRESS LANE, OR HOV LANE IN EACH DIRECTION. IMPROVEMENTS WILL BE INCORPORATED AT THE MAINLINE, RAMPS, FREEWAY-TO-FREEWAY AND LOCAL INTERCHANGES, AND ADDITION OF AUXILIARY LANES FOR EACH OF THE CORRIDORS. (PA&ED ONLY)	$22,768
LOS ANGELES	STATE HIGHWAY	LA0G1119	REG0703	91	IMPROVEMENTS TO THE WESTBOUND SR-91 IMPROVEMENTS PROJECT CONSIST OF ADDING AN ADDITIONAL GENERAL PURPOSE LANE AND ON/OFF RAMP IMPROVEMENTS.	$187,800
LOS ANGELES	STATE HIGHWAY	LA0G1138	LA990921	710	IMPROVEMENTS TO I-710 SOUNDWALLS. THE PURPOSE OF THIS PROJECT IS TO MITIGATE NOISE LEVELS AND PROVIDE AESTHETIC TREATMENTS ON THE 710 SOUNDWALLS.	$9,000
LOS ANGELES	STATE HIGHWAY	LA0G1226	REG0701	101	THE PROJECT WILL MODIFY EB OFF-RAMP TO INCLUDE A THIRD LEFT TURN LANE; DEMOLITION OF EXISTING/CONSTRUCTION OF A NEW MEDIAN TO ALLOW THE THIRD LANE; STRIPING AND SIGNAL IMPROVEMENTS.	$500
LOS ANGELES	STATE HIGHWAY	LA0G1289	7120005	1	PACIFIC COAST HIGHWAY (PCH) SIGNAL SYSTEMS IMPROVEMENTS FROM JOHN TYLER DRIVE TO TOPANGA CANYON BOULEVARD. THE PROJECT LIMITS ARE APPROXIMATELY 8 MILES AND INCLUDE 12 SIGNALS ALONG PCH. THE PROJECT INTENDS TO INTERCONNECT THE TRAFFIC SIGNALS TO ENABLE CALTRANS TO MONITOR AND CONTROL THE SIGNALS REMOTELY AND, IF POSSIBLE, FOR THE TRAFFIC SIGNALS TO ADJUST TO REAL TIME TRAFFIC CONDITIONS. THE PROJECT WILL ALSO INCLUDE ADDITIONAL INTERSECTION AND TRAFFIC IMPROVEMENTS.	$13,700
LOS ANGELES	STATE HIGHWAY	LA0G1290	7120018	47	PREPARE CALTRANS PROJECT STUDY REPORT (PSR), PROJECT REPORT (PR), PRELIMINARY PLANS AND ENVIRONMENTAL DOCUMENTATION (ED) REPORTS TO OBTAIN CALTRANS APPROVAL AND ENVIRONMENTAL CLEARANCE; DESIGN (PLANS, SPECIFICATION AND ESTIMATE) AND CONSTRUCTION FOR THE SR 47/VINCENT THOMAS BRIDGE AND FRONT STREET/HARBOR BOULEVARD INTERCHANGE RECONFIGURATION PROJECT.	$31,050
LOS ANGELES	STATE HIGHWAY	LA0G1315	LA990921	605	NORTHBOUND I-605 AT SPRING STREET SOUNDWALL CONSTRUCTION (800 LF).	$250
LOS ANGELES	STATE HIGHWAY	LA0G1324	7120013	105	ROUTE 105: IN LOS ANGELES COUNTY, IN VARIOUS CITIES, BETWEEN IMPERIAL HWY AND I-605, PREPARATION OF PROJECT APPROVAL/ENVIRONMENTAL DOCUMENT FOR POTENTIAL IMPLEMENTATION OF EXPRESS LANES [EA 31450 (PA/ED ONLY)	$8,262
LOS ANGELES	STATE HIGHWAY	LA0G1355	1AL04	1	INTERSECTION IMPROVEMENTS ALONG SEPULVEDA BOULEVARD AT ROSECRANS AVENUE, 33RD STREET, MARINE AND CEDAR AVENUE, 14TH STREET AND 2ND STREET. THE PURPOSE OF THIS PROJECT IS TO HELP ALLEVIATE TRAFFIC CONGESTION BY IMPROVING LEFT-HAND TURN POCKETS AT THESE FIVE INTERSECTIONS. EACH TURN LANE IS LESS THAN 1/8TH MILE.	$900

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	STATE HIGHWAY	LA0G1444	2016A319	1	PCH BETWEEN ANITA ST./HERONDO ST. AND ARTESIA BLVD., BOTH N/S BOUND. UPGRADE SIDEWALKS TO ADA STANDARDS. RELOCATE OBSTACLES BLOCKING SIDEWALKS, UPGRADE CORNER ACCESS RAMPS, UNDERGROUND EXPOSED UTILITY LINES(INCL. OVERHEAD), EXISTING PAINTED TWO-WAY LEFT-TURN LANE TO BE RECONSTRUCTED TO INCL. RAISED MEDIANS TO PROVIDE TURN POCKETS TO IMPROVE VEHICULAR/PEDESTRIAN SAFETY. THE MEDIANS WILL BE LANDSCAPED. LANDSCAPE SIDEWALKS WHERE FEASIBLE. 1.28 MILES EA. WAY.	$1,150
LOS ANGELES	STATE HIGHWAY	LA0G1451	1163S003	605	SB I-605 LOOP ON AND OFF RAMP REMOVAL AND RECONFIGURATION OF THE EXISTING INTERCHANGE AT BEVERLY BLVD. THE SOUTHBOUND I-605 COLLECTOR-DISTRIBUTOR ROAD WILL BE REMOVED FROM THE MAINLINE AND THE NEW RAMPS WILL MERGE/DIVERGE DIRECTLY FROM THE MAINLINE.	$10,757
LOS ANGELES	STATE HIGHWAY	LA0G1452	1163S004	605	SB I-605 AT SOUTH STREET IMPROVEMENTS PROJECT PROPOSED IMPROVEMENTS ON THE I-605 CONNECTOR SOUTH ST. OFF RAMP BY ADDING STORAGE CAPACITY AND IMPROVING OPERATIONS.	$36,001
LOS ANGELES	STATE HIGHWAY	LA0G1453	1M1003	91	EB SR-91 ATLANTIC AVE TO CHERRY AVE. ADD ONE EASTBOUND AUXILIARY LANE FROM I-710 RAMPS AT ATLANTIC AVENUE TO PAST CHERRY AVENUE UNDERCROSSING.	$84,878
LOS ANGELES	STATE HIGHWAY	LA0G1454	1M1003	91	SR-91 CENTRAL AVE INTERCHANGE IMPROVEMENTS PROPOSED IMPROVEMENTS WOULD RECONFIGURE CENTRAL AVE. INTERCHANGE TO A MODIFIED DDI (DIVERGING DIAMOND INTERCHANGE).	$50,697
LOS ANGELES	STATE HIGHWAY	LA0G1455	1M1003	91	SR-91 WILMINGTON AVE. INTERCHANGE PROPOSED IMPROVEMENTS WOULD RECONFIGURE WILMINGTON AVE. INTERCHANGE TO A MODIFIED DDI (DIVERGING DIAMOND INTERCHANGE).	$42,000
LOS ANGELES	STATE HIGHWAY	LA0G1456	1AL04	60	SR-60/7TH AVENUE INTERCHANGE IMPROVEMENT PROJECT	$23,075
LOS ANGELES	STATE HIGHWAY	LA0G1457	1163S009	605	RECONFIGURE RAMPS TO IMPROVE MOBILITY AND FREEWAY/ARTERIAL OPERATIONS. THE PROJECT INVOLVES THE RECONFIGURATION OF SB I-605 RAMP BY REMOVING THE HORSESHOE ON-RAMP AND ADDING TWO LANES TO THE ON-RAMP. THE PROJECT WILL ALSO RECONSTRUCT THE SB I-605 LOOP OFF AND ON-RAMPS. LASTLY, THE PROJECT WILL ADD A WB THROUGH LANE ON VALLEY BLVD WEST OF TEMPLE AVE AND ADD A TWO LANE LEFT TURN POCKET FOR SB I-605 ON-RAMP ON WB VALLEY BLVD.	$17,031
LOS ANGELES	STATE HIGHWAY	LA0G1496	1O0702	210	ROUTE 210: FROM PENNSYLVANIA AVENUE TO SR-2. CONSTRUCT SOUNDWALL. (EA 32930, PPNO 5486)	$600
LOS ANGELES	STATE HIGHWAY	LA0G1510	1OM0702	5	ROUTE 005: IN LOS ANGELES/KERN COUNTY, AT THE TEJON SAFETY ROADSIDE REST AREA (SRRA) (PM 0.8). INSTALL CONCRETE PAVEMENT SOLAR PANELS ALONG THE REST AREA SHOULDERS	$4,000
LOS ANGELES	STATE HIGHWAY	LA0G1511	1O1002	5	ROUTE 005: IN LOS ANGELES COUNTY, IN AND NEAR THE CITY OF LOS ANGELES, IN VARIOUS LOCATIONS. MULTI-OBJECTIVE ASSET MANAGEMENT PROJECT THAT INCLUDES WIDENING AND EXTENDING DECELERATION LENGTH ON THE INDIANA STREET/CALZONA STREET SOUTHBOUND OFFRAMP, UPGRADE GUARDRAIL AND TRANSPORTATION MANAGEMENT SYSTEM (TMS), CONSTRUCT HIGHWAY WORKER SAFETY FEATURES. PPNO 5157.	$24,649
LOS ANGELES	STATE HIGHWAY	LA0G1541	1M0104	57	ROUTE 57/60 CONFLUENCE CHOKEPOINT RELIEF PROGRAM. RECONSTRUCT GRAND AVENUE OVERCROSSING. RECONSTRUCT NORTHBOUND SR-57 CONNECTOR TO EASTBOUND SR-60. CONSTRUCT EASTBOUND SR-60 BYPASS OFF-RAMP TO GRAND AVENUE. CONSTRUCT SOUTHBOUND GRAND AVENUE LOOP ENTRANCE RAMP TO EASTBOUND SR-60. CONSTRUCT GRAND AVENUE TO EASTBOUND SR-60 ENTRANCE RAMP. RECONSTRUCT THE DIAMOND BAR GOLF COURSE TUNNEL AND GOLF COURSE. RECONSTRUCT DIAMOND BAR BOULEVARD ENTRANCE RAMP TO EASTBOUND SR-60. ADDING ROW & CONSTRUCTION.	$288,600
LOS ANGELES	STATE HIGHWAY	LA0G1562	1163S014	405	ADD AUXILIARY LANES ALONG I-405 NORTHBOUND AND SOUTHBOUND BETWEEN ARTESIA BLVD AND EL SEGUNDO TO ALLEVIATE CONGESTION AND IMPROVE OPERATIONS.	$70,000
LOS ANGELES	STATE HIGHWAY	LA0G1563	1163S013	91	ADD AUXILIARY LANE BETWEEN GORE POINTS, IMPROVING INTERCHANGES WESTBOUND FROM ACACIA AVENUE TO CENTRAL AVENUE. PROJECT SCOPE INCLUDES FTIP PROJECTS LA0G1454 AND LA0G1455.	$180,000

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	STATE HIGHWAY	LA0G208	LA0G208	101	PROJECT WILL REPLACE EXISTING 2 LANE BRIDGE WITH 4 LANE BRIDGE AND 1 TURN LANE @ LOST HILLS RD/US 101 INTERCHANGE. THIS WILL BRING BRIDGE TO CURRENT LANE CONFIGURATION OF LOST HILLS RD ON EITHER SIDE OF BRIDGE. INTERCHANGE WILL ELIMINATE CROSS-TRAFFIC MOVEMENT TO ACCESS NB US 101. THERE WILL BE NO ADDITIONAL LANES ON US 101. REPLACEMENT BRIDGE WILL BE WIDER,4 LNS RATHER THAN 2 AND WILL SPAN APPROX. 280 FT, ACCOMMODATING WIDTH OF ROAD ON EITHER SIDE OF BRIDGE STRUCTURE.	$33,711
LOS ANGELES	STATE HIGHWAY	LA0G411	1O0702	210	I-210 SOUNDWALLS BETWEEN PENNSYLVANIA AVE. TO LOWELL AVE.	$4,520
LOS ANGELES	STATE HIGHWAY	LA0G440	LA0G440	5	THE PROJECT WILL EXTEND THE HOV LANES ON I-5 FROM THE SR-14 INTERCHANGE TO JUST SOUTH OF THE PARKER ROAD INTERCHANGE, INCORPORATING AN ADDITIONAL NORTHBOUND TRUCK CLIMBING LANE FROM SR 14 TO CALGROVE BOULEVARD AND AN ADDITIONAL SOUTHBOUND TRUCK CLIMBING LANE FROM PICO CANYON ROAD/LYONS AVENUE TO SR-14.	$539,200
LOS ANGELES	STATE HIGHWAY	LA0G441	7120003	999	ROUTE 999: GROUPED PROJECTS FOR PAVEMENT RESURFACING AND/OR REHABILITATION ON THE STATE HIGHWAY SYSTEM - HIGHWAY MAINTENANCE. PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - PAVEMENT RESURFACING AND/OR REHABILITATION.	$16,111
LOS ANGELES	STATE HIGHWAY	LA0G598	1AL04	101	DESIGN AND CONSTRUCTION OF A PARK AND RIDE FACILITY (31107 THOUSAND OAKS BLVD) WITH 375 PARKING SPACES AT THE PROPOSED COMMUNITY RECREATIONAL FACILITY WILL CONSTRUCTION OF A ACCESS ROAD, RETAINING WALLS TO THE PARK AND RIDE FACILITY, BUS STOP SHELTER FOR WAITING PASSENGERS, NECESSARY DRAINAGE, UTILITY AND LANDSCAPING AND IRRIGATION IMPROVEMENTS.	$5,244
LOS ANGELES	STATE HIGHWAY	LA0G600	LA0D45	47	ROUTE 047: REPLACEMENT OF SCHUYLER HEIM BRIDGE TO INCLUDE 2 THRU LANES AND 1 AUX LANE NB; AND 3 THRU LANES AND 1 AUX LANE SB EA 13820, PPNO 0444E).	$278,993
LOS ANGELES	STATE HIGHWAY	LA0G665	LA0G1099	138	ROUTE 138: COMPLETE PA/ED FOR AN APPROXIMATE 63-MILE WEST-EAST FREEWAY/EXPRESSWAY AND POSSIBLE TOLL FACILITY BETWEEN SR-14 IN LA COUNTY AND SR-18 IN SB COUNTY. HIGH DESERT CORRIDOR PA/ED COMBINES THE LA COUNTY MEASURE R PROJECT FROM SR-14 TO I-15 AND SB COUNTY FEDERAL EARMARKS PROVIDED TO CITY OF VICTORVILLE FOR US-395 TO SR-18. BOTH PROJECTS AND FUNDS ARE COMBINED TO COMPLETE THE PA/ED FROM SR-14 TO SR-18. [EA 2600U, 11672, PPNO 3912, 0393F]	$46,007
LOS ANGELES	STATE HIGHWAY	LA0G692	LA990351	2	ROUTE 002: FROM 0.5 MILES SOUTH OF BRANDEN STREET TO I-5/SR-2 INTERCHANGE - MODIFY TERMINUS, SOUNDWALLS, LANDSCAPING, INSTALLING DETECTOR LOOPS AND RAMP METERS, RESTRIPING (WITH NO LANE ADDITION) AND IMPROVING ARTERIAL STREETS (RESTRIPING-NO INCREASE IN CAPACITY, AND REMOVING & WIDENING SIDEWALK. (EA 20550 = 20551 + 20552 (20552=2055A+2055C), PPNO 2689 = 2689 + 2689A (2689A=2689A+4787) (TOLL CREDITS = LOCAL MATCH)	$9,329
LOS ANGELES	STATE HIGHWAY	LA0G714	1M1003	1	F47 - INTERSECTION IMPROVEMENTS ON PACIFIC COAST HWY AT TORRANCE BLVD. DEVELOP PLANS, SPECIFICATIONS & ESTIMATES, RIGHT OF WAY ACQUISITION AND CONSTRUCTION FOR A NORTHBOUND RIGHT TURN LANE. PROJECT NO. MR312.07, FA NO. MOU.MR312.07.	$585
LOS ANGELES	STATE HIGHWAY	LA0G720	1AL04	1	F46 – PACIFIC COAST HIGHWAY ARTERIAL IMPROVEMENTS FROM ANITA ST. TO PALOS VERDES BLVD. STUDY, DESIGN, OBTAIN RIGHT OF WAY AND CONSTRUCT ROADWAY IMPROVEMENTS, STRIPING/SIGNAL ENHANCEMENTS FOR TURN LANES AND OTHER INTERSECTION IMPROVEMENTS. PROJECT NO. MR312.06, FA NO. MOU.MR312.06.	$1,400
LOS ANGELES	STATE HIGHWAY	LA0G846	1OM0702	1	ON ROUTE 1, FROM ARTESIA BOULEVARD TO ANITA/HERONDO STREETS, WIDEN AND UPGRADE THE INTERSECTIONS BY CONSTRUCTING DEDICATED RIGHT AND LEFT-HAND TURN POCKETS, RESTRIPING, AND RE-SIGNALIZATION ALONG PCH BETWEEN ANITA ST. AND ARTESIA BLVD	$498
LOS ANGELES	STATE HIGHWAY	LA0G872	REG0703	110	ROUTE 110: IN LA COUNTY, FROM 405/110 INTERCHANGE TO TORRANCE BLVD OFF-RAMP - INTERCHANGE IMPROVEMENT AND CONSTRUCT AUXILIARY LANE (EA 29370 PPNO 4552 NON CAPACITY, NO LANE ADDITION)	$46,840

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	STATE HIGHWAY	LA0G874	REG0703	405	ROUTE 405: RECONFIGURE CRENSHAW BLVD ON / OFF RAMPS: CONSTRUCT A NEW SB I-405 ON-RAMP AND FREEWAY & LOCAL STREETS WIDENING [EA 29360 PPNO 4551]	$1,700
LOS ANGELES	STATE HIGHWAY	LA0G894	1AL04	138	WIDEN & MODIFY EXIST. STRIPING TO 3 LANES IN EACH DIRECTION ON SR 138 FROM 5TH E - 10TH E; INTERSECTION MODIFICATIONS/UPGRADES AT PALMDALE BLVD/6TH E. & PALMDALE BLVD/SIERRA HIGHWAY; RELOCATION OF EXIST. RAILROAD SIGNAL MAST-ARMS & RAIL EQUIPMENT; S/O PALMDALE BLVD. WIDEN SIERRA HWY FROM 4 TO 6 LANES TO AVE R (INCLUDE S/B SIERRA HWY RIGHT TURN LANE @ AVE R); N/O PALMDALE BLVD., WIDEN SIERRA HWY FROM 4 TO 6 LANES TO AVE Q; EXTEND CLASS 1 BIKE LANE, 800' ON WEST SIDE OF SIERRA HWY TO AVE R.	$25,000
LOS ANGELES	STATE HIGHWAY	LA0G896	1AL04	14	WDN OFF-RAMPS TO 3 LANES: 2 LEFT, 1 RIGHT ONTO PALMDALE BLVD; WDN NB SR-14 FOR AUXILIARY LANE; MODIFY NB LOOP ON-RAMP FOR RIGHT TURN POCKET; MODIFY 2 RAMP INTERSECTIONS TO STOP LEFT TURN MOVEMENT TO MERGE FREELY ONTO PALMDALE BLVD; PROVIDE EB RIGHT TURN LANE FROM PALMDALE BLVD TO DIV, ST; MODIFY PALMDALE BLVD FOR DOUBLE LEFT TURNS FROM RAMPS; MODIFY PALMDALE BLVD FOR 3 WB THROUGH LANES THROUGH SB RAMP INTERSECTION; MODIFY SB OFF RAMP ALLOWING WIDENING FROM AVE Q - PALMDALE BLVD - UNDER LA0G897	$30,000
LOS ANGELES	STATE HIGHWAY	LA0G897	1AL04	138	SR 138/14: WIDENING FROM RANCHO VISTA BLVD(RVB) TO PMDL BLVD. IMPROVE SR 138 (SR14) N/B OFF-RAMP ONTO RVB/AVE P. IMPR TRAFFIC SIGNAL AND CONSTRUCT RDWY IMPVMTS AT THE FOLLOWING INTERSECTION: SR138 (SR14) N/B OFF-RAMP AT RVB/AVEP. IMPROVE THE FOLLOWING INTERSECTION: S/B RANCHO VISTA BLVD/AVENUE P ON-RAMP SR138 (SR-14). IMPROVE SR138 AT TECHNOLOGY DR BRIDGE STRUCTURE. WIDEN SB SR138 (SR-14) BEG S/O RVB /AVE P AND EXT TO PMDL BLVD. ADD'L MAINLINE LANE IMPVMTS BETWEEN RVB /AVE P AND PMDL BLVD.	$25,000
LOS ANGELES	STATE HIGHWAY	LA0G898	1AL04	14	CONSTRUCTION OF 2 ROUNDABOUTS AT AVE. N & SR-14; SINGLE LANE ROUNDABOUT AT AVE. N & NB ON/OFF RAMP & SB ON/OFF RAMP; WIDEN AVE. N FROM 17TH W. TO SR-14 SB RAMP TO 4 LANES, 14' RAISED MEDIAN, 4' BIKE LANE & 6' SIDEWALK ON BOTH SIDES; WIDEN AVE. N FROM SR-14 NB RAMPS TO 10TH W. TO 6 LANES, 18' RAISED MEDIAN, 4' BIKE LANE & 8' SIDEWALK ON BOTH SIDES; WIDEN AVE. N OVERCROSSING BY 43.5' ON NORTH SIDE, 36' MEDIAN & MULTI-USE PATH WIDTH OF 12.5' WB & 20' EB. LANDSCAPING AT ROUNDABOUTS & ISLANDS	$20,000
LOS ANGELES	STATE HIGHWAY	LA0G909	1O1013	1	PACIFIC COAST HIGHWAY INTERSECTION IMPROVEMENTS. THE PROJECT WILL IMPROVE KEY INTERSECTIONS ALONG THE PCH/SR-1 IN THE CITY OF MALIBU TO IMPROVE OPERATIONS AND TRAFFIC FLOW. THE IMPROVEMENTS INCLUDE SIGNAL INSTALLATION, DEDICATED TURN LANES, PROTECTED TURN SIGNALS, FLASHING BEACONS, CROSSWALKS, STRIPING AND CHANNELIZATION.	$1,000
LOS ANGELES	STATE HIGHWAY	LA0G910	1O1013	1	PACIFIC COAST HIGHWAY REGIONAL TRAFFIC MESSAGE SYSTEMS. THE PROJECT WILL ENABLE THE CITY OF MALIBU AND OTHER AGENCIES TO NOTIFY TRAVELERS OF CRITICAL REGIONAL TRAFFIC AND SAFETY INFORMATION AND FACILITATE TRAFFIC FLOW THROUGHOUT THE REGION. THE PROJECT WILL INSTALL A MAXIMUM OF 4 PERMANENT CHANGEABLE MESSAGE SIGNS AT STRATEGIC LOCATIONS ALONG PCH/SR-1 CORRIDOR IN THE CITY OF MALIBU.	$2,500
LOS ANGELES	STATE HIGHWAY	LA0G930	7120005	138	SR-138 (SR-14) AVENUE L INTERCHANGE IMPROVEMENTS. PROJECT WILL REDUCE THROUGH LANES FROM 4 TO 3 WESTBOUND ON AVENUE L BETWEEN 15TH WEST AND SR-138 (SR-14) RAMPS, AND REDUCE THROUGH LANES FROM 3 TO 2 EASTBOUND ON AVENUE L BETWEEN THE SR-138 (SR-14) RAMPS AND 10TH WEST TO PROVIDE BIKE LANES AND SIDEWALKS. PROJECT INCLUDES GEOMETRIC CHANGES TO THE SR-138 (SR-14) RAMPS, TRAFFIC SIGNAL IMPROVEMENTS AT 15TH WEST AND 10TH WEST TO IMPROVE VEHICLE, PEDESTRIAN, AND BICYCLE SAFETY.	$5,000
LOS ANGELES	STATE HIGHWAY	LA0G951	1AL04	138	PALMDALE BLVD (SR 138) @ 15TH STREET EAST TRAFFIC SIGNAL: PROJECT INCLUDES A TRAFFIC SIGNAL AT 15TH ST E, INCLUDING PCC AND AC RECONSTRUCTION, STRIPING, TRAFFIC CONTROL. UTILIZING TOLL CREDITS.	$1,025
LOS ANGELES	STATE HIGHWAY	LA0G956	1O1013	1	PACIFIC COAST HIGHWAY RAISED MEDIAN CHANNELIZATION FROM WEBB WAY TO PUERCO CANYON ROAD. INSTALL RAISED MEDIANS ON PACIFIC COAST HIGHWAY FOR A DISTANCE OF APPROXIMATELY 2 MILES.	$6,950
LOS ANGELES	STATE HIGHWAY	LA960142	LA960142	101	RTE 101/LINDERO CANYON ROAD INTERCHANGE IMPROVEMENT PROJECT. LINDERO CYN RD BTW VIA COLINAS AND AGOURA RD WIDENED FROM 2 TO 3 LANES IN EACH DIRECTION. RAMP G-6 WIDENED TO 2 LANES TO PROVIDE FOR 2 FREE RT LANES FOR EASTBOUND VIA COLINAS TRAFFIC AT LINDERO CYN RD. THE EXISTING NORTHBOUND AUX LANE WILL BE EXTENDED SOUTHERLY FROM ITS TERMINUS AT RAMP G-6 TO RAMP G-3. INCLUDES BIKE PATH CONSTRUCTION (.49 MILES).	$26,502

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	STATE HIGHWAY	LA996143	LA996143	710	ROUTE 710: RTE 710 PCH TO DOWNTOWN L.B., PAVEMENT RECON, MEDIAN, LANDSCAPING IMPROVE (EA 2203U, 23640, PPNO: 2945,3248)	$7,496
LOS ANGELES	STATE HIGHWAY	LAE0574	LAE0574	605	ROUTE 605: CONSTRUCT I-605 INTERCHANGE IMPROVEMENTS IN IRWINDALE (NO LANE ADDITION). UTILIZING TOLL CREDITS.	$1,920
LOS ANGELES	STATE HIGHWAY	LAE2577	LAE2577	5	ROUTE 5: STUDY NORWALK, SANTA FE SPRINGS, DOWNEY, MONTEBELLO, & COMMERCE: ON I-5, CONDUCT PLAN'G, ENV. STUDIES FOR WIDEN'G W/HOV & MIXED FLOW LNS FROM I-605 TO I-710.(EA2159E, 2159F, PPNO 2808C, 2808D)PAED ONLY	$1,402
LOS ANGELES	STATE HIGHWAY	LAF1103	LAF1103	405	ROUTE 405: WILMINGTON AVENUE INTERCHANGE MODIFICATION AT I-405. IMPROVE I-405/WILMINGTON AVENUE INTERCHANGE BY ADDING A NEW NORTHBOUND ON-RAMP AND WIDENING OF WILMINGTON AVENUE, 223RD, AND EXISTING ON- AND OFF-RAMPS. [CITY PROJ NO. 919]	$26,171
LOS ANGELES	STATE HIGHWAY	LAF7200	1M0104	60	WB SR-60/SB SR-57 GRAND AVENUE OFF RAMP INTERCHANGE : ADD WB SR-60 AUXILIARY LANE FROM SB SR-57 TO GRAND AVENUE OFF-RAMP TO IMPROVE TRUCK MOBILITY AND REDUCE CONGESTION.	$21,303
LOS ANGELES	STATE HIGHWAY	LALS01	REG0701	999	ROUTE 999: GROUPED PROJECTS FOR SAFETY IMPROVEMENTS - SHOPP COLLISION REDUCTION PROGRAM. PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - RAILROAD/HIGHWAY CROSSING, SAFER NON-FEDERAL-AID SYSTEM ROADS, SHOULDER IMPROVEMENTS, TRAFFIC CONTROL DEVICES AND OPERATING ASSISTANCE OTHER THAN SIGNALIZATION PROJECTS, INTERSECTION SIGNALIZATION PROJECTS AT INDIVIDUAL INTERSECTIONS, PAVEMENT MARKING DEMONSTRATION, TRUCK CLIMBING LANES OUTSIDE THE URBANIZED AREA	$412,965
LOS ANGELES	STATE HIGHWAY	LALS02	REG0701	999	ROUTE 999: GROUPED PROJECTS FOR PAVEMENT RESURFACING AND/OR REHABILITATION - SHOPP ROADWAY PRESERVATION PROGRAM . PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 CATEGORIES - PAVEMENT RESURFACING AND/OR REHABILITATION, EMERGENCY RELIEF (23 U.S.C. 125), WIDENING NARROW PAVEMENTS OR RECONSTRUCTING BRIDGES (NO ADDITIONAL TRAVEL LANES)	$1,648,919
LOS ANGELES	STATE HIGHWAY	LALS03	REG0701	999	ROUTE 999: GROUPED PROJECTS FOR SHOULDER IMPROVEMENTS - SHOPP ROADSIDE PRESERVATION PROGRAM. PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 CATEGORIES - FENCING,SAFETY ROADSIDE REST AREAS	$6,393
LOS ANGELES	STATE HIGHWAY	LALS04	REG0701	999	ROUTE 999:IN L.A. GROUPED PROJECTS FOR BRIDGE REHABILITATION AND RECONSTRUCTION - SHOPP PROGRAM. PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 CATEGORIES - WIDENING NARROW PAVEMENTS OR RECONSTRUCTING BRIDGES (NO ADDITIONAL TRAVEL LANES).	$367,118
LOS ANGELES	STATE HIGHWAY	LALS06	REG0701	999	ROUTE 999: GROUPED PROJECTS FOR SAFETY IMPROVEMENTS - SHOPP MOBILITY PROGRAM. PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - RAILROAD/HIGHWAY CROSSING, SAFER NON-FEDERAL-AID SYSTEM ROADS, SHOULDER IMPROVEMENTS, TRAFFIC CONTROL DEVICES AND OPERATING ASSISTANCE OTHER THAN SIGNALIZATION PROJECTS, INTERSECTION SIGNALIZATION PROJECTS AT INDIVIDUAL INTERSECTIONS, PAVEMENT MARKING DEMONSTRATION, TRUCK CLIMBING LANES OUTSIDE THE URBANIZED AREA	$261,984
LOS ANGELES	STATE HIGHWAY	LALS07	REG0701	999	ROUTE 999: GROUPED PROJECTS FOR SAFETY IMPROVEMENTS - SHOPP MANDATES PROGRAM. PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - RAILROAD/HIGHWAY CROSSING, SAFER NON-FEDERAL-AID SYSTEM ROADS, SHOULDER IMPROVEMENTS, TRAFFIC CONTROL DEVICES AND OPERATING ASSISTANCE OTHER THAN SIGNALIZATION PROJECTS, INTERSECTION SIGNALIZATION PROJECTS AT INDIVIDUAL INTERSECTIONS, PAVEMENT MARKING DEMONSTRATION, TRUCK CLIMBING LANES OUTSIDE THE URBANIZED AREA	$586,191
LOS ANGELES	STATE HIGHWAY	LALS08	REG0701	999	ROUTE 999: GROUPED PROJECTS FOR EMERGENCY REPAIR - SHOPP EMERGENCY RESPONSE PROGRAM. PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 CATEGORIES - REPAIR DAMAGE CAUSED BY NATURAL DISASTERS, CIVIL UNREST, OR TERRORIST ACTS. THIS APPLIES TO DAMAGES THAT DO NOT QUALIFY FOR FEDERAL EMERGENCY RELIEF FUNDS OR TO DAMAGES THAT QUALIFY FOR FEDERAL EMERGENCY RELIEF FUNDS BUT EXTEND BEYOND THE FEDERALLY DECLARED DISASTER PERIOD.	$129,692
LOS ANGELES	STATE HIGHWAY	LALS09	1AL04	999	ROUTE 999: GROUPED PROJECTS FOR SAFETY IMPROVEMENTS, SHOULDER IMPROVEMENTS, PAVEMENT RESURFACING AND/OR REHABILITATION - MINOR PROGRAM. PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - RR/HWY CROSSING, SAFER NON-FED AID SYS RDS, SHLDER IMPROV, TRAFFIC CONTROL DEVICES & OPERATING ASSISTANCE OTHER THAN SIGNALIZPAVEMENT RESURFACING AND/OR REHABILITATION.	$15,540

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	STATE HIGHWAY	LARE1701A	1O1012	405	IMPLEMENTING DYNAMIC CORRIDOR RAMP METERING SYSTEM (DCRMS) IN I-405 SEPULVEDA PASS CORRIDOR (INTERSTATE 405 FROM I-10 TO SR101), A SYSTEM-WIDE ADAPTIVE RAMP METERING STRATEGY WHICH SIMULTANEOUSLY COORDINATES WITH ARTERIAL TRAFFIC SIGNAL OPERATION. THE SYSTEM WILL DYNAMICALLY ADJUST TRAFFIC ACCORDING TO CURRENT CAPACITY RESTRICTIONS CAUSED BY INCIDENTS OR RECURRENT CONGESTION. IMPROVE TRAFFIC MOVEMENT AND ACCESS TO FREEWAY AND MAJOR ARTERIAL INCLUDING TRANSIT OPERATION.	$2,320
LOS ANGELES	TRANSIT	2018FBX00	1TL104	0	LOS ANGELES COUNTY; SOFTWARE MODIFICATIONS AND HARDWARE UPGRADES OF FARE COLLECTION EQUIPMENT AT METRO RAIL STATIONS AND ON METRO AND MUNICIPAL OPERATOR BUSES TO ADDRESS EQUIPMENT OBSOLESCENCE, ENHANCE SYSTEM SECURITY, COMMUNICATE IN NEAR REAL-TIME, AND SUPPORT FUTURE TAP MOBILE APP AND OTHER NEW PAYMENT TECHNOLOGIES.	$55,100
LOS ANGELES	TRANSIT	LA01B111	LA01B111	0	BUS SYSTEM - PREVENTIVE MAINTENANCE. THIS IS AN ONGOING ANNUAL PROJECT.	$29,348
LOS ANGELES	TRANSIT	LA0B310	LA0B310	0	REPLACEMENT CNG/ELECTRIC BUSES AND ELECTRIC BUS CHARGING STATIONS	$75,368
LOS ANGELES	TRANSIT	LA0B311	LA0B311	0	PARK AND RIDE FACILITY (TRANSIT ORIENTED NEIGHBORHOOD PROGRAM)IN THE CITY OF INDUSTRY AND IN THE CITY OF COVINA. AZUSA PROJECT UNDER LAF3434.	$42,855
LOS ANGELES	TRANSIT	LA0B358	LA0B358	0	PREVENTATIVE MAINTENANCE FOR THE CULVER CITYBUS FLEET.	$30,625
LOS ANGELES	TRANSIT	LA0C10	LA0C10	0	MID-CITY/EXPOSITION CORRIDOR LIGHT RAIL TRANSIT PROJECT PHASE I TO VENICE-ROBERTSON STATION. (INCLUDING E200-BUSP-095, LA CIENEGA INTERMODAL CENTER)	$970,975
LOS ANGELES	TRANSIT	LA0C53	LA0C53	0	HOLLYWOOD INTERMODAL TRANSPORTATION AND PUBLIC PARKING CENTER ON HAWTHORNE AVE. BETWEEN HIGHLAND AVENUE AND NORTH ORANGE DRIVE (EXIST 500 SP PARK STRUCTURE).TCRP#49.2	$41,000
LOS ANGELES	TRANSIT	LA0C61	LA0C61	0	RADIO EQUIPMENT (MOBILE RAY) - DIGITAL LAND MOBILE RADIO SYSTEM AND FLEET MAINTENANCE SYSTEM (ONGOING)	$110
LOS ANGELES	TRANSIT	LA0C63	LA0C63	0	PURCHASE OF MISC OFFICE EQUIPMENT- (ONGOING)	$214
LOS ANGELES	TRANSIT	LA0C64	LA0C64	0	ASSOCIATED CAPITAL MAINTENANCE (ENGINES, TRANSMISSIONS, PARTICULATE TRAPS, KITS, ETC) (ONGOING)	$304
LOS ANGELES	TRANSIT	LA0C8114	LA0C8114	0	LA CNTY RIDESHARE SERVICES; PROVIDE COMMUTE INFO, EMPLOYER ASSISTANCE AND INCENTIVE PROGRAMS THROUGH CORE & EMPLOYER RIDESHARE SERVICES & MTA INCENTIVE PROGRAMS. PPNO 9003	$117,360
LOS ANGELES	TRANSIT	LA0C8221	1TL104	0	COMPRESSED NATURAL GAS FUELING AND MAINTENANCE FACILITY; NEW PUMPING STATION WILL ALLOW FOR FLEET EXPANSION, AND REDUCE OPERATING COST.	$10,900
LOS ANGELES	TRANSIT	LA0D11	LA0D11	0	TRANSIT - ENHANCEMENTS (STREET FURNITURE).	$1,545
LOS ANGELES	TRANSIT	LA0D125	LA0D125	0	BUS STOP AMENITIES (BENCHES AND SHELTERS) PROJECT (ONGOING). PROJECT USING $100 OF TDC(TOLL CREDITS) TO MATCH FTA 5307 FUNDS IN FY 19/20 FOR CON.	$3,669
LOS ANGELES	TRANSIT	LA0D198	LA0D198	0	CRENSHAW/LAX TRANSIT CORRIDOR - THE CRENSHAW/LAX TRANSIT CORRIDOR PROJECT IS AN 8.5-MILE LIGHT RAIL TRANSIT (LRT) LINE EXTENDING FROM THE INTERSECTION OF CRENSHAW AND EXPOSITION BOULEVARDS ALLOWING FOR TRANSFER TO THE EXPOSITION LIGHT RAIL TRANSIT LINE TO A CONNECTION WITH THE METRO GREEN LINE AT THE AVIATION/LAX STATION (PPNO 4027A)	$2,058,000
LOS ANGELES	TRANSIT	LA0D285	1TL104	0	COUNTYWIDE NON-URBANIZED AREA CAPITAL,OPERATING AND ADMINISTRATIVE ASSISTANCE	$14,491
LOS ANGELES	TRANSIT	LA0D29	LA0D29	0	CITY BUS TRANSFER STATION. RELOCATE EXISTING TRANSIT TERMINAL & CONSTRUCT NEW TRANSIT CENTER W/12 BUS BAYS, PAX WAITING AREA & INFO CENTER, & DRIVER LOUNGE. PROPERTY PROVIDES 339 PUBLIC PKG SPACES (PLUS 2 FOR STAFF MAINT & SECURITY) & BICYCLE FACILITIES. LOCATION 1521 KINGSDALE AVE, RB, CA 90278. PROJECT ALSO INCLUDES MINOR SURFACE STREET IMPROVEMENTS ON KINGSDALE AVE AND 182ND : KINGSDALE WIDENING ADDS DEDICATED RIGHT TURN LANE AND 182ND RESTRIPING REMOVES BUS LAYOVER AND ADDS A BIKE LANE.	$8,079

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	TRANSIT	LA0D298	1OM0702	0	ACQUISITION AND INSTALLATION OF TRANSIT AMENITIES (BENCHES AND SMALL SHELTERS)	$2,090
LOS ANGELES	TRANSIT	LA0D337	LA0D337	0	TRANSIT ENHANCEMENT ACTIVITIES: 1% FORMULA FUNDS - LOS ANGELES COUNTY	$41,062
LOS ANGELES	TRANSIT	LA0D357	LA0D357	0	PROVIDE HARDSCAPE, LANDSCAPE AND STREETSCAPE IMPROVEMENTS AT LOS ANGELES TRADE TECHNICAL COLLEGE TO IMPROVE PEDESTRIAN MOBILITY AND MULTI-MODAL TRANSIT CONNECTIONS.SAFETEA-LU # 307, 2007 CFP #F1645..	$5,925
LOS ANGELES	TRANSIT	LA0D43	REG0702	0	CAPITALIZATION OF PREVENTIVE MAINTENANCE (ONGOING).	$5,718
LOS ANGELES	TRANSIT	LA0D437	LA0D437	0	REPLACE UP TO FOUR(4) 1997 MODEL YEAR DIESEL BUSES WITH UP TO FOUR (4) CNG 40 FT.BUSES. TOLL CREDITS - TRANSIT (TDC)OF $811 WILL BE USED TO MATCH FY16/17 FTA 5307 FOR THE CON PHASE	$4,053
LOS ANGELES	TRANSIT	LA0D454	LA0D454	0	REHAB TRANSIT ADMINISTRATIVE AND OPERATIONS OFFICES	$600
LOS ANGELES	TRANSIT	LA0D455	LA0D455	0	REPLACE RELIEF AND SUPERVISOR VEHICLES	$160
LOS ANGELES	TRANSIT	LA0D471	LA0D471	0	NEW FREEDOM PROGRAM ADMINISTRATION, OPERATIONS AND CAPITAL FOR UZA 2 AND UZA 123.	$34,809
LOS ANGELES	TRANSIT	LA0D92	1TL204	0	COUNTYWIDE UNIVERSAL FARE SYSTEM (UFS) PROJECT (ONGOING). UTILIZING $100 OF TDC FOR FTA5307 IN FY18/19 FOR CON.	$2,920
LOS ANGELES	TRANSIT	LA0F021	LA0F021	0	EXPOSITION LIGHT RAIL TRANSIT SYSTEM PHASE II - FROM CULVER CITY TO SANTA MONICA	$1,511,158
LOS ANGELES	TRANSIT	LA0F022	REG0702	0	BUS SHELTER PROGRAM (INSTALLATION OF BUS SHELTERS AND REAL TIME TRANSIT INFORMATION)	$12,778
LOS ANGELES	TRANSIT	LA0F048	LA0F048	0	PREVENTIVE MAINTENANCE - OPERATING	$27,500
LOS ANGELES	TRANSIT	LA0F075	1TL204	0	LIGHT RAIL TRANSIT FLEET-UP TO 193 NEW CARS SYSTEMWIDE. THESE EXPANSION RAIL CARS WILL BE ASSIGNED TO EXPO II, GOLD LINE FOOTHILL AND VEHICLE REPLACEMENTS. PPNO 4025	$826,365
LOS ANGELES	TRANSIT	LA0G010	1TR0404	0	REGIONAL CONNECTOR - LIGHT RAIL IN TUNNEL ALLOWING THROUGH MOVEMENTS OF TRAINS, BLUE, GOLD, EXPO LINES. FROM ALAMEDA / 1ST STREET TO 7TH STREET/METRO CENTER	$1,770,142
LOS ANGELES	TRANSIT	LA0G012	1OM0702	0	FEDERAL OPERATING ASSISTANCE. UTILIZING $1,000 OF TDC IN FY 17/18 AND $1,300 FOR FY18/19 & FY19/20 TO MATCH FTA 5307 FUNDS FOR CON.	$31,110
LOS ANGELES	TRANSIT	LA0G017	REG0702	0	BUS STOP IMPROVEMENTS/ AMENITIES INCLUDES: THE PURCHASE OF BENCHES, SHELTERS, SIGNAGE, TRASH RECEPTACLES, LANDSCAPING, LIGHTING AND OTHER BUS STOP RELATED AMENITIES. UTILIZING TRANSIT DEVELOPMENT CREDITS (TDC): $140 IN FY18/19 AND $147 IN FY 19/20 TO MATCH FTA - 5307 FOR CON.	$12,439
LOS ANGELES	TRANSIT	LA0G024	1TL104	0	ON-GOING FLEET REPLACEMENT (30, 35, 40 AND ARTICULATED, ADA COMPLIANT, ALTERNATIVE FUEL). ADDED TDC OF $2,447 IN FY18/19 FOR CONS TO MATCH FTA 5307 & $2,355 IN FY19/20 FOR CONS TO MATCH FTA 5307.	$130,718

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	TRANSIT	LA0G057	REG0702	0	ONGOING ANNUAL TIRE LEASE CONTRACT	$266
LOS ANGELES	TRANSIT	LA0G059	1TL104	0	PURCHASE (5) RELIEF VEHICLES AND (4) SERVICE VEHICLES TO REPLACE EXISTING VEHICLES THAT HAVE REACHED THE END OF THEIR USEFUL SERVICE LIFE.	$350
LOS ANGELES	TRANSIT	LA0G062	1TL104	0	VEHICLE REPLACEMENTS BATTERY ELECTRIC - TRANSIT & COMMUTER - 17 TRANSITS IN FY 18/19, 14 FOURTEEN COMMUTERS IN FY18/19. NO TDC'S WILL BE USED.	$48,102
LOS ANGELES	TRANSIT	LA0G1018	1TR1010	0	ACQUISITION OF FIVE (5) CNG-POWERED TRANSIT VEHICLES FOR REPLACEMENT OF THE BCT FLEET.	$900
LOS ANGELES	TRANSIT	LA0G1019	1TL104	0	INSTALLATION OF 36 BUS SHELTERS AND BENCHES ALONG ALL MTA STOPS CITY WIDE.	$637
LOS ANGELES	TRANSIT	LA0G1023	1ITS04	0	THE UNIVERSAL FARE SYSTEM (UFS) PROJECT UPGRADE WILL INCLUDE THE PURCHASE AND INSTALLATION OF UFS EQUIPMENT FOR THE MONTEBELLO BUS LINES FLEET. THE EQUIPMENT WILL UTILIZE SMART CARD TECHNOLOGY AND WILL BE COMPATIBLE WITH LOS ANGELES COUNTYS UFS PROGRAM. TOLL CREDITS - TRANSIT (TDC) OF $406 WILL BE USED TO MATCH FY18/19 FEDERAL FUNDS FOR THE CON PHASE	$2,028
LOS ANGELES	TRANSIT	LA0G1025	1TL104	0	VISTA CANYON RANCH COMPRESSED NATURAL GAS (CNG) FUELING STATION.	$1,831
LOS ANGELES	TRANSIT	LA0G1028	1TL104	0	CONSTRUCT A PARK AND RIDE AT STATE ROUTE 14 AND NEWHALL AVENUE.	$3,500
LOS ANGELES	TRANSIT	LA0G1029	1TR1010	0	SYSTEM-WIDE BUS STOP IMPROVEMENTS. IMPROVEMENTS INCLUDE DESIGN AND CONSTRUCTION OF NEW BUS STOPS INCLUDING SIDEWALK, CONCRETE, ACCESSIBILITY IMPROVEMENTS AS WELL AS INSTALLING BENCHES AND SHELTERS.	$625
LOS ANGELES	TRANSIT	LA0G1030	1TR1010	0	BUS REPLACEMENT - 13 2004 COMMUTER BUSES, TOLL CREDITS - TRANSIT (TDC)OF $2,213 WILL BE USED IN FY18/19 FOR CONSTRUCTION.	$11,063
LOS ANGELES	TRANSIT	LA0G1039	1TL104	0	REPLACEMENT OF THREE GAS VEHICLES WITH STARTRANS CLASS B FORD E-450 GAS VEHICLES. THE VEHICLES WILL BE FUNDED WITH PTMISEA (PUBLIC TRANSPORTATION MODERNIZATION IMPROVEMENT AND SERVICE ENHANCEMENT) FUNDS, THEREFORE, NO MATCHING FUNDS ARE REQUIRED. HOWEVER, IN CASE OF A SHORTFALL, PROPOSITION C DISCRETIONARY MOSIP FUNDS ARE AVAILABLE.	$275
LOS ANGELES	TRANSIT	LA0G1040	1TR1010	0	PURCHASE OF FOUR PARATRANSIT VANS TO REPLACE FOUR 2012 YEAR VANS. THESE ARE FOR CITY DR SERVICE. PC 40% LOCAL FUNDS AVAILABLE TO THE AGENCY.	$200
LOS ANGELES	TRANSIT	LA0G1051	7120010	0	EXTEND SEVERAL OF THE STUB-END TRACKS IN UNION STATION TO CONNECT WITH EXISTING MAINLINE TRACKS. THE PROJECT WILL SERVE THE EXISTING METROLINK, AMTRAK, AND NEW HIGH SPEED TRAIN PROJECT IN THIS CORRIDOR. IT WILL INCLUDE THE PREPARATION OF AN UPDATED ENVIRONMENTAL REPORT AND CLEARANCE, PREPARATION OF THE P/E DOCUMENTATION, PREPARATION OF FINAL PLANS, SPECIFICATIONS AND ESTIMATES, AND THE CONSTRUCTION OF THE PROJECT.	$195,200
LOS ANGELES	TRANSIT	LA0G1052	1TR1002	0	METRO PURPLE LINE WESTSIDE SUBWAY EXTENSION SECTION 2 - WILSHIRE/LA CIENEGA TO CENTURY CITY	$2,499,240
LOS ANGELES	TRANSIT	LA0G1092	2016A319	0	LONE HILL AVENUE TO CONTROL POINT (CP) WHITE DOUBLE TRACK. WITH THE PROPOSED 3.9 MILE PROJECT SEGMENT, AN EXISTING SIDING WILL BE LENGTHENED TO PROVIDE 8.1 MILES OF CONTINUOUS DOUBLE TRACK BETWEEN LONE HILL AVE AND CP CENTRAL. THE PROJECT IS CURRENTLY IN THE PAED PHASE.	$9,000
LOS ANGELES	TRANSIT	LA0G1094	1TR1017	0	THE WEST SANTA ANA TRANSIT CORRIDOR PROJECT (STUDY ONLY)	$20,189

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	TRANSIT	LA0G1107	REG0702	0	NORWALK TRANSIT SYSTEM (NTS) BUSES/EQUIPMENT AND STORAGE OF FACILITY MAINTENANCE EQUIPMENT ASSOCATE WITH MAINTAINING/ REPAIRING OF THE METROLINK STATION (I.E. SWEEPING EQUIPMENT, VANDALISM REPAIRS, LANDSCAPING EQUIPMENT, ETC.) ON THE 1.76 ACRE LOT IN SANTA FE SPRINGS (KNOW AS PARCEL B).	$776
LOS ANGELES	TRANSIT	LA0G1122	REG0702	0	BUS STOP IMPROVEMENTS AND/OR REPAIRS (ONGOING) INCLUDING BUS STOP AMENITIES (I.E. BUS SHELTER, TRASH RECEPTACLE, ETC), INSTALLATION OF ROUTE INFORMATION/SIGNAGE AND BRAILLE IDENTIFIER PLATES.	$53
LOS ANGELES	TRANSIT	LA0G1123	1TR1014	0	FORMULA GRANTS FOR THE ENHANCED MOBILITY OF SENIORS AND INDIVIDUALS WITH DISABILITIES PROGRAM ADMINISTRATION, AS WELL AS FOR OPERATIONS AND CAPITAL ASSISTANCE, FOR URBANIZED AREAS (UZA) IN LOS ANGELES COUNTY (UZA 2, UZA 112, AND UZA 146).TOLL CREDITS - TRANSIT (TDC)OF $2,490 (FY20) WILL BE USED TO MATCH FEDERAL FUNDS FOR THE CON PHASE.	$58,839
LOS ANGELES	TRANSIT	LA0G1124	REG0702	0	TORRANCE REGIONAL PARK AND RIDE TRANSIT CENTER - OPERATING FUNDS. FTA GRANT ID # IS CA-90-Z247.	$3,200
LOS ANGELES	TRANSIT	LA0G1143	REG0702	0	ONGOING PROJECT: CAPITALIZATION OF PREVENTATIVE MAINTENANCE. TDC OF $898 WILL BE PROGRAMMED IN FY18/19 FOR CON PHASE TO MATCH FTA 5307.	$4,482
LOS ANGELES	TRANSIT	LA0G1144	1TR1010	0	PURCHASE OF REPLACEMENT BUSES: UP TO 12, 40-FOOT CNG BUSES REPLACING 12, 40-FOOT GASOLINE HYBRID ELECTRIC BUSES (FY16 BOS 15%) UP TO 6, 40-FOOT CNG BUSES REPLACING 5 40-FOOT GASOLINE HYBRID ELECTRUC BUSES (FY17 BOS 15%)	$9,934
LOS ANGELES	TRANSIT	LA0G1145	1TR1010	0	REPLACE 14 (FOURTEEN) 2009/2010 MODEL YEAR 40 FT. GASOLINE HYBRID ELECTRIC BUSES WITH UP TO 14 (FOURTEEN) 40FT. ZERO EMISSION BUSES. USE OF $2,520,000 TRANSPORTATION DEVELOPMENT CREDITS FOR FY18/19 IN CONSTRUCTION .UTILIZING TOLL CREDITS IN THE AMOUNT OF $2500 IN CON PHASE TO MATCH 5307 FTA FUNDS IN FISCAL YEAR 19.	$12,600
LOS ANGELES	TRANSIT	LA0G1149	REG0702	0	IMPROVEMENTS AT FOUR SITES ALONG CESAR CHAVEZ AVENUE, THE PERIMETER OF THE LOS ANGELES UNION STATION, AT ALAMEDA AND VIGNES STREETS. LAND WILL BE ACQUIRED FOR A BUS PAVILION, BIKE FACILITIES, AND ENHANCED LANDSCAPING AT ONE SITE. STREET FURNITURE WILL BE REPLACED AND UPDATED AT THE THREE OTHER SITES. A CONTINENTAL CROSSWALK WILL BE INSTALLED ON ALL FOUR SEGMENTS OF THE INTERSECTION AT CESAR CHAVEZ AVENUE AND VIGNES STREET	$2,086
LOS ANGELES	TRANSIT	LA0G1159	1TR1010	0	PURCHASE SIX (6) REPLACEMENT ALTERNATIVE-FUELED 45-FOOT COMMUTER BUSES.	$4,609
LOS ANGELES	TRANSIT	LA0G1161	1TR0101	0	CRENSHAW/LAX ACCOMMODATIONS NEAR 96TH STREET/AVIATION BOULEVARD NOT TO PRECLUDE FUTURE METRO RAIL CONNECTIONS. TOLL CREDITS OF $2,127 WILL BE UTILIZED IN FY17/18 TO MATCH CMAQ FOR CON. THE ACCOMMODATIONS IDENTIFIED TO DATE INVOLVE UTILITY RELOCATION, REDESIGN AND CONSTRUCTION OF MAINLINE TRACKS TO PROVIDE FOR FUTURE STATION PLATFORMS AT AMC (96TH STREET) TRANSIT STATION, RELOCATION OF SPECIAL TRACK WORK, AND GRADE CROSSING MODIFICATIONS	$16,420
LOS ANGELES	TRANSIT	LA0G1162	1TR0101	0	AIRPORT METRO CONNECTOR.	$525,200
LOS ANGELES	TRANSIT	LA0G1167	1TR1023	0	DESIGN AND CONSTRUCTION OF STREETSCAPE, PEDESTRIAN AND BICYCLE ACCESS IMPROVEMENTS IN THE LITTLE TOKYO AND ARTS DISTRICT NEIGHBORHOOD OF DOWNTOWN LOS ANGELES WITHIN A ONE-MILE RADIUS OF THE 1ST/CENTRAL STATION OF THE REGIONAL CONNECTOR LIGHT RAIL LINE.	$16,800
LOS ANGELES	TRANSIT	LA0G1169	7120010	0	BRIGHTON TO ROXFORD DOUBLE TRACK: THIS PROJECT ADDS 11 MILES OF 2ND TRACK BETWEEN BURBANK AND SYLMAR ON METROLINK'S ANTELOPE VALLEY LINE (AVL). THE PROJECT WILL ELIMINATE THE CURRENT BOTTLENECK AND IMPROVE ON TIME PERFORMANCE AND OPERATIONAL RELIABILITY ON THE AVL. THIS PROJECT WILL BE DESIGNED TO BE COMPATIBLE WITH THE POTENTIAL FUTURE HIGH SPEED RAIL ALIGNMENT.	$17,501
LOS ANGELES	TRANSIT	LA0G1175	1ITS04	0	COMPUTER AUTOMATED DISPATCHING/AUTOMATED VEHICLE LOCATION (CAD/AVL)SOLUTION WITH REAL TIME PASSENGER INFORMATION NETWORK. ADDING TDC IN CONSTRUCTION PHASE TO MATCH 5307 IN FY18/19 FOR $400.	$3,800

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	TRANSIT	LA0G119	1TL204	0	PASSENGER BENCHES AND SMALL SHELTERS - PURCHASE AND INSTALL 60 PASSENGER BENCHES AND SMALL SHELTERS THROUGHOUT THE CITY.E2009-BUSP-066. E2010-BUSP-016 FOR $500,000.	$1,207
LOS ANGELES	TRANSIT	LA0G1190	REG0702	0	THIS PROJECT INCLUDES: REGULAR MAINTENANCE, FACILITY IMPROVEMENTS, INFORMATION SYSTEM EQUIPMENT, SAFETY/SECURITY EQUIPMENT, REPAIRS, COSMETIC RESTORATION AND REPLACE AGING COMPONENTS, ENGINE REPOWERING TO LONG BEACH TRANSIT'S AQUATIC FLEET. TDC OF $55 WILL BE UTILIZED TO MATCH FBP FUNDS PROGRAMMED FOR CON IN FY18/19.	$70
LOS ANGELES	TRANSIT	LA0G1193	1TR1010	0	BUS REPLACEMENT OF 14 2005 NEW FLYER CNG BUSES. $1,221 OF TDC WILL BE UTILIZED TO MATCH FTA 5339 AND FTA 5307 FUNDS PROGRAMMED IN FY18/19 FOR CON PHASE.	$6,104
LOS ANGELES	TRANSIT	LA0G1207	1O1003	0	INNOVATIVE PLATFORM TRACK INTRUSION DETECTION SYSTEM (PTIDS) TECHNOLOGY: A DEMONSTRATION ON LOS ANGELES METRO RAIL SYSTEM	$2,153
LOS ANGELES	TRANSIT	LA0G1218	LA000358	0	INTERSTATE 5 NORTH HOV CONSTRUCTION MITIGATION - PROVIDE TRANSIT BUS SERVICES NECESSARY AS A RESULT OF CONSTRUCTION DISRUPTION TO CLOSE THE GAP BETWEEN THE BURBANK AIRPORT AND THE METRO RED LINE / ORANGE LINE STATION TO PROVIDE AN ALTERNATE TRANSIT ROUTE BETWEEN DOWNTOWN LOS ANGELES AND THE AIRPORT AREA OF BURBANK. THIS WOULD INCLUDE WEEKDAY FIXED-ROUTE SERVICES.	$1,740
LOS ANGELES	TRANSIT	LA0G1222	1TR1022	0	BUS WASH REPLACEMENT PROJECT: PURCHASE AND INSTALLATION OF NEW REVERSE OSMOSIS BUS WASH AND WASTEWATER RECLAMATION SYSTEM TO REPLACE THE 18-YEAR-OLD BUS WASH SYSTEM AT THE CULVER CITY TRANSPORTATION FACILITY.	$400
LOS ANGELES	TRANSIT	LA0G1225	1OM0702	0	BURBANK AIRPORT, TO MITIGATE THE IMPACTS OF THE I-5 NORTH CONSTRUCTION, PROVIDE SHUTTLE SERVICES TO THE REDLINE STATION ON WEEKENDS AND OUTSIDE BURBANK BUS OPERATING HOURS.	$100
LOS ANGELES	TRANSIT	LA0G1227	1TR1010	0	PURCHASE OF SEVEN 30-FOOT BUSES AND TWENTY-FIVE 40-FOOT CNG BUSES TO REPLACE 40-FOOT LNG BUSES.	$51,328
LOS ANGELES	TRANSIT	LA0G1229	7120010	0	CITRUS AVENUE - PEDESTRIAN SAFETY IMPROVEMENTS WILL BE MADE AT MP 22.91 ON THE METROLINK SAN BERNARDINO LINE TO PROTECT AND CHANNELIZE THE FLOW OF PEDESTRIAN TRAFFIC, PLUS IMPROVEMENTS TO VEHICLULAR EXIT GATES AND TRAFFIC SIGNAL MODIFICATIONS. THIS MAY INCLUDE MEDIAN BARRIERS, FOUR-QUAD GATES, SIGNAL, SIGNAGE AND STRIPING IMPROVEMENTS, AND FENCING TO REDUCE THE OPPORTUNITY FOR ACCIDENTS TO OCCUR AT THE GRADE CROSSING.	$3,485
LOS ANGELES	TRANSIT	LA0G1230	7120010	0	RAMONA BLVD - PEDESTRIAN SAFETY IMPROVEMENTS WILL BE MADE AT MP 18.97 ON THE METROLINK SAN BERNARDINO LINE TO PROTECT AND CHANNELIZE THE FLOW OF PEDESTRIAN TRAFFIC, PLUS IMPROVEMENTS TO VEHICLULAR EXIT GATES AND TRAFFIC SIGNAL MODIFICATIONS. THIS MAY INCLUDE MEDIAN BARRIERS, FOUR-QUAD GATES, SIGNAL, SIGNAGE AND STRIPING IMPROVEMENTS, AND FENCING TO REDUCE THE OPPORTUNITY FOR ACCIDENTS TO OCCUR AT THE GRADE CROSSING.	$3,485
LOS ANGELES	TRANSIT	LA0G1231	7120010	0	CP SOLEDAD -AT MP 44.25 ON THE METROLINK ANTELOPE VALLEY LINE, AN EXISTING TURNOUT WILL BE REPLACED WITH A NEW TURNOUT. AN EXISTING SPUR TRACK AND TURNOUT AT MP 43.95 WILL BE REHABILITATED AND UPGRADED. THE CROSSING PANELS, TRACK, AND CROSSING SIGNALS AT LANG STATION ROAD WILL BE UPGRADED.	$6,649
LOS ANGELES	TRANSIT	LA0G1234	7120006	0	MT. SAN ANTONIO COLLEGE (MSAC) TRANSIT CENTER. THE TRANSIT CENTER INCLUDES 10 BUS BAYS, 2 CHARGERS FOR ELECTRIC BUSES, A TRANSIT STORE, LIGHTED SHELTERED WAIT AREAS, REAL-TIME BUS ARRIVAL KIOSKS, AND UPGRADED ADA AND PEDESTRIAN ACCESS.	$10,300
LOS ANGELES	TRANSIT	LA0G1235	1TL104	0	COMPUTER AIDED DISPATCH (CAD)/AUTOMATED VEHICLE LOCATION EQUIPMENT	$21,000
LOS ANGELES	TRANSIT	LA0G1236	1TL104	0	BUS HEAVY MAINTENANCE AND REHABILITATION	$17,000
LOS ANGELES	TRANSIT	LA0G1238	1TL104	0	THE PROJECT CONSISTS OF THE PURCHASE OF FIVE (5) REPLACEMENT 40-FOOT LOW-FLOOR CNG-POWERED BUSES. UTILIZING $575 OF TDC IN FY18/19 TO MATCH FTA 5307 FOR CON.	$2,875
LOS ANGELES	TRANSIT	LA0G1239	1TR08D08	0	THIS PROJECT IS THE ACQUISITION OF ONE (1) ALTERNATIVE HEAVY DUTY FUEL SUPPORT VEHICLE THAT WILL BE USED BY MAINTENANCE PERSONNEL TO RESPOND TO ROAD CALLS, TO TRANSPORT EQUIPMENT AND TO PERFORM ACTIVITIES RELATED TO SUPPORTING TRANSIT OPERATIONS. UTILIZING $28 OF TDC IN FY18/19 TO MATCH FTA 5307 FOR CON.	$140

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	TRANSIT	LA0G1241	REG0702	0	BUS FLEET PREVENTATIVE MAINTENANCE. PROJECT USING $666 IN FY19/TDC TO MATCH $3,331 IN FY19/5307 FUNDS	$3,331
LOS ANGELES	TRANSIT	LA0G1242	REG0702	0	TECHNOLOGY PROJECT - SOFTWARE TO FACILITATE THE AUTOMATION OF MBL'S FIXED ROUTE SCHEDULING, RUN CUTTING, AND BLOCKING; THEREBY ENHANCING OPERATIONAL EFFICIENCY. UTILIZING $100 OF TDC TO MATCH FTA 5307 IN FY16/17 FOR CON.	$200
LOS ANGELES	TRANSIT	LA0G1244	REG0702	0	METRO EXPO LINE PHASE II - OPERATING ASSISTANCE	$53,874
LOS ANGELES	TRANSIT	LA0G1245	REG0702	0	METRO GOLD LINE - FOOTHILL EXTENSION OPERATING ASSISTANCE	$51,750
LOS ANGELES	TRANSIT	LA0G1251	REG0702	0	CABRILLO MOLE FERRY TERMINAL PROJECT. LOCATED IN THE CITY OF AVALON/SANTA CATALINA ISLAND. PROJECT IS TO REPLACE AND EXPAND THE CABRILLO MOLE INTERMODAL FERRY PASSENGER TERMINAL INCLUDING FLOATING DOCKS AND ASSOCIATED AMENITIES. TDC EQUIVALENT TO $800 WILL BE USED IN LIEU OF THE REQUIRED LOCAL MATCH FOR SECTION 5307 FTA LA/LB UZA FOR CONSTRUCTION PHASE IN FY 18/19.	$8,657
LOS ANGELES	TRANSIT	LA0G1258	1TL204	0	CULVER CITYBUS SATELLITE FACILITY PROJECT	$2,000
LOS ANGELES	TRANSIT	LA0G1259	1TR1017	0	CULVER CITY MULTI-MODAL TRANSIT CENTER (PE ONLY)	$2,000
LOS ANGELES	TRANSIT	LA0G1274	1TR1010	0	CNG COMPRESSOR UPGRADE AND EXPANSION AT THE TRANSIT MAINTENANCE FACILITY. TDC OF $400 WILL BE UTILIZED IN FY17/18 FOR CON.	$2,000
LOS ANGELES	TRANSIT	LA0G1280	1TR1010	0	PURCHASE OF SEVEN (7) ALL ELECTRIC BUSES FOR A NEW CIRCULATOR SERVICE. RUBBER-WHEEL TROLLEY SERVICE WILL OPERATE IN OLD TOWN AREA, AS WELL AS HOTEL AND FINANCIAL DISTRICT ON HAWTHORNE BLVD. ORIGIN/TERMINUS IS AT THE TORRANCE TRANSIT PARK AND RIDE REGIONAL TERMINAL (465 CRENSHAW BLVD).	$2,975
LOS ANGELES	TRANSIT	LA0G1284	1TR1010	0	INFRASTRUCTURE IMPROVEMENTS - ONSITE DEPOT CHARGING FOR ELECTRIC BUSES	$14,308
LOS ANGELES	TRANSIT	LA0G1295	7120002	0	THIS PROJECT WILL EXPAND THE EXISTING TRANSPORTATION DISPATCH AND ADMINISTRATIVE OFFICES TO ACCOMMODATE ADDITIONAL PERSONNEL AND UPGRADED TECHNOLOGY. PROJECT WILL USE TDC OF $260 FOR CON IN FY17/18 USING 5307 FUNDS.	$1,300
LOS ANGELES	TRANSIT	LA0G1298	1TR1015	0	PROCUREMENT OF TWO (2) NEW LOCOMOTIVES TO INCREASE METROLINK SERVICE FREQUENCY AND REDUCE HEADWAYS. THE LOCOMOTIVES WILL BE EPA TIER-4 F-125 UNITS THAT WILL IMPROVE EMISSIONS, RELIABILITY AND PERFORMANCE RELATIVE TO THE F59 LOCOMOTIVES CURRENTLY IN SERVICE.	$3,739
LOS ANGELES	TRANSIT	LA0G1301	1TR0706	0	THE EAST SAN FERNANDO VALLEY (ESFV) TRANSIT CORRIDOR - A MAJOR MASS TRANSIT PROJECT THAT WOULD OPERATE IN THE CENTER OR CURB-LANE ALONG VAN NUYS BOULEVARD AND SAN FERNANDO ROAD FROM THE METRO ORANGE LINE STATION IN THE SOUTH, TO THE SYLMAR/SAN FERNANDO METROLINK STATION TO THE NORTH – A DISTANCE OF APPROXIMATELY 9.2 (PE ONLY)	$1,000
LOS ANGELES	TRANSIT	LA0G1306	1TR1010	0	BUS REPLACEMENT - THIRTEEN (13) 60FT. ARTICULATED ELECTRIC BUSES AND SIXTEEN (16) 45FT. COMMUTER ELECTRIC BUSES.	$23,253
LOS ANGELES	TRANSIT	LA0G1310	1OM0702	0	PURCHASE OF AN ELECTRONIC BUS OPERATOR SIGN IN/CHECK IN SYSTEM.	$82
LOS ANGELES	TRANSIT	LA0G1312	7120002	0	CUSTOMER SERVICE / MAINTENANCE & ADMINISTRATIVE EQUIPMENT. THIS PROJECT WILL USE $20 OF TDC'S IN FY18/19 AND $20 IN TDC'S IN FY19/20	$627
LOS ANGELES	TRANSIT	LA0G1320	1TL104	0	VEHICLES REPLACEMENT - PURCHASE 100, 60-FT ARTICULATED NEW FLYER BATTERY-ELECTRIC ZERO-EMISSION BUSES (ZEB) AND THE PROCUREMENT AND INSTALLATION OF SHOP CHARGING STATIONS AND EN-ROUTE CHARGING STATIONS FOR THE METRO ORANGE LINE.	$191,502
LOS ANGELES	TRANSIT	LA0G1325	7120004	0	PURCHASE REPLACEMENT BIKE LOCKERS	$54
LOS ANGELES	TRANSIT	LA0G1326	1TR1010	0	BUS REPLACEMENT PROJECT - PURCHASE TWO (2) COMPRESSED NATURAL GAS (CNG) BUSES.	$1,178
LOS ANGELES	TRANSIT	LA0G1329	1TL104	0	ACQUISITION OF 600 CNG 40-FT REPLACEMENT REVENUE VEHICLES. ALSO, THIS PROJECT WILL INCLUDE INSTALLATION OF NEW CNG FUELING EQUIPMENT AND WORK FORCE DEVELOPMENT AND OTHER TRAINING ACTIVITIES.	$422,172

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	TRANSIT	LA0G1330	1TR1010	0	UPGRADE BUS MAINTENANCE & FUELING FACILITY TO MAINTAIN AND FUEL COMPRESSED NATURAL GAS (CNG)NEW BUS FLEET. UTILIZING $30 OF TDC TO MATCH FTA 5307 IN FY18/19 FOR ENG PHASE AND $670 OF TDC TO MATCH FTA 5307 IN FY18/19 FOR CON PHASE.	$3,500
LOS ANGELES	TRANSIT	LA0G1339	1TR1014	0	PURCHASE ALTERNATIVE FUELED VEHICLES FOR ACCESS SERVICES AS PART OF THE EXPRESS-LANES NET TOLL REVENUE REINVESTMENT GRANT.	$1,131
LOS ANGELES	TRANSIT	LA0G1343	1TR1019	0	LIGHT RAIL VEHICLE MIDLIFE OVERHAUL REPLACEMENT/UPGRADE OF THE PROPULSION SYSTEM, FRICTION BRAKING SYSTEM, COMMUNICATION SYSTEM, ELECTRICAL SYSTEM, CARBODY (ARTICULATION), TRUCKS, DOORS, HVAC , THE AUTOMATIC TRAIN CONTROL (ATC) SYSTEM, AND OTHER AUXILIARY SYSTEMS IN ORDER TO MAINTAIN THE LRVS IN A STATE OF GOOD REPAIR AND TO ENHANCE SAFETY, AVAILABILITY, RELIABILITY AND SYSTEM-WIDE COMPATIBILITY.	$150,790
LOS ANGELES	TRANSIT	LA0G1344	1TR1019	0	HEAVY RAIL VEHICLE MIDLIFE OVERHAUL REFURBISHMENT/REPLACEMENT OF MAJOR SYSTEMS INCLUDING PROPULSION, AUTOMATIC TRAIN CONTROL (ATC)/AUTOMATIC TRAIN OPERATION (ATO), COMMUNICATION SYSTEMS, FRICTION BRAKE CONTROLLER, SEMI-PERMANENT COUPLER JUMPER CABLES AND VARIOUS ADDITIONAL SUBSYSTEMS IN ORDER TO MAINTAIN THE FLEET'S STATE OF GOOD REPAIR.	$86,662
LOS ANGELES	TRANSIT	LA0G1348	1TR1010	0	PURCHASE FIVE (5) ALTERNATIVE-FUEL 30-FOOT REPLACEMENT BUSES FOR DASH PROGRAM.	$2,825
LOS ANGELES	TRANSIT	LA0G1349	1TR1010	0	PURCHASE 35 ALTERNATIVE-FUEL 30-FOOT BUSES TO EXPAND DASH FLEET AND INCREASE SERVICE HOURS AND HEADWAYS.	$20,435
LOS ANGELES	TRANSIT	LA0G1351	1TL104	0	DEMONSTRATION AND EVALUATION OF INNOVATIVE COLLISION AVOIDANCE TECHNOLOGIES ON LOS ANGELES COUNTY'S METRO BUS REVENUE SERVICES. PROCUREMENT, INSTALLATION, AND EVALUATION (INCLUDING DATA COLLECTION, REPORTING, AND PROJECT MANAGEMENT) OF INNOVATIVE COLLISION AVOIDANCE TECHNOLOGIES ON METRO'S BUS FLEET.	$2,000
LOS ANGELES	TRANSIT	LA0G1352	7120006	0	TWO-REGION MOBILITY ON DEMAND PARTNERSHIP WITH THE CAR-SHARING COMPANY, LYFT, IN LOS ANGELES AND SEATTLE. THE PROJECT WILL EXPLORE THE VIABILITY OF FIRST/LAST MILE SOLUTIONS FOR TRIPS ORIGINATING AND ENDING AT SELECT TRANSIT STOPS.	$1,750
LOS ANGELES	TRANSIT	LA0G1359	1TL104	0	PURCHASE TWO (2) REPLACEMENT CNG BUSES TO REPLACE CNG-POWERED BUSES. UTILIZING TOLL CREDITS FOR CONSTRUCTION PHASE IN FY 17/18 TO MATCH FTA 5307 FUNDS.	$1,265
LOS ANGELES	TRANSIT	LA0G1365	1TL0703	0	RAIL YARD OPERATIONAL IMPROVEMENTS AT METRO RED/PURPLE LINE MAINTENANCE YARD (DIVISION 20) TO ACCOMMODATE INCREASED SERVICE LEVELS ON THE RED AND PURPLE LINES. PROJECT CONSISTS OF WIDENING THE EXISTING TUNNEL PORTAL, AND NEW TRACKS AND SWITCHES THAT WILL ALLOW TRAINS TO TURN AROUND QUICKLY. IMPROVEMENTS WILL INCREASE MAINTENANCE YARD FUNCTIONALITY, IMPROVE OPERATIONAL SAFETY, UPDATE FACILITIES, AND MAXIMIZE OPERATIONAL FLEXIBILITY LEADING TO IMPROVED RAIL SERVICE AND RELIABILITY.	$166,500
LOS ANGELES	TRANSIT	LA0G1369	1TR1010	0	FUNDING TO REPLACE UP TO EIGHT(8) 2008 40FT NABI CNG LOCAL TRANSIT BUSES.	$3,431
LOS ANGELES	TRANSIT	LA0G1374	1TR1010	0	PURCHASE 19 ALTERNATIVE-FUEL 35-FOOT BUSES FOR REPLACEMENT FOR THE DASH PROGRAM.	$15,897
LOS ANGELES	TRANSIT	LA0G1380	1ITS04	0	PURCHASE OF 170 SOLAR-POWERED, REAL-TIME BUS ARRIVAL INFORMATION SIGNS FOR BUS STOP IMPROVEMENT IN THE LOS ANGELES PROMISE ZONE	$597
LOS ANGELES	TRANSIT	LA0G1381	1TR1010	0	CULVER CITYBUS FACILITY CAPACITY ENHANCEMENT PROJECT	$5,680
LOS ANGELES	TRANSIT	LA0G1385	1TR1010	0	PURCHASE TWO REPLACEMENT COMPRESSED NATURAL GAS (CNG) BUSES ON EXPRESS ROUTE AND TWO RELIEF VEHICLES DURING FY2018.	$1,200
LOS ANGELES	TRANSIT	LA0G1393	1TR1010	0	PURCHASE BATTERY-ELECTRIC VEHICLES FOR REPLACEMENT	$5,000
LOS ANGELES	TRANSIT	LA0G1402	1TR1010	0	CAPITALIZATION OF TIRE LEASE. UTILIZING $80K OF TDC IN FY18/19 AND $40K IN FY19/20 FOR CON PHASE.	$600
LOS ANGELES	TRANSIT	LA0G1413	2016A319	0	COMMUNICATIONS SYSTEMS (FMMS& GRANTS MANAGEMENT): PURCHASE OF A FLEET MAINTENANCE AND FUEL MANAGEMENT SYSTEM, AND GRANTS MANAGEMENT SYSTEM.	$65
LOS ANGELES	TRANSIT	LA0G1417	1TR1010	0	VEHICLE REPLACEMENT - PURCHASE 100 40-FOOT ZERO EMISSION TRANSIT BUSES FOR METRO'S SILVER LINE, INCLUDING CHARGERS.	$106,833
LOS ANGELES	TRANSIT	LA0G1418	1TR1010	0	VEHICLE REPLACEMENT - PURCHASE 400 60-FOOT CNG TRANSIT BUSES.	$444,308

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	TRANSIT	LA0G1423	1ITS04	0	PURCHASE AND INSTALL A REAL TIME PASSENGER INFORMATION SYSTEM ON BEACH CITIES TRANSIT FIXED ROUTE BUSES.	$94
LOS ANGELES	TRANSIT	LA0G1431	1TR1010	0	REPLACE FOUR (4) MODEL YEAR 2010 MCI COMMUTER COACHES. UTILIZING TDC IN FY18/19 TO MATCH FTA 5307 FOR CON PHASE.	$3,646
LOS ANGELES	TRANSIT	LA0G1441	1TR1010	0	REPLACE TWO (2) 2007 ARTICULATED BUSES. UTILIZING TDC IN FY18/19 TO MATCH FTA 5307 FOR CON PHASE FOR $245.	$1,227
LOS ANGELES	TRANSIT	LA0G1450	1TR1003	0	HEAVY RAIL TRANSIT FLEET UP TO 182 NEW RAIL CARS SYSTEMWIDE	$393,000
LOS ANGELES	TRANSIT	LA0G1459	1TR1010	0	PURCHASE AND INSTALL REPLACEMENT COMPRESSED NATURAL GAS TANKS AND ASSOCIATED EQUIPMENT FOR ONE BEACH CITIES TRANSIT FIXED ROUTE BUS #550.	$103
LOS ANGELES	TRANSIT	LA0G1462	2016A319	0	PURCHASE OF ONE CNG REPLACEMENT TRANSIT VEHICLE.	$210
LOS ANGELES	TRANSIT	LA0G1484	1TL204	0	REHABILITATE, RENOVATE AND UPGRADES AT THE THREE (3) METROLINK STATIONS LOCATED IN SANTA CLARITA (NEWHALL, SANTA CLARITA AND VIA PRINCESSA)	$500
LOS ANGELES	TRANSIT	LA0G1485	1TL204	0	MOBILITY MANAGEMENT - THIS PROJECT WILL USE $30 OF TDC'S IN CON FY19 TO MATCH 5307.	$150
LOS ANGELES	TRANSIT	LA0G1487	1TL204	0	SECONDARY BUS CHARGERS - USING $400 IN TDC'S FOR FY19 IN CONSTRUCTION PHASE TO MATCH 5307 CON FUNDS. CHARGERS FITTED ON THE BUS ALLOWS WIRELESS INDUCTIVE CHARGING PADS INSTALLED THROUGHOUT THE REGION	$2,000
LOS ANGELES	TRANSIT	LA0G1488	1TL204	0	SOUTHEAST TRANSIT CENTER UPGRADE - RENOVATE EXISTING PARKING LOT TO INCLUDE SAW TOOTH CUTOUTS, BUS BAYS, ELECTRIC VEHICLE CHARGING STATIONS	$1,200
LOS ANGELES	TRANSIT	LA0G1489	1TL204	0	NORTHEAST TRANSIT CENTER UPGRADE - RENOVATE EXISTING PARKING LOT TO INCLUDE SAW TOOTH CUTOUTS, BUS BAYS, ELECTRIC VEHICLE CHARGING STATIONS	$1,400
LOS ANGELES	TRANSIT	LA0G1493	1TL204	0	ACQUISITION OF 305 ZERO EMISSION REPLACEMENT STANDARD BUSES WHICH WILL BE DELIVERED OVER THREE YEARS.	$215,805
LOS ANGELES	TRANSIT	LA0G1494	1TL204	0	TRANSIT ASSET MANAGEMENT IMPLEMENTATION. USING TOLL DEVELOPMENT (TDC) CREDITS IN FY18/19 FOR $33 IN CONSTRUCTION PHASE.	$165
LOS ANGELES	TRANSIT	LA0G1501	1TR1010	0	CONSTRUCT BUS LAYOVER FACILITIES JOINTLY BY AVTA, LADOT & FOOTHILL TRANSIT	$4,600
LOS ANGELES	TRANSIT	LA0G1503	1TR1010	0	UPGRADE TRANSIT MAINTENANCE AND FUELING FACILITY TO INCLUDE ELECTRIC BUS CHARGING INFRASTRUCTURE AND ON GTRANS PROPERTY LOCATED AT 13999 W. WESTERN AVENUE, INCLUDING THE PURCHASE OF AN EMERGENCY GENERATOR AND BATTERY STORAGE.	$1,479
LOS ANGELES	TRANSIT	LA0G1504	1TR1010	0	PURCHASE AND INSTALLATION OF ONGOING BUS STOP AMENITIES, INCLUDING SHELTERS, BENCHES/SEATING, SIGNAGE, LIGHTING, TRASH AND OTHER SUCH IMPROVEMENTS.	$150
LOS ANGELES	TRANSIT	LA0G1508	1OM0702	0	REPLACEMENT OF FOUR TWIN-POST, IN-GROUND HYDRAULIC LIFTS USED FOR TRANSIT BUS MAINTENANCE AT CULVER CITYBUS.	$800
LOS ANGELES	TRANSIT	LA0G1512	1TR1010	0	ON-GOING FLEET REPLACEMENT (30, 35 & 40 ADA COMPLIANT, ALTERNATIVE FUELED BUSES).	$12,257
LOS ANGELES	TRANSIT	LA0G1513	1TR1010	0	BUS STOP IMPROVEMENTS/ AMENITIES INCLUDES: THE PURCHASE OF BENCHES, SHELTERS, SIGNAGE, TRASH RECEPTACLES, LANDSCAPING, LIGHTING AND OTHER BUS STOP RELATED AMENITIES. ADDING FY19 FTA 5307 BOS 15% DISCRETIONARY ($652) AND FY19 PROP C 40% ($153).	$805
LOS ANGELES	TRANSIT	LA0G1544	1OM0702	0	FEDERAL OPERATING ASSISTANCE. USING TDC IN CON PHASE IN FY18/19 FOR $100, FY19/20 FOR $100, FY20/21 FOR $100, FY21/22 FOR $100.	$1,600
LOS ANGELES	TRANSIT	LA0G1552	1TR1010	0	THE PROJECT WILL SUPPORT THE REHABILITATION AND UPDATE OF LONG BEACH TRANSIT'S TWO AQUALINK CATAMARANS.	$178
LOS ANGELES	TRANSIT	LA0G1557	1TR1010	0	PURCHASE EIGHT (8) CNG AND FOUR (4) ELECTRIC REPLACEMENT BUSES. PROJECT WILL USED $1,958 IN FY19/TDC TO MATCH FY19/FTA 5307 FUNDS	$9,791

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	TRANSIT	LA0G1558	1ITS04	0	THIS PROJECT WILL CONSIST OF THE INSTALLATION OF NEW CAMERAS AND SENSORS ON 56 BUSES; INSTALLATION OF THE BACK-OFFICE STORAGE SYSTEMS; INSTALLATION OF THE BUS STOP VIDEO SURVEILLANCE SIGNS; AND COMPLETION OF THE INTEGRATION WITH MBL'S EXISTING AVL SYSTEM. PROJECT WILL USE $507 IN FY19/TDC TO MATCH FY19/FTA 5307 FUNDS.	$2,540
LOS ANGELES	TRANSIT	LA0G1559	1OM0702	0	THIS PROJECT WOULD UPGRADE MONTEBELLO BUS LINES' RADIO SYSTEM. THE PROJECT WOULD INCLUDE THE PURCHASE OF 77 BUS RADIOS, RADIO SYSTEM COUNSEL FOR THE DISPATCH CENTER, AND ASSOCIATED EQUIPMENT. PROJECT WILL USE $146 IN FY19/TDC TO MATCH FY19/FTA 5307 FUNDS.	$732
LOS ANGELES	TRANSIT	LA0G1566	1TR1010	0	PURCHASE OF UP TO 120 ELECTRIC 30' TO 35' BUSES FOR THE DASH PROGRAM EXPANSION	$99,137
LOS ANGELES	TRANSIT	LA0G1579	1200T002	0	FIVE(5)EXPANSION BUSES - NEW ROUTE TO PLANT 42 - PROJECT WILL NOT USE TDC'S	$4,403
LOS ANGELES	TRANSIT	LA0G1580	1TR1010	0	FOUR (4) EXPANSION COMMUTER BUSES - NEW ROUTE TO EDWARDS AIR FORCE BASE. NO TDC'S WILL BE USED FOR THIS PROJECT.	$3,502
LOS ANGELES	TRANSIT	LA0G1581	1200T003	0	FOUR (4) EXPANSION COMMUTER BUSES - NEW ROUTE TO MOJAVE AIR AND SPACEPORT. NO TDC'S WILL BE USED ON THIS PROJECT	$3,502
LOS ANGELES	TRANSIT	LA0G190	1TL104	0	PURCHASE OF UFS FAREBOXES AND RELATED EQUIPMENT.	$1,577
LOS ANGELES	TRANSIT	LA0G195	1TR1010	0	REMODEL TRAINING ROOM AND MAINTENANCE AREA.	$1,027
LOS ANGELES	TRANSIT	LA0G221	1TL204	0	THE ON-GOING BUS CAPITAL PROJECT INCLUDES: BUS COMPONENTS, PROJECT ADMINISTRATION, FACILITY/ MAINTENANCE IMPROVEMENTS, INFORMATION SYSTEMS EQUIPMENT, SAFETY/ SECURITY EQUIPMENT, SHOP/ OFFICE EQUIPMENT, SUPPORT VEHICLES AND TIRES. ADDED TRANSIT DEVELOPMENT CREDITS (TDC) FOR CONSTRUCTION PHASE $2,509 IN FY18/19 AND $106 IN FY19/20 TO MATCH 5307 FUNDS.	$68,428
LOS ANGELES	TRANSIT	LA0G222	1TR1010	0	CAPITALIZATION OF PREVENTATIVE MAINTENANCE (EQUIPMENT MAINTENANCE EXPENSES). UTILIZING $1,200 IN TOLL DEVELOPMENT CREDITS (TDC) FOR CON FY18/19 AND $800 TOLL DEVELOPMENT CREDITS (TDC) FOR CON FY19/20.	$70,835
LOS ANGELES	TRANSIT	LA0G269	1TR08D07A	0	TRANSIT CENTER AND PASSENGER AMENITIES AT LA SOUTHWEST COLLEGE EARMARK ID #E2008-BUSP-0678 AND E2009-BUSP-101	$1,381
LOS ANGELES	TRANSIT	LA0G358	1RL04	0	SOUTH BAY REGIONAL INTERMODAL TRANSIT CENTER PROJECT AT 465 N. CRENSHAW BLVD., TORRANCE, CA 90503.	$32,828
LOS ANGELES	TRANSIT	LA0G394	1OM0702	0	PURCHASE AND INSTALLATION OF TRANSPORTATION MANAGEMENT SOFTWARE/SYSTEM. TOLL CREDITS (TDC) OF $60K FOR FY18/19 WILL BE USED AS LOCAL MATCH TO FTA 5307 IN FOR CON PHASE.	$300
LOS ANGELES	TRANSIT	LA0G421	REG0702	0	BUS REPLACEMENT OF 13 COMMUTER OVER THE ROAD COACHES..	$9,723
LOS ANGELES	TRANSIT	LA0G435	1OM0702	0	ON-GOING CAPITALIZATION OF TRAINING AND EDUCATION. UTILIZING TDC OF $10 IN FY 17/18 FOR CON TO MATCH THE 5307 FUNDS.	$374
LOS ANGELES	TRANSIT	LA0G447	LA0G447	0	METRO PURPLE LINE WESTSIDE SUBWAY EXTENSION SECTION 1 - WILSHIRE/WESTERN TO LA CIENEGA	$2,989,509
LOS ANGELES	TRANSIT	LA0G499	LAE0127	0	LAE0127B: PURCHASE OF EQUIPMENT TO SUPPORT CNG VEHICLES AND CONSTRUCT CNG FACILITY AND RELATED INFRASTRUCTURE IMPROVEMENTS TO FIXED ROUTE PUBLIC TRANSPORTATION	$1,674
LOS ANGELES	TRANSIT	LA0G588	1TL104	0	MAJOR BUS COMPONENTS. PROJECT USING TDC (TOLL CREDITS) FOR MATCH FOR 5307 FUNDS: $5 FOR THE CON PHASE IN FY 18/19	$1,180
LOS ANGELES	TRANSIT	LA0G589	1TL104	0	MAJOR FACILITY/SHOP EQUIPMENT. UTILIZING TDC TO MATCH FTA 5307 FOR CONSTRUCTION; $20 OF TDC IN EACH OF THE FOLLOWING YEARS: FY18, FY19, AND FY20.	$895
LOS ANGELES	TRANSIT	LA0G590	1TL104	0	COMMUNICATION SYSTEM UPGRADE. UTILIZING TDC TO MATCH FTA 5307 FOR CONSTRUCTION; $10 OF TDC IN FY 16/17 AND $10 OF TDC IN FY 17/18. ADDED TDC TO MATCH FTA 5307 FOR CONSTRUCTION IN FY18/19 FOR $10 AND IN FY19/20 FOR $10.	$582
LOS ANGELES	TRANSIT	LA0G591	1TL204	0	ADP SOFTWARE MODIFICATIONS. PROJECT USING TOLL CREDITS (TDC) FOR MATCH FOR 5307 FUNDS: $20 IN FY19 AND $20 IN FY20 FOR CONSTRUCTION.	$705

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	TRANSIT	LA0G601	1TL104	0	PROJECT INCLUDES PREVENTATIVE MAINTENANCE OF THE LA MIRADA TRANSIT(LMT)FLEET. PREVENTATIVE MAINT. MAY INCLUDE PURCHASES SUCH AS TIRES, LUBRICANTS, OIL & FUEL FILTERS, A/C UNIT PARTS, & GENERAL VEHICLE AND COMPONENT HARDWARE. THE PROJECT ALSO INCLUDES THE PORTION OF THE MECHANICS SALARY RELATED TO PREVENTATIVE MAINTENANCE OF VEHICLES. TOLL CREDITS (TDC) IN THE AMOUNT OF $50,000 IN FY19 AND $50,000 IN FY20 WILL BE USED AS MATCHING FUNDS FOR THE GRANTS.	$750
LOS ANGELES	TRANSIT	LA0G626	1TR0704	0	EASTSIDE TRANSIT CORRIDOR PHASE 2 - METRO GOLD LINE EASTSIDE EXTENSION FROM ITS TERMINUS AT ATLANTIC STATION IN EAST LOS ANGELES INTO EASTERN L.A. COUNTY. (PA&ED ONLY)	$44,259
LOS ANGELES	TRANSIT	LA0G632	1TR1001	0	THE GREEN LINE EXTENSION TO TORRANCE IS A PROPOSED 4.6-MILE LIGHT RAIL TRANSIT EXTENSION FROM THE EXISTING METRO GREEN LINE REDONDO BEACH MARINE STATION TO THE TORRANCE TRANSIT CENTER CURRENTLY UNDER CONSTRUCTION BY THE CITY OF TORRANCE. ADDING ROW & CONSTRUCTION	$1,167,273
LOS ANGELES	TRANSIT	LA0G635	1TR0704	0	DESIGN AND CONSTRUCTION OF PEDESTRIAN AND TRANSIT ENHANCEMENTS ALONG THE PUBLIC RIGHT-OF-WAY OF THE METRO GOLD LINE EASTSIDE EXTENSION TO SURROUNDING NEIGHBORHOOD.TRANSIT ENHANCEMENTS ARE WITHIN 3 MILES OF EASTSIDE GOLDLINE EXTENSION STATION.	$25,000
LOS ANGELES	TRANSIT	LA0G639	1CR04	0	PACIFIC SURFLINER CORRIDOR VAN NUYS NORTH PLATFORM IMPROVEMENTS. THE PROJECT WILL REPLACE THE SOUTH SIDE PLATFORM WITH A CENTER PLATFORM TO SERVE BOTH MAIN LINE TRACKS, UPGRADE ONE MILE OF MAIN LINE TRACK AND UPGRADE CROSSOVERS TO HIGHER SPEED AUTOMATIC. THE PROJECT ALSO INCLUDES UTILITY RELOCATION.	$35,500
LOS ANGELES	TRANSIT	LA0G640	REG0702	0	PACIFIC SURFLINER CORRIDOR - RAYMER/BERNSON DOUBLE TRACK IMPROVEMENTS - UPGRADE THE RAIL CORRIDOR FROM A SINGLE TRACK TO A DOUBLE TRACK, INSTALL CONCRETE TIES ON BOTH TRACKS, INSTALL FOUR NEW SPECIAL TRACKWORK TURNOUTS, NINE AT-GRADE CROSSINGS AND TWO BRIDGES, A NEW SECOND PLATFORM & NEW FENCING AT NORTHRIDGE AND A NEW PEDESTRIAN UNDERPASS. OTHER ENHANCEMENTS INCLUDE SIGNAL RELOCATION, UTILITY RELOCATION AND DRAINAGE IMPROVEMENTS.(PPNO 2098)	$71,275
LOS ANGELES	TRANSIT	LA0G642	1TR1003	0	METRO PURPLE LINE WESTSIDE SUBWAY EXTENSION SECTION 3	$3,900,800
LOS ANGELES	TRANSIT	LA0G645	1TL104	0	BUS STOP IMPROVEMENT PROJECT: REPLACE MBL BUS STOP SHELTERS AND AMENITIES WITHIN THE CITY OF MONTEBELLO. TOLL CREDITS - TRANSIT (TDC)OF $500 WILL BE USED TO MATCH FY19 FTA 5307 FUNDS FOR THE CON PHASE	$2,500
LOS ANGELES	TRANSIT	LA0G656	1TR1010	0	THIS PROJECT WOULD CONVERT TWO (2) GASOLINE-ELECTRIC HYBRID BUSES TO ELECTRIC POWER. PROJECT IS UTILIZING $300 IN TOLL CREDITS TO MATCH 5307 FUNDS IN FY19.	$1,500
LOS ANGELES	TRANSIT	LA0G719	1NL04	0	THE WILLOWBROOK/ROSA PARKS TRANSIT STATION IMPROVEMENT PROJECT MODERNIZES EXISTING RAIL/BUS TRANSIT STATION, UPGRADES BUS FACILITIES AND IMPROVES ACCESSIBILITY TO THE STATION AND INTEGRATION WITH SURROUNDING COMMUNITY.	$66,407
LOS ANGELES	TRANSIT	LA0G774	REG0703	0	VISTA CANYON RANCH TRANSIT CENTER - RELOCATE THE EXISTING, TEMPORARY VIA PRINCESSA METROLINK STATION TO THE VISTA CANYON PROJECT SITE; INCLUDES METROLINK STATION AND BUS TRANSFER STATION, A PEDESTRIAN OVERPASS OR UNDERCROSSING OF THE TRACKS AND AN ADJACENT PARKING STRUCTURE WITH UP TO 750 PARKING SPACES.	$36,619
LOS ANGELES	TRANSIT	LA0G801	1TL104	0	UP-GRADE TRANSIT MAINTENANCE FACILITY TO SERVICE ALTERNATE FUELED TRANSIT BUS FLEET. THIS PROJECT IS TO EXPAND CURRENT SOLAR PANEL CAPACITY, PURCHASE A BATTERY STORAGE SYSTEM AND TWO ZERO EMISSION VEHICLES.	$8,750
LOS ANGELES	TRANSIT	LA0G802	1TL204	0	CULVER CITY BUS STOP IMPROVEMENT PROGRAM. REPLACE AND ADD BUS SHELTER FURNITURE AND CONSTRUCT NEEDED SIDEWALK AND ROADWAY IMPROVEMENTS AT CULVER CITY BUS STOPS.	$3,000
LOS ANGELES	TRANSIT	LA0G804	1TL204	0	SANTA CLARITA TRANSIT FACILITY AND EQUIPMENT IMPROVEMENTS. PROJECT USING $100 OF TDC IN FY 18/19 FOR CON TO MATCH 5307 FUNDS.	$3,500
LOS ANGELES	TRANSIT	LA0G871	REG0702	0	CABRILLO MOLE FERRY TERMINAL REHABILITATION PROJECT. LOCATED IN SANTA CATALINA ISLAND. PROJECT IS FOR REHABILITATION OF THE FERRY STRUCTURE AND TO ADD NEW SHELTERS FOR PASSENGERS. NONE CAPACITY TYPE PROJECT.	$3,005
LOS ANGELES	TRANSIT	LA0G901	LA0G901	0	HISTORIC LOS ANGELES STREETCAR	$250,000

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	TRANSIT	LA0G906	1TR1010	0	REPOWER 4 HYBRID BUSES REHABILITATION PROJECT: REPLACEMENT OF HYBRID POWER PLANTS WITH CNG-FUEL POWER PLANTS AND REPLACEMENT OF HVAC SYSTEM OF 4 HYBRID BUSES THAT HAVE MET THEIR MIDLIFE STATUS. $192 IN TDC ADDED	$1,200
LOS ANGELES	TRANSIT	LA0G907	1TR1010	0	TRANSIT FACILITY REHAB PROJECT MONTEBELLO BUS LINES WOULD CONDUCT SEVERAL FACILITY UPGRADES TO THE TRANSPORTATION DEPARTMENT FACILITY INCLUDING HVAC, PAINTING, REPAVING, AND OTHER REHABILITATION WORK. PROJECT WILL USE TDC OF $200 FOR PE IN FY18/19 FOR 5307 FUNDS	$1,000
LOS ANGELES	TRANSIT	LA0G939	REG0703	0	EXPO PLANNING STUDY - TO PROVIDE MOBILITY MANAGEMENT WITH THE EXPO LIGHT RAIL TERMINUS IN DOWNTOWN SANTA MONICA.	$1,550
LOS ANGELES	TRANSIT	LA0G959	7120002	0	REPLACEMENT SUPPORT/DRIVERS RELIEF VEHICLES. UTILIZING TOLL CREDITS (TDC): $70 FOR FY18/19, $35 FOR FY19/20, AND $15 FOR FY20/21 TO MATCH FTA - 5307 FOR CON.	$1,735
LOS ANGELES	TRANSIT	LA0G979	7120002	0	PURCHASE ONE (1) EXPANSION 35FT CNG TROLLEY BUS THAT SEATS 28 AND 19 STANDEES. THIS PROJECT WILL USE TOLL CREDITS OF $125 AS LOCAL MATCH IN FY 18/19.	$625
LOS ANGELES	TRANSIT	LA29212XY	1120006	0	METRO RAIL GOLD LINE FOOTHILL EXTENSION - AZUSA TO CLAREMONT (LA COUNTY LINE) 12 MILE, 5 STATION LRT EXTENSION. SAFETEA-LU # 285 LEAD AGENCY WILL CHANGE TO METRO GOLD LINE.	$1,406,900
LOS ANGELES	TRANSIT	LA50200	LA50200	0	PREVENTIVE MAINTENANCE (LANCASTER/PALMDALE UZA). ADDED TDC AS FOLLOWS: $960 IN FY19 AND $980 IN FY20 TO MATCH FTA 5307 FOR CON.	$50,937
LOS ANGELES	TRANSIT	LA50300	LA50300	0	OPERATING ASSISTANCE - FIXED ROUTE TRANSIT OPERATIONS AND DIAL-A -RIDE SERVICE	$7,726
LOS ANGELES	TRANSIT	LA52100	LA52100	0	CULVER CITYBUS OPERATION ASSISTANCE.	$114,750
LOS ANGELES	TRANSIT	LA52105	LA52105	0	PAYMENTS FOR THE LEASING OF BUS TIRES FOR THE CULVER CITYBUS FLEET.	$1,255
LOS ANGELES	TRANSIT	LA55205	LA55205	0	ASSOCIATED CAPITAL MAINTENANCE ITEMS (ONGOING). THE ASSOCIATED CAPITAL MAINTENANCE PROJECT PROVIDES FOR THE PURCHASE OF MAJOR BUS COMPONENTS ON AN AS NEEDED BASIS IN SUPPORT OF MONTEBELLO BUS LINES' FIXED ROUTE FLEET. TOLL CREDITS (TDC)OF $80 WILL BE USED TO MATCH FY18/19 FTA 5307 FOR THE CON PHASE.	$6,525
LOS ANGELES	TRANSIT	LA55207	LA55207	0	TRANSIT COACH TIRE (LEASE) (ONGOING). CARRYOVER FROM PRIOR FISCAL YEAR. PROJECT USING $48 OF TDC IN FY18/19 FOR MATCH TO 5307 FUNDS FOR CON PHASE.	$2,941
LOS ANGELES	TRANSIT	LA963526	LA963526	0	BUS STOP ENHANCEMENT/IMPROVEMENT	$1,897
LOS ANGELES	TRANSIT	LA963543	LA963543	0	PREVENTIVE MAINTENANCE (CAPITAL & OPERATING MAINTENANCE ITEMS ONLY)	$4,923,558
LOS ANGELES	TRANSIT	LA970501	LA970501	0	ANNUAL EXPENDITURES INCLUDING SERVICE PROVIDER CONTRACTS FOR COMPLEMENTARY ADA PARATRANSIT IN LOS ANGELES COUNTY	$614,947
LOS ANGELES	TRANSIT	LA973010	LA973010	0	THE ONGOING BUS SERVICE EQUIPMENT INCLUDES: IT PROJECTS, BUS COMPONENTS, PROJECT ADMINISTRATION, FACILITY MAINTENANCE EQUIPMENT, SHOP/OFFICE SAFETY AND SECURITY EQUIPMENT AND MISCELLANEOUS SUPPORT EQUIPMENT. UTILIZING TOLL CREDIT (TDC) OF $160 FOR FY19, & $107 FOR FY20 TO MATCH FTA 5307 FOR CON PHASE	$1,334
LOS ANGELES	TRANSIT	LA990764	LA990764	0	JOB ACCESS & REVERSE COMMUTER PROGRAM ADMINISTRATION, OPERATIONS AND CAPITAL FOR UZA 2 AND UZA 123.	$100,114
LOS ANGELES	TRANSIT	LAE0212	LAE0212	0	GLENDALE- BURBANK REGIONAL STREETCAR FEASIBILITY STUDY: A STREETCAR IN GLENDALE HAS THE POTENTIAL TO CONNECT THE VARIOUS SHOPPING, DINING, ENTERTAINMENT AND PARKING COMPONENTS OF THE DOWNTOWN AREA, AND PERHAPS NEIGHBORING CITIES AND OTHER MASS TRANSIT SERVICES.	$450
LOS ANGELES	TRANSIT	LAF1404	1TL104	0	PURCHASE OF UP TO SIX ALTERNATIVE FUEL REPLACEMENT BUSES. PROJECT WILL PURCHASE UP TO SIX ALTERNATIVE FUEL 40 FOOT TRANSIT BUSES TO REPLACE UP TO SIX 1997 MODEL YEAR DIESEL BUSES, INCLUDING ON-BOARD RADIOS.	$5,100

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	TRANSIT	LAF1630	1TL104	0	WASHINGTON BLVD TRANSIT ENHANCEMENTS. WASHINGTON BL TRANSIT ENHANCEMENT IS A STREETSCAPE DESIGN PROJECT THAT ENCOURAGES INCREASED USE OF PUBLIC TRANSIT WHILE SUPPORTING LAND USES THAT ARE COMPATIBLE W/TOD. PROJECT LENGTH IS 0.95 MILES.	$2,384
LOS ANGELES	TRANSIT	LAF3317	1ITS04	0	BUS SIGNAL PRIORITY IN CULVER CITY. DESIGN, DEVELOP & INSTALL WIRELESS BUS SIGNAL PRIORITY SYSTEM ON CULVER CITY BUS FLEET AND AT INTERSECTIONS TO INCREASE OPERATION EFFICIENCY & TRAVEL TIME SAVINGS. THE PROJECT INCLUDES INTERSECTIONS WITH TRANSIT SERVICE WITHIN THE BOUNDARY OF THE CITY OF CULVER CITY.	$2,751
LOS ANGELES	TRANSIT	LAF3405	1TL104	0	PURCHASE THREE ALTERNATIVE FUEL 40-FOOT TRANSIT BUSES FOR SERVICE EXPANSION.	$2,099
LOS ANGELES	TRANSIT	LAF3409	1TL204	0	STOCKER/MLK CRENSHAW ACCESS TO EXPO LRT STATION. THIS PROJECT WILL DESIGN/CONSTRUCT CAPITAL IMPROVEMENTS AT THE BUS HUB INTERSECTIONS OF STOCKER ST/CRENSHAW BL AND MARTIN LUTHER KING, JR. BL/CRENSHAW BL IN THE CITY OF LOS ANGELES. PROJECT ELEMENTS TO INCLUDE SIDEWALK IMPROVEMENTS, STREET FURNITURE, SAFETY LIGHTING, AND WAYFINDING SIGNAGE.	$2,172
LOS ANGELES	TRANSIT	LAF3432	1TL104	0	BEELINE CNG FUELING AND MAINTENANCE FACILITY. THE CONSTRUCTION OF CITY-OWNED MAINTENANCE, OPERATIONS, AND ADMINISTRATIVE FACILITY FOR THE GLENDALE BEELINE TRANSIT SYSTEM AND GLENDALE DIAL-A-RIDE.	$4,242
LOS ANGELES	TRANSIT	LAF3434A	1O0705	0	PROJECT ADDS WHEEL STOPS TO TRANSIT CENTER WITH REMAINING EARMARKED FUNDS FROM PROJECT LAF3434	$409
LOS ANGELES	TRANSIT	LAF3712	1TDL04	0	METROLINK PARKING RESOURCE MANAGEMENT DEMONSTRATION PROJECT. DEMONSTRATION PROJECT PROVIDES COMMUTERS OF METROLINK AND TRANSIT SERVICES WITH A PROACTIVE SYSTEM TO ASSIST IN LOCATING AVAILABLE PARKING WITHIN CITY'S METROLINK STATION VICINITY.	$611
LOS ANGELES	TRANSIT	LAF3729	1ITS04	0	REAL-TIME BUS ARRIVAL INFORMATION SYSTEM. DEVELOP & INSTALL ON 60 BUS STOP REAL-TIME BUS ARRIVAL INFORMATION SYSTEM USING INTELLIGENT TRANSPORTATION SYSTEM (ITS) TECHNOLOGY TO DISSEMINATE NEXT BUS INFO TO TRAVELERS. THE PROJECT'S PHYSICAL COMPONENT IS LOCATED AT BUS STOPS AND TRANSIT CENTER WITHIN THE CITY OF CULVER CITY. THE NON-PHYSICAL COMPONENT OF THE PROJECT IS LOCATED ON A WEB SERVER.	$2,522
LOS ANGELES	TRANSIT	LAF5402	1TR1010	0	LBT FLEET DIVERSIFICATION AND CNG BUS ACQUISITION PROJECT: WILL REPLACE FOUR (4) OF ITS EXISTING 40-FOOT NEW FLYER DIESEL BUSES WITH FOUR (4) 40-FOOT ALTERNATIVE FUEL BUSES (CNG).	$2,028
LOS ANGELES	TRANSIT	LAF5404	1TR1010	0	CITY-WIDE BUS SHELTER UPGRADES W/ELECTRONIC KIOSKS, BUS STOP IMPROVEMENTS AT 4 SERVED BY LONG BEACH TRANSIT ROUTES. IMPROVEMENTS AT EACH STOP WILL INCLUDE NEW BENCHES, SOLAR POWERED LED LIGHTING AND SHELTERS PLUS, TO THE EXTENT PRACTICAL, REAL TIME ROUTE AND SCHEDULE INFORMATION	$51
LOS ANGELES	TRANSIT	LAF5406	1TR1010	0	REPLACE 18 VEHICLES, INCLUDING ELEVEN (11) 40-FT AND SEVEN (7) 60-FT BUSES. ALL THE VEHICLES WILL HAVE APPROXIMATELY 40 SEATS, BE ADA ACCESSIBLE, INCLUDE NEW BICYCLE RACKS, AND INCORPORATE ADVANCE FLEET MANAGEMENT SYSTEMS TECHNOLOGIES DEPLOYED THROUGHOUT THE SYSTEM.	$12,345
LOS ANGELES	TRANSIT	LAF5412	1TL104	0	ARROW HIGHWAY BUS STOP IMPROVEMENT PLAN; IMPLEMENTATION OF A MULTI-JURISDICTIONAL AMENITY ENHANCEMENT TO 10 BUS STOPS ALONG AN 8.5 MILE STRETCH OF ARROW HIGHWAY, BETWEEN THE I-605 FREEWAY AND VALLEY CENTER DR.	$457
LOS ANGELES	TRANSIT	LAF5414	1TL104	0	THE PROJECT INVOLVES PURCHASE OF (2) 35-FOOT CNG BUSES TO REPLACE TWO (2) 30-FOOT PROPANE-POWERED EL DORADO EZ RIDER II BUSES. THESE BUSES WILL BE USED TO RELIEVE OVERCROWDING ON THE AVOCADO HEIGHTS/BASSETT/WEST VALINDA SHUTTLE AND THE EAST VALINDA SHUTTLE SERVICES. THE NEW VEHICLES WILL MEET ALL ADA REQUIREMENTS WHILE INCREASING CAPACITY FROM 29 SEATED PASSENGERS TO 35 PER BUS.	$823
LOS ANGELES	TRANSIT	LAF5701	7120002	0	BURBANK TRAVELER INFORMATION AND WAYFINDING SYSTEM -INSTALLATION OF REAL-TIME BUS ARRIVAL SYSTEM ON BURBANKBUS BUSES. THE PROJECT WILL ALSO COMPLETING WAYFINDING SIGNAGE ON MAJOR BIKE CORRIDORS TO HELP IDENTIFY DESTINATION AND TRAVEL DISTANCE FOR BICYCLISTS.	$290

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	TRANSIT	LAF7313	REG0702	0	LONG BEACHS METRO BLUE LINE SIGNAL PRIORITIZATION : (1) ENHANCES TRANSIT SIGNAL PRIORITIES AT 33 SIGNALIZED INTERSECTIONS ALONG METRO BLUE LINE (MBL) ROUTE, (2) IMPROVES LRT RAILROAD CROSSING AT SPRING ST AND METRO BLUE LINE, AND (3) UPGRADES BUS SIGNAL PRIORITY CONTROLLERS AT 52 SIGNALIZED INTERSECTIONS ALONG ATLANTIC AVE BETWEEN SR-91 AND OCEAN BLVD. SAFETY TYPE OF PROJECT.	$1,568
LOS ANGELES	TRANSIT	LAF7400	1TR1010	0	CLEAN FUEL BUS REPLACEMENTS: PROCURES (5) NEW CLEAN FUEL BUSES TO REPLACE (3) SPIRIT MID-SIZE DIESEL BUSES, (1) METROLINK CLEAN FUEL CUTAWAY, AND (1) DIAL-A-RIDE GASOLINE-POWERED CUTAWAY BUS.	$1,560
LOS ANGELES	TRANSIT	LAF7402	1TR1010	0	LBT CLEAN FUEL BUS REPLACEMENT PROJECT: LONG BEACH TRANSIT (LBT) WILL REPLACE (5) OF ITS EXISTING 40-FT GAS/ELECTRIC BUSES WITH (5) CLEAN FUEL BUSES(BATTERY ELECTRIC BUSES).	$2,750
LOS ANGELES	TRANSIT	LAF7405	1TR1010	0	PURCHASE OF ALTERNATIVE FUEL REPLACEMENT BUSES: REPLACES FIVE (5) 2005 40-FT GAS/ELECTRIC BUSES WITH FIVE (5) 40-FT CNG BUSES.	$3,500
LOS ANGELES	TRANSIT	LAF7412	1TR1010	0	LOS ANGELES COUNTY/USC MEDICAL CENTER TRANSIT VEHICLE: PROCURES (1) 30-FT CLEAN FUEL VEHICLE FOR ITS NEW LOS ANGELES COUNTY/USC MEDICAL CENTER FIXED-ROUTE SHUTTLE SERVICE.	$371
LOS ANGELES	TRANSIT	LAF7422	1TR1010	0	PASADENA REPLACEMENT AND ADDED CAPACITY OF CLEAN FUEL BUSES: PROCURES (4) 32-FT LOW-FLOOR CLEAN FUEL TRANSIT BUSES TO REPLACE (2) 25-FT CUTAWAYS AND (2) 30-FT BUSES FOR ITS PASADENA AREA RAPID TRANSIT SYSTEM (ARTS).	$1,801
LOS ANGELES	TRANSIT	LAF7423	1TL104	0	DOWNTOWN BUS MAINTENANCE FACILITY: CONSTRUCTS A MAINTENANCE FACILITY AND FUELING STATION ON AN APPROXIMATELY 2.75-ACRE PROPERTY IN ORDER TO SERVICE CLEAN-FUEL DASH BUSES. NEW FACILITY WILL PROVIDE SIX SERVICE BAYS, A BUS-WASHING BAY, AN ADMINISTRATIVE BUILDING, AND PARKING FOR 60 DASH VEHICLES. THE FACILITY WILL ALSO PROVIDES LAYOVER SPACE FOR COMMUTER EXPRESS BUSES.	$5,795
LOS ANGELES	TRANSIT	LAF7430	1TR1010	0	PURCHASE OF CLEAN FUEL BUSES FOR GLENDALE BEELINE: PROCURES (5) 40-FT CLEAN FUEL BUSES TO REPLACE (3) EXISTING 35-FT AND (2) 40-FT OLDER BUSES.	$2,497
LOS ANGELES	TRANSIT	LAF7700	1TR1023	0	WILLOWBROOK INTERACTIVE INFORMATION KIOSKS : PROVIDES INFORMATION TO PUBLIC TRANSIT USERS BY INSTALLING 3 INTERACTIVE KIOSKS DISPLAYING TRANSIT, NEIGHBORHOOD, AND CULTURAL INFORMATION. THE PROJECT WILL SERVE THE WILLOWBROOK AREA AT MARTIN LUTHER KING JR. HOSPITAL, KENNETH HAHN PLAZA, AND THE METRO WILLOWBROOK/ROSA PARKS BLUE AND GREEN LINE STATION.	$286
LOS ANGELES	TRANSIT	LAF7701	1O1007	0	EAST LOS ANGELES DEMONSTRATION BICYCLE SHARING PROGRAM : INSTALLS 15 BIKE STATIONS WITH 150 BIKES AT VARIOUS TRANSIT STOPS AND ACTIVITY NODES TO IMPROVE BICYCLE ACECSS AND PUBLIC TRANSIT SERVICE. THIS PILOT BIKE SHARING PROJECT WILL SERVE EAST LOS ANGELES AT EAST LOS ANGELES CIVIC CENTER, CALIFORNIA STATE UNIVERSITY, LOS ANGELES, EAST LOS ANGELES COLLEGE AND THE ATLANTIC GOLD LINE STATION.	$1,525
LOS ANGELES	TRANSIT	LAF9201	7120018	0	CONSTRUCT A NEW LOADING TRACK AT THE EXISTING TERMINAL INTERMODAL CONTAINER TRANSFER FACILITY (TICTF) THAT SERVES YUSEN TERMINAL, INC.	$3,253
LOS ANGELES	TRANSIT	LAF9400	1TR1010	0	TORRANCE TRANSIT WILL PURCHASE FOUR (4) 40-FT CLEAN FUEL BUSES TO REPLACE FOUR (4) EXISTING 40-FT DIESEL BUSES AS PART OF ITS FLEET MODERNIZATION FINAL PHASE	$2,409
LOS ANGELES	TRANSIT	LAF9402	1TR1010	0	PURCHASE THREE (3) NEW 40-FT ELECTRIC BUSES TO REPLACE THREE (3) EXISTING 40-FT GAS/ELECTRIC HYBRID BUSES IN LONG BEACH TRANSIT FLEET	$2,672
LOS ANGELES	TRANSIT	LAF9405	1TR1010	0	REPLACE THREE (3) EXISTING 40-FT DIESEL BUSES WITH THREE (3) 40-FT ZERO EMISSION ELECTRIC BUSES FOR THE AVTA FLEET.	$2,710
LOS ANGELES	TRANSIT	LAF9412	1TR1010	0	THE COUNTY WILL PURCHASE TWO (2) 30-FT CLEAN FUEL VEHICLES TO REPLACE TWO (2) EXISTING 30-FT VEHICLES OPERATING IN THE ATHENS AND LENNOX UNINCOPORATED AREAS	$962
LOS ANGELES	TRANSIT	LAF9416	1TR1010	0	THE CITY WILL PURCHASE FOUR (4) 35-FT CLEAN FUEL VEHICLES TO RELIEVE OVERCROWDING ON THE PASADENA ARTS SERVICE.	$1,978
LOS ANGELES	TRANSIT	LAF9422	1TR1010	0	LADOT WILL PROCURE SEVEN (7) 30-FT ELECTRIC CLEAN FUEL VEHICLES TO REDUCE HEADWAYS ON SIX SELECTED DASH ROUTES	$3,411
LOS ANGELES	TRANSIT	LAF9430	1TR1010	0	REPLACE THREE (3) EXISTING PROPANE-POWERED BUSES WITH THREE (3) NEW 30- TO 35-FT ELECTRIC BUSES FOR THE DASH SERVICE.	$2,475

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
LOS ANGELES	TRANSIT	LAF9434	1TR1010	0	THE CITY WILL REPLACE FOUR (4) EXISTING 40-FT LNG BUSES WITH FOUR (4) NEW 40-FT CLEAN FUEL BUSES FOR THE BIG BLUE BUS FLEET.	$2,234
LOS ANGELES	TRANSIT	LAF9435	1TR1010	0	REPLACE THREE (3) 35-FT AND TWO (2) 40-FT EXISTING BUSES WITH THREE (3) 35-FT AND TWO (2) 40-FT ALTERNATIVE FUEL BUSES FOR THE GLENDALE BEELINE.	$2,732
LOS ANGELES	TRANSIT	LAF9436	1TR1010	0	BURBANKBUS WILL REPLACE THREE (3) EXISTING 35-FOOT VEHICLES WITH THREE (3) NEW 35-FT CLEAN FUEL VEHICLES	$1,527
LOS ANGELES	TRANSIT	LAF9439	1TL104	0	IMPROVEMENTS TO 24 BUS STOPS ON WESTERN AVENUE BETWEEN WILSHIRE BOULEVARD AND THE 10 FREEWAY	$684
LOS ANGELES	TRANSIT	LAF9440	1TL104	0	IMPROVEMENTS TO 18 BUS STOPS ON VERMONT AVENUE BETWEEN MARTIN LUTHER KING BOULEVARD AND WILSHIRE BOULEVARD	$684
ORANGE	LOCAL HIGHWAY	ORA000173	ORA000173	0	LA PAZ RD (MURILANDS/I-5 TO CHRISANTA DR) WIDENING FROM 4 TO 6 LANES BRIDGE # 55C0215	$10,824
ORANGE	LOCAL HIGHWAY	ORA000809	2L220	0	RAYMOND AVE GRADE SEPARATION: CONSTRUCT A GRADE SEPARATION ON RAYMOND AVE AT THE BNSF RR TRACKS. (NON-CAPACITY)	$124,833
ORANGE	LOCAL HIGHWAY	ORA000813	RRC0702	0	NEWPORT AVENUE EXTENSION PROJECT, PHASE II (FROM N/O EDINGER AVE. TO MYRTLE AVE.) GRADE SEPARATION AT OCTA/SCRRA RAILWAY: PS&E PHASE ONLY.	$2,316
ORANGE	LOCAL HIGHWAY	ORA020501	ORA020501	0	GROUPED PROJECTS FOR BRIDGE REHABILITATION AND RECONSTRUCTION - HBP PROGRAM - PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 CATEGORIES - WIDENING NARROW PAVEMENTS OR RECONSTRUCTING BRIDGES (NO ADDITIONAL TRAVEL LANES).	$69,632
ORANGE	LOCAL HIGHWAY	ORA020824	ORA120534	0	ORANGETHORPE AVE GRADE SEPARATION: CONSTRUCT A GRADE SEPARATION ON ORANGETHORPE AVE AT THE BNSF RR TRACKS. ORANGE COUNTY GATEWAY PROJECT. (NON-CAPACITY)	$108,600
ORANGE	LOCAL HIGHWAY	ORA020825	ORA120534	0	LAKEVIEW AVE GRADE SEPARATION: CONSTRUCT A GRADE SEPARATION ON LAKEVIEW AVE AT THE BNSF RR TRACKS. ORANGE COUNTY GATEWAY PROJECT. (NON-CAPACITY)	$107,402
ORANGE	LOCAL HIGHWAY	ORA040602	ORA040602	0	STATE COLLEGE GRADE SEPARATION: CONSTRUCT A GRADE SEPARATION ON STATE COLLEGE BLVD AT THE BNSF RR TRACKS (SANTA FE AVE TO 700 FT SOUTH OF VALENCIA). (NON-CAPACITY)	$95,372
ORANGE	LOCAL HIGHWAY	ORA113001	7020004	0	ARTIC TO WEST ANAHEIM 4TH DISTRICT BIKEWAY CONNECTOR PROJECT. CONSTRUCT 3.77 MILES OF CLASS II BIKE LANES AND 4.19 MILES OF CLASS III SHARROWS ALONG A CONTINUOUS CORRIDOR TOTALING 7.96 MILES. FROM BALL ROAD AND MAGNOLIA AVENUE TO ARTIC REGIONAL TRANSPORTATION HUB AND THE SANTA ANA RIVER TRAIL.	$374
ORANGE	LOCAL HIGHWAY	ORA113002	2L220	0	THE TRACKS AT BREA SEGMENT 6 CLASS I PAVED BICYCLE TRAIL AND PARALLEL DECOMPOSED GRANITE PEDESTRIAN PATH FROM KRAEMER BLVD TO SURVEYOR AVE ON CITY RIGHT-OF-WAY, OCFCD EASEMENT, LOFTUS CHANNEL LEVEE. APPROXIMATELY 3,500 FEET. TOLL CREDIT FOR ATP-MPO.	$1,713
ORANGE	LOCAL HIGHWAY	ORA113003	2L220	0	BICYCLE EDUCATION AT SCHOOLS. BICYCLE SAFETY EDUCATION PROGRAM WILL BE CLASSES FOR SIXTEEN ELEMENTARY SCHOOLS.	$139
ORANGE	LOCAL HIGHWAY	ORA113004	7020004	0	FAIRVIEW MULTIPURPOSE TRAIL IN COSTA MESA THE PROPOSED PROJECT INCLUDES DESIGN AND CONSTRUCTION OF A NEW EIGHT-FOOT WIDE, CONCRETE CLASS I MULTIPURPOSE TRAIL FACILITY FOR A LENGTH OF APPROXIMATELY 5,300 FEET WITHIN THE LIMITS OF FAIRVIEW PARK.	$1,247
ORANGE	LOCAL HIGHWAY	ORA113005	2L220	0	PLACENTIA AVENUE BICYCLE SIGNAL ON PLACENTIA AVENUE WILL PROVIDE A SAFE AND CONTROLLED CROSSING TO CONNECT THE NEW BICYCLE TRAIL RECENTLY CONSTRUCTED ON THE WEST SIDE OF PLACENTIA AVENUE. THIS INSTALLATION WILL BE A TREMENDOUS ASSET TO LINK COMMUTERS TO SANTA ANA RIVER TRAIL.	$244
ORANGE	LOCAL HIGHWAY	ORA113009	7020004	0	THE PETERS CANYON OFF-STREET BIKEWAY WILL IMPROVE A SEGMENT OF THE BIKEWAY THAT IS 2,150 FEET LONG AND IS LOCATED BETWEEN THE RAILROAD TRACKS AND WALNUT AVENUE; ADJACENT TO THE HARVARD ATHLETIC PARK. THE POLE LIGHTING WILL BE INSTALLED EVERY 70-75 FEET OF THE BIKEWAY; A TOTAL OF 35 POLE LIGHTING WITHIN THE PROJECT SEGMENT.	$967
ORANGE	LOCAL HIGHWAY	ORA113011	7020004	0	LA HABRA UNION PACIFIC RAILROAD BIKEWAY. ENG FOR UNION PACIFIC RAILROAD RIGHT-OF-WAY BETWEEN LA HABRA WEST CITY LIMITS AND LA HABRA EAST CITY LIMITS. ROW FOR LA HABRA WEST CITY LIMITS TO BEACH BOULEVARD. TOLL CREDIT MATCH FOR ATP-MPO.	$1,321

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
ORANGE	LOCAL HIGHWAY	ORA120522	ORA120522	0	HUNTINGTON BEACH - ATLANTA AVE WIDENING (FRM HUNTINGTON TO DELEWARE; FRM 2 TO 4 LNS)	$5,451
ORANGE	LOCAL HIGHWAY	ORA130105	2L220	0	BICYCLE RACKS AT CITY FACILITIES	$39
ORANGE	LOCAL HIGHWAY	ORA130303	2121001	0	STATE COLLEGE GRADE SEPARATION (LOSSAN) - CONSTRUCT AN UNDERCROSSING UNDER THE SCRRA TRACKS ON STATE COLLEGE BLVD IN THE CITY OF ANAHEIM BETWEEN HOWELL AVE AND KATELLA AVE. (NOT CAPACITY ENHANCING)	$92,000
ORANGE	LOCAL HIGHWAY	ORA131702	2L220	0	THE TRACKS AT BREA - SEGMENT 4. CONSTRUCTION OF A CLASS I BICYCLE TRAIL FROM STATE COLLEGE BLVD. RUNNING EAST UNDER THE 57 FREEWAY, CONTINUING SOUTHEAST TOWARDS BIRCH STREET, 3,400 LINEAR FEET. TOLL CREDIT FOR ATP-MPO.	$4,600
ORANGE	LOCAL HIGHWAY	ORA131703	2L220	0	ANAHEIM COVES NORTHERN EXTENSION. PROJECT WILL CREATE 0.9 MILES OF A CLASS I 10-FOOT-WIDE PAVED BICYCLE TRAIL THAT WILL EXTEND THE CURRENT ANAHEIM COVES TRAIL FROM E. LINCOLN AVENUE TO FRONTERA STREET ALONG THE WEST SIDE OF THE SANTA ANA RIVER. TOLL CREDIT MATCH OF $95,430.	$832
ORANGE	LOCAL HIGHWAY	ORA131705	2L220	0	LAMBERT ROAD BIKEWAY PROJECT - THIS PROJECT WILL CONSTRUCT NEW 5-FOOT WIDE CLASS II BIKEWAY LANES ON BOTH DIRECTIONS. CLASS II FOR .44 MILES. TOLL CREDIT MATCH FOR ATP-MPO. ATP ID ATP01-12-268M	$791
ORANGE	LOCAL HIGHWAY	ORA131708	2L220	0	UTICA AVENUE BICYCLE BOULEVARD - ADA ACCESSIBILITY, BICYCLE IMPROVEMENTS, AND SIGNAGE.	$853
ORANGE	LOCAL HIGHWAY	ORA150005	ORA125	0	BRISTOL STREET WIDENING FROM WASHINGTON AVENUE TO 17TH STREET. WIDEN FROM 4 TO 6 LANES. PHASE IIIB. SPLIT FROM ORA125	$18,402
ORANGE	LOCAL HIGHWAY	ORA150102	2OM0701	0	GROUPED PROJECTS FOR PAVEMENT RESURFACING AND/OR REHABILITATION. PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLES 3 CATEGORIES - PAVEMENT RESURFACING AND/OR REHABILITATION.	$50,951
ORANGE	LOCAL HIGHWAY	ORA150103	2L220	0	THE TRACKS AT BREA SEGMENTS 2 & 3. CONSTRUCTION CLASS I BICYCLE/PEDESTRIAN TRAIL ALONG 1.15 MILE LONG SECTION ON THE TRACKS AT BREA. SEGMENT 2 FROM BREA FLOOD CONTROL CHANNEL TO NORTH BREA BOULEVARD. SEGMENT 3 FROM NORTH BREA BOULEVARD TO STATE COLLEGE BOULEVARD.	$4,207
ORANGE	LOCAL HIGHWAY	ORA150104	REG0701	0	GROUPED PROJECTS FOR BICYCLE AND PEDESTRIAN FACILITIES - PROJECTS CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEOGRIES - BICYCLE AND PEDESTRIAN FACILITIES (BOTH MOTORIZED AND NON-MOTORIZED). (REGIONAL ATP FUNDED) TOLL CREDIT FOR ATP-MPO.	$11,218
ORANGE	LOCAL HIGHWAY	ORA150107	REG0701	0	GROUPED PROJECTS FOR BICYCLE AND PEDESTRIAN FACILITIES - PROJECTS CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEOGRIES - BICYCLE AND PEDESTRIAN FACILITIES (BOTH MOTORIZED AND NON-MOTORIZED). (STATEWIDE ATP FUNDED) TOLL CREDIT FOR ATP. STATE ONLY FUNDED.	$8,194
ORANGE	LOCAL HIGHWAY	ORA151502	2L220	0	SANTA ANA AND FIFTH PROTECTED BIKE LANE - INSTALL MEDIAN PROTECTED BIKE LANES ON SANTIAGO, SIXTH, BROWN, GARFIELD, FRENCH, FIFTH AND SANTA ANA WITH ALL APPLICABLE SIGNAGE, STRIPING, AND SIGNAL IMPROVEMENTS. ATP STATE ONLY FUNDING.	$5,424
ORANGE	LOCAL HIGHWAY	ORA151503	2L220	0	THE EDINGER AVE PROTECTED BIKE LANES PROJECT - INSTALL BIKE LANES DOWN THE 1.7 MILE CORRIDOR PASSING THROUGH RESIDENTIAL HOMES, SCHOOLS, PARKS, AND SMALL BUSINESS SHOPPING CENTERS. THE PROJECT INCLUDES A SAFE ROUTES TO SCHOOL PROGRAM AT 3 SCHOOLS. ATP STATE-ONLY FUNDED.	$2,366
ORANGE	LOCAL HIGHWAY	ORA151507	2L220	0	GARDEN GROVE BOULEVARD COMPLETE STREET PROJECT - EB SR-22 ON/OFF-RAMPS/NB I-405 OFF-RAMP TO THE WEST AND EB SR-22 OFF-RAMP TO THE EAST; EDWARDS ST BETWEEN GARDEN GROVE BLVD AND TRASK AVE; TRASK AVE BETWEEN EDWARDS ST AND HOOVER ST. INSTALL CLASS IV BIKEWAY WITH ROAD DIET AND CLASS II BIKEWAYS WITH ROAD DIET, TRAFFIC SIGNAL MODIFICATION, ROADWAY SIGNING AND STRIPING, WITH A NON-INFRASTRUCTURE BIKE SAFETY PILOT PROGRAM. TOLL CREDIT FOR ATP-MPO.	$3,140
ORANGE	LOCAL HIGHWAY	ORA151508	2L220	0	THE COYOTE CREEK CLASS I BIKEWAY SEGMENTS O, P, Q - FROM LA MIRADA BOULEVARD AND CONTINUING SOUTH TO THE CONFLUENCE OF NORTH AND EAST COYOTE CREEK FLOOD CHANNEL. PA&ED AND PS&E ONLY.	$5,294

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
ORANGE	LOCAL HIGHWAY	ORA151509	7120004	0	WEST STREET AND CITRON STREET SIDEWALK GAP CLOSURE - CONSTRUCTION OF SIDEWALK GAP CLOSURES TO CREATE NEW 5-FT-WIDE SIDEWALK, CURB AND GUTTER, AND DRAINAGE FACILITIES ALONG WEST AND CITRON STREETS, AS WELL AS NON-INFRASTRUCTURE ACTIVITIES. TOLL CREDIT FOR ATP-MPO.	$2,056
ORANGE	LOCAL HIGHWAY	ORA151510	2L220	0	CONCORDIA ELEMENTARY SRTS PEDESTRIAN & BICYCLE LANE IMPROVEMENT - CONSTRUCTING A MISSING ONE HALF MILE SEGMENT OF SIDEWALK, IMPLEMENTING CURB EXTENSIONS AT 12 INTERSECTIONS TO IMPROVE THE WALKABILITY, WIDENING EXISTING BICYCLE LANES 20%, AND IMPLEMENTING A SEGMENT OF BUFFERED BIKE LANES. ATP STATE-ONLY FUNDED.	$1,123
ORANGE	LOCAL HIGHWAY	ORA152207	2L220	0	CITYWIDE BICYCLE AND PEDESTRIAN IMPROVEMENT - BICYCLE AND PEDESTRIAN SAFETY ENHANCEMENTS TO SEVEN LOCATIONS: COMMONWEALTH AVE BETWEEN STATE COLLEGE BLVD AND CHAPMAN AVE (0.50 MILE CORRIDOR), VALENCIA DR BETWEEN BROOKHURST RD AND MEADE AVE (1.3 MILE CORRIDOR), WALNUT AVE BETWEEN HIGHLAND AVE AND LEMON ST (0.50 MILE CORRIDOR), RICHMAN AVE BETWEEN WALNUT AVE AND HOUSTON AVE (0.95 MILE CORRIDOR), ASSOCIATED RD BETWEEN YORBA LINDA BLVD AND IMPERIAL HWY (1.25 MILE CORRIDOR), DOROTHY LANE BETWEEN ACACIA AVE AND L	$658
ORANGE	LOCAL HIGHWAY	ORA152208	2L220	0	WILSHIRE AVENUE BICYCLE BOULEVARD - BIKEWAY ENHANCEMENTS ON A 2.3 MILE SEGMENT OF WILSHIRE AVENUE BETWEEN WOODS AVENUE AND ACACIA AVENUE NEAR DOWNTOWN FULLERTON. IMPROVEMENTS INCLUDES INSTALLATION OF TRAFFIC SIGNAL, INTERSECTION CROSSING, SIDEWALKS, NEW STREET LIGHTS, TRAFFIC CIRCLES, STRIPING FOR SHARROWS, AND NEW SIGNS.	$2,523
ORANGE	LOCAL HIGHWAY	ORA152209	2L220	0	OC LOOP CARBON CREEK CHANNEL (SEGMENT D) BIKEWAY GAP CLOSURE - FUTURE CONSTRUCTION OF CLASS I BIKEWAY ALONG CARBON CREEK FLOOD CHANNEL WITHIN CITY OF PLACENTIA AND ALONG ORANGE COUNTY FLOOD CONTROL DISTRICT SPANNING A HALF MILE FROM IMPERIAL HWY TO BASTANCHURY ROAD.	$2,063
ORANGE	LOCAL HIGHWAY	ORA152210	2L220	0	BRISTOL STREET - EDINGER AVENUE CLASS II BIKE LANES - INSTALL A 1.25 MILE CLASS II BIKE LANE ON BRISTOL STREET FROM SUNFLOWER AVENUE TO CENTRAL AVENUE AND INSTALL A .5 MILE CLASS II BIKE LANE ON EDINGER AVENUE FROM BRISTOL STREET TO FLOWER STREET.	$837
ORANGE	LOCAL HIGHWAY	ORA152211	7120004	0	NOHL RANCH OPEN SPACE TRAIL - PROJECT WILL CONSIST OF A 10-FOOT WIDE CLASS I BIKEWAY AND A 3 TO 10-FOOT WIDE PEDESTRIAN TRAIL (PENDING CLEARANCE), IN COMPLIANCE WITH CALTRANS STANDARDS. THE PROJECT ALIGNMENT WOULD BE APPROXIMATELY 5,100 LF AND CONNECT ANAHEIM HILLS ROAD TO THE SIGNALIZED CROSSING ON THE EAST SIDE OF AVENIDO BERNARDO NORTH. ANCILLARY FEATURES OF THE PROJECT INCLUDE LIGHTING, LANE MARKINGS, SIGNS, BICYCLE PARKING AND PEDESTRIAN AMENITIES.	$813
ORANGE	LOCAL HIGHWAY	ORA152212	2L220	0	BRISTOL STREET PROTECTED BICYCLE LANES - INSTALL 1.25 MILE PROTECTED BIKE LANE ON BRISTOL STREET FROM EDINGER AVENUE TO 1ST STREET.	$2,580
ORANGE	LOCAL HIGHWAY	ORA152213	2L220	0	CITYWIDE BIKE RACKS - INSTALL 2,500 BICYCLE RACKS AND CONSTRUCT A BICYCLE CENTER AT THE SANTA ANA REGIONAL TRANSPORTATION CENTER THAT WILL INCLUDE SECURE INDOOR BICYCLE PARKING, LOCKERS, AND RESTROOMS.	$1,250
ORANGE	LOCAL HIGHWAY	ORA152214	2L220	0	HAZARD AVENUE PROTECTED BIKE LANES - FIRST SEGMENT WILL INSTALL A .65 MILE PROTECTED BIKE LANE AND CLASS III BIKE ROUTE ON HAZARD AVENUE FROM EUCLID STREET TO GATES STREET. THE SEGMENT WILL INSTALL A .45 MILE CLASS III BIKE ROUTE ON HAZARD AVENUE FROM GATES STREET TO HARBOR BOULEVARD.	$1,177
ORANGE	LOCAL HIGHWAY	ORA170001	2A0704	0	BREA BLVD/BREA CANYON ROAD WIDENING IMPROVEMENT-BREA BLVD/BREA CANYON RD IS A PARALLEL TO THE SR-57 FREEWAY STRETCHING 5 MILES ACROSS COUNTY LINES (ORANGE AND LOS ANGELES). PROPOSED IMPROVEMENTS INCLUDE WIDENING THE EXISTING TWO LANE UNDIVIDED ROADWAY TO FOUR LANE MODIFIED PRIMARY ROADWAY AND REPLACING THREE BRIDGES OVER BREA CREEK. (PA&ED AND P&SE PHASE)	$3,075
ORANGE	LOCAL HIGHWAY	ORA170003	2A0704	0	COW CAMP ROAD SEGMENT 2 – ADD (2-3) LANES EACH DIRECTION FROM 8500' EAST OF ANTONIO TO ORTEGA HIGHWAY	$6,500
ORANGE	LOCAL HIGHWAY	ORA170007	2A0704	0	FAIRVIEW STREET BETWEEN 9TH STREET AND 16TH STREET FROM A FOUR-LANE ROADWAY TO 6-LANE ARTERIAL TO PROVIDE ADEQUATE VEHICULAR CAPACITY. FAIRVIEW STREET BRIDGE CROSSING OVER SANTA ANA RIVER, WITHIN PROJECT LIMIT, WILL BE REPLACED (BRIDGE #55C0513) TO ACCOMMODATE A 6-LANE ARTERIAL ROADWAY. FAIRVIEW STREET OVER SANTA ANA RIVER CHANNEL, 0.2 MI S/O WESTMINSTER AV. BRIDGE REPLACEMENT. REPLACE EXISTING 4 LANE BRIDGE WITH 6 LANE BRIDGE. PROJECT MUST APPEAR IN 20 YR RTP.	$16,083

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
ORANGE	LOCAL HIGHWAY	ORA170202	2L220	0	CITY OF GARDEN GROVE, BICYCLE CORRIDOR IMPROVEMENTS THE CITY OF GARDEN GROVE'S BICYCLE CORRIDOR IMPROVEMENTS PROJECT WILL DESIGN AND CONSTRUCT 6.34 MILES OF NEW BIKEWAYS AND IMPROVE 8.35 MILES OF EXISTING, BUT UNDERUTILIZED BIKEWAYS. BICYCLE FACILITY IMPROVEMENTS INCLUDE CREATING NEW BIKE LANES THROUGH ROAD REBALANCING (2.54 MI ON WEST STREET AND GILBERT STREET), STRIPING BUFFERS TO EXISTING BIKE LANES (5 MI ON BROOKHURST STREET, CHAPMAN AVENUE AND LAMPSON AVENUE), STRIPING BIKE LANE NETWORK GAPS (0.6 M	$1,266
ORANGE	LOCAL HIGHWAY	ORA170203	2L220	0	MAIN STREET/EL CAMINO REAL IMPROVEMENTS THE PROJECT INCLUDES THE CONSTRUCTION FOR IMPROVEMENTS ALONG 2,040' OF MAIN STREET BETWEEN C STREET AND NEWPORT AVENUE AND 5,010' OF EL CAMINO REAL BETWEEN NEWPORT AVENUE AND FIRST STREET.	$2,611
ORANGE	LOCAL HIGHWAY	ORA170204	2L220	0	PETERS CANYON BIKEWAY EXTENSION A CLASS I BIKEWAY/SHARED-USE PATH ALONG THE EAST SIDE OF JAMBOREE RD. FROM CANYON VIEW AVE. SOUTH TO PORTOLA PKWY. (3.1 MILES)	$1,004
ORANGE	LOCAL HIGHWAY	ORA170205	2L220	0	HAZARD AVENUE BIKEWAY PROJECT BETWEEN GOLDENWEST STREET AND EUCLID AVENUE. CONSTRUCT APPROXIMATELY 4 MILES OF A CLASS IV (PAVED, ON-ROAD PROTECTED) BIKEWAY IN THE CITIES OF WESTMINSTER AND GARDEN GROVE. REDUCE LANES ON HAZARD FROM 4 TO 3 BY ELIMINATING ONE WB AND ONE EB LANE AND ADDING A TWO WAY LEFT TURN LANE.	$3,566
ORANGE	LOCAL HIGHWAY	ORA170801	2L220	0	JEFFREY OPEN SPACE TRAIL AND I-5 FREEWAY BICYCLE AND PEDESTRIAN BRIDGE PROJECT - NEW CLASS I BICYCLE AND PEDESTRIAN OVERCROSSING WITH A DIRECT CONNECTION ACROSS THE I-5 FREEWAY BETWEEN THE EXISTING AND PROPOSED JEFFREY OPEN SPACE TRAIL SEGMENTS	$1,200
ORANGE	LOCAL HIGHWAY	ORA170802	2L220	0	FIRST STREET PEDESTRIAN IMPROVEMENTS - WIDEN EXISTING SIDEWALKS BY THREE FEET, NARROW THE VEHICLE LANES, CONSTRUCT ADA IMPROVEMENTS ON SIDEWALKS AND WHEEL CHAIR RAMPS, PROVIDE HIGH VISIBILITY MARKED CROSSWALKS, AND ADD A SIGNAL CONTROLLED PEDESTRIAN CROSSING ALONG FIRST STREET, 1.1 MILE CORRIDOR.	$4,572
ORANGE	LOCAL HIGHWAY	ORA170803	2L220	0	CITY OF SANTA ANA - WEST WILLITS STREET PROTECTED BICYCLE LANES - INSTALL MEDIAN AND PARKING PROTECTED BICYCLE LANES ALONG WEST WILLITS STREET, AND SEPARATE BICYCLE ONLY PHASE WILL BE INSTALLED WITH DEDICATED BIKE SIGNAL HEADS AT THE INTERSECTION OF WILLITS AND SULLIVAN. ATP TOLL CREDITS.	$2,970
ORANGE	LOCAL HIGHWAY	ORA170804	REG0701	0	CITY OF SANTA ANA - SRTS DAVIS ELEMENTARY ADA COMPLIANCE - INSTALLATION OF BULB-OUTS AT CROSSINGS ADJACENT TO DAVIS ELEMENTARY, RECONSTRUCTION AND INSTALLATION OF ADA COMPLIANT CURB RAMPS, SECTIONS OF SIDEWALK AND DRIVEWAYS ALONG THE SAFE ROUTES TO SCHOOL. ATP TOLL CREDITS.	$5,754
ORANGE	LOCAL HIGHWAY	ORA171602	2L220	0	BUENA PARK SCHOOL DISTRICT SRTS IMPROVEMENTS - PLANNING, OUTREACH, DEVELOPMENT OF SRTS MAPS, IMPROVE PEDESTRIAN INFRASTRUCTURE AROUND SCHOOLS AND BUS STOPS	$1,654
ORANGE	LOCAL HIGHWAY	ORA172202	2L220	0	OC LOOP EL CAJON BIKEWAY GAP CLOSURE (SEGMENT H) - INSTALL CLASS II, III & IV BIKEWAY FACILITIES WITHIN THE CITY OF YORBA LINDA, ANAHEIM & UNICORPORATED ORANGE COUNTY SPANNING 1.2 MILES FROM FAIRLYNN BLVD TO THE TERMINUS OF THE EXISTING SANTA ANA RIVER REGIONAL RIDING & HIKING TRAIL AND BIKEWAY.	$2,395
ORANGE	LOCAL HIGHWAY	ORA172203	REG0701	0	NEWPORT BEACH BICYCLE AND PEDESTRIAN BRIDGE PROJECT - CITY PROPOSES TO CONSTRUCT A BICYCLE AND PEDESTRIAN BRIDGE OVER THE EIGHT-LANE SUPERIOR AVENUE AT THE INTERSECTION OF PACIFIC COAST HIGHWAY AND BALBOA AVENUE. PROPOSED BRIDGE DECK WILL BE APPROXIMATELY 240 FEET LONG AND STRIPED FOR BICYCLE AND PEDESTRIAN USE. IMPROVEMENTS WILL ALSO INCLUDE SIGNAGE AND STRIPING; TRAFFIC SIGNAL MODIFICATIONS; AND BICYCLE NODE AMENITIES.	$2,937
ORANGE	STATE HIGHWAY	10254	10254	73	SAN JOAQUIN HILLS TRANSPORTATION CORRIDOR (SJHTC – SR 73). 15 MI TOLL RD BETWEEN 1-5 IN SAN JUAN CAPISTRANO & RTE 73 IN IRVINE, CONSISTENT WITH SCAG/TCA MOU 4/5/01. EXISTING 3 M/F EA DIR. 1 ADDITIONAL M/F EA DIR, PLUS CLIMBING & AUX LANES BY 2020.	$351,188
ORANGE	STATE HIGHWAY	ORA000820	2TK01116	57	SR-57 TRUCK CLIMBING AUX LANE FROM LAMBERT TO LA CO. LINE (PE ONLY)(PPNO 3847A)	$124,600

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
ORANGE	STATE HIGHWAY	ORA001102	REG0701	999	GROUPED PROJECTS FOR SAFETY IMPROVEMENTS - SHOPP COLLISION REDUCTION PROGRAM SCOPE: PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - RAILROAD/HIGHWAY CROSSING,SHOULDER IMP, TRAFFIC CONTROL DEVICES,OPS ASSISTANCE INTERSECTION SIGNALIZATION PROJECTS PAVEMENT MARKING, LIGHTING IMPROVEMENTS	$206,186
ORANGE	STATE HIGHWAY	ORA001103	REG0701	999	GROUPED PROJECTS FOR PAVEMENT RESURFACING AND/OR REHABILITATION - SHOPP ROADWAY PRESERVATION PROGRAM. SCOPE: PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 CATEGORIES - PAVEMENT RESURFACING AND/OR REHABILITATION, EMERGENCY RELIEF (23 U.S.C. 125), WIDENING NARROW PAVEMENTS OR RECONSTRUCTING BRIDGES (NO ADDITIONAL TRAVEL LANES)	$94,293
ORANGE	STATE HIGHWAY	ORA001104	REG0701	999	GROUPED PROJECTS FOR SHOULDER IMPROVEMENTS - SHOPP ROADSIDE PRESERVATION PROGRAM. SCOPE: PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 CATEGORIES - FENCING, SAFETY ROADSIDE REST AREAS	$1,260
ORANGE	STATE HIGHWAY	ORA001105	REG0701	999	GROUPED PROJECTS FOR SAFETY IMPROVEMENTS - SHOPP MOBILITY PROGRAM. SCOPE: PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - RAILROAD/HIGHWAY CROSSING, SAFER NON-FEDERAL-AID SYSTEM ROADS, SHOULDER IMP, TRAFFIC CONTROL DEVICES OPS ASSISTANCE.INTERSECTION SIGNALIZATION PROJECTS, PAVEMENT MARKING DEMO,LIGHTING	$180,188
ORANGE	STATE HIGHWAY	ORA001108	REG0701	999	GROUPED PROJECTS FOR SAFETY IMPROVEMENTS - SHOPP MANDATES PROGRAM. SCOPE: PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - RAILROAD/HIGHWAY CROSSING, SAFER NON-FEDERAL-AID SYSTEM ROADS, SHOULDER IMP, TRAFFIC CONTROL DEVICES AND OPS ASSISTANCE OTHER THAN SIGNALIZATION PROJECTS, LIGHTING IMP	$63,444
ORANGE	STATE HIGHWAY	ORA001109	REG0701	999	GROUPED PROJECTS FOR BRIDGE REHABILITATION AND RECONSTRUCTION - SHOPP PROGRAM. SCOPE: PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 CATEGORIES - WIDENING NARROW PAVEMENTS OR RECONSTRUCTING BRIDGES (NO ADDITIONAL TRAVEL LANES).	$25,597
ORANGE	STATE HIGHWAY	ORA030605	ORA030605	405	I-405 FROM SR-73 TO I-605. ADD 1 MF LANE IN EACH DIRECTION AND ADDITIONAL CAPITAL IMPROVEMENTS (BY 2022), CONVERT EXISTING HOV TO HOT. ADD 1 ADDITIONAL HOT LANE EACH DIRECTION. COMBINED WITH ORA045, ORA151, ORA100507, ORA120310, AND ORA030605A. SIGNAGE FROM PM 7.6 TO 24.2	$1,900,000
ORANGE	STATE HIGHWAY	ORA040607	ORA040607	999	ORANGE COUNTY - COUNTYWIDE ACTIVITIES: PLANNING, PROGRAMMING AND MONITORING (PPM)(PPNO 2132)	$20,080
ORANGE	STATE HIGHWAY	ORA050	ORA050	241	EASTERN TRANSPORTATION CORRIDOR (ETC- SR 241/261/133) 26.4 MI TOLL ROAD CONNECTS SR 91 TO I-5 VIA SR 261 AND SR 133, CONSISTENT WITH SCAG/TCA MOU 4/05/01. EXISTING 2 M/F EA DIR. 2 ADDITIONAL M/F IN EA DIR, PLUS CLIMBING AND AUX LANES BY 2020.	$631,902
ORANGE	STATE HIGHWAY	ORA051	ORA051	241	FOOTHILL TRANSPORTATION CORRIDOR-NORTH (FTC-N - SR 241). 12.7 MI TOLL ROAD BETWEEN OSO PKWY AND ETC, CONSISTENT WITH SCAG/TCA MOU 4/05/01. EXISTING 2 M/F IN EA DIR. 2 ADDITIONAL M/F, PLS CLIMBING & AUX LANES BY 2020.	$269,045
ORANGE	STATE HIGHWAY	ORA082603	REG0701	999	GROUPED PROJECTS FOR EMERGENCY REPAIR - SHOPP EMERGENCY RESPONSE PROGRAM. SCOPE: PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 CATEGORIES - REPAIR DAMAGE CAUSED BY NATURAL DISASTERS, CIVIL UNREST, OR TERRORIST ACTS. THIS APPLIES TO DAMAGES THAT DO NOT QUALIFY FOR FEDERAL EMERGENCY RELIEF FUNDS OR TO DAMAGES THAT QUALIFY FOR FEDERAL EMERGENCY RELIEF FUNDS BUT EXTEND BEYOND THE FEDERALLY DECLARED DISASTER PERIOD	$2,813
ORANGE	STATE HIGHWAY	ORA084402	REG0701	999	GROUPED PROJECTS FOR PURCHASE OF OFFICE, SHOP, AND OPERATING EQUIPMENT FOR EXISTING FACILITIES. SCOPE - PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - PURCHASE OF OFFICE, SHOP, AND OPERATING EQUIPMENT FOR EXISTING FACILITIES	$580
ORANGE	STATE HIGHWAY	ORA100511	2M0733	55	SR-55 WIDENING BETWEEN I-405 AND I-5 - ADD 1 MF AND 1 HOV LANE EACH DIRECTION AND FIX CHOKEPOINTS FROM I-405 TO I-5; ADD 1 AUX LANE EA DIR BTWN SELECT ON/OFF RAMP AND NON-CAPACITY OPERATIONAL IMPROVEMENTS THROUGH PROJECT LIMITS. TOLL CREDIT FOR RSTP AND CMAQ.	$327,363
ORANGE	STATE HIGHWAY	ORA111002	2H01143	5	INTERSTATE 5 ADD 1 HOV IN EACH DIRECTION FROM SOUTH OF AVENIDA VISTA HERMOSA TO SOUTH OF PACIFIC COAST HIGHWAY. PPNO 2531E	$68,711
ORANGE	STATE HIGHWAY	ORA111207	2T01135	241	241/91 EXPRESS LANES (HOT) CONNECTOR: NB SR-241 TO EB SR-91, WB SR-91 TO SB SR-241, PER SCAG/TCA MOU 4/05/01. PAED PHASE.	$33,728
ORANGE	STATE HIGHWAY	ORA111210	2H0703	5	I-5 FROM SR 55 TO SR 57 - ADD 1 HOV LANE EACH DIRECTION (PPNO 2883A). SIGNAGE FROM PM 31.1 TO 37.7. (UTILIZE TOLL CREDIT MATCH)	$39,052

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
ORANGE	STATE HIGHWAY	ORA111801	2M0730	5	I-5 (ALICIA PARKWAY TO EL TORO ROAD) SEGMENT 3 - THE PROJECT WILL ADD ONE GENERAL PURPOSE LANE ON THE I-5 IN EACH DIRECTION BETWEEN ALICIA PARKWAY AND EL TORO ROAD (APPROXIMATELY 1.7 MILES), EXTEND THE 2ND HOV LANE IN BOTH DIRECTIONS AND ADD AUXILIARY LANES WHERE NEEDED.	$179,480
ORANGE	STATE HIGHWAY	ORA120320	ORA120320	57	SR-57/LAMBERT RD INTERCHANGE IMPROVEMENTS - (PPNO 3834)	$107,433
ORANGE	STATE HIGHWAY	ORA130064	2M0728	405	I-405 – ADD ONE SOUTHBOUND AUXILIARY LANE FROM UNIVERSITY DRIVE TO SAND CANYON (SEGMENT 2) AND SAND CANYON AVENUE TO SR-133 (SEGMENT 1)(PPNO 4956).	$10,528
ORANGE	STATE HIGHWAY	ORA130302	2M0731	5	I-5 (I-405 TO SR-55) - IN THE CITIES OF IRVINE AND TUSTIN. ADD 1 MF LANE NB FROM TRUCK BYPASS ON RAMP TO SR-55, ADD 1 MF LANE SB FROM SR-55 TO ALTON AND 1 AUX LANE FROM ALTON TO TRUCK BYPASS. (PA&ED AND PS&E PHASE)	$452,000
ORANGE	STATE HIGHWAY	ORA131105	2M0717	5	EL TORO ROAD INTERCHANGE - ON I-5 FROM LOS ALISOS BOULEVARD OVERCROSSING TO RIDGE ROUTE DRIVE. (UTILIZE TOLL CREDIT MATCH FOR RSTP)	$57,954
ORANGE	STATE HIGHWAY	ORA131301	2121002	55	SR-55 (I-5 TO SR-91) – ADD 1 MF LANE EACH DIRECTION AND FIX CHOKEPOINTS FROM I-5 TO SR-22; AND OTHER OPERATIONAL IMPROVEMENTS THROUGHOUT PROJECT LIMITS (UTILIZE TOLL CREDIT MATCH FOR RSTP) (STUDY ONLY)	$227,350
ORANGE	STATE HIGHWAY	ORA131303	2M0735A	57	SR-57 ORANGEWOOD TO KATELLA-ADD 1 MF LANE NORTHBOUND BETWEEN ORANGEWOOD AND KATELLA (UTILIZE TOLL MATCH FOR RSTP)ENG ONLY.	$6,500
ORANGE	STATE HIGHWAY	ORA131304	2M0728	405	I-405(I-5 TO SR-55)-ADD 1 MF LANE EACH DIRECTION FROM I-5 TO SR-55 AND IMPROVE MERGING.(UTILIZE TOLL CREDIT MATCH FOR RSTP) ENG ONLY.	$190,000
ORANGE	STATE HIGHWAY	ORA131711	2M0730	5	I-5 (SR-73 TO OSO PARKWAY) SEGMENT 1 - THE PROJECT WILL ADD ONE GENERAL PURPOSE LANE ON THE I-5 IN EACH DIRECTION BETWEEN SR-73 AND OSO CREEK (APPROXIMATELY 2.2 MILES), RECONSTRUCT AVERY PARKWAY INTERCHANGES AND ADD AUXILIARY LANES WHERE NEEDED. (PPNO 2655). PROJECT IS SPILT WITH ORA111801 AND ORA131712. (UTILIZE TOLL CREDIT MATCH FOR RSTP/STBG)	$215,440
ORANGE	STATE HIGHWAY	ORA131712	2M0730	5	I-5 (OSO CREEK TO ALICIA PARKWAY) SEGMENT 2 - THE PROJECT WILL ADD ONE GENERAL PURPOSE LANE ON THE I-5 IN EACH DIRECTION BETWEEN OSO CREEK AND ALICIA PARKWAY (APPROXIMATELY 2.6 MILES), RECONSTRUCT LA PAZ ROAD INTERCHANGE AND ADD AUXILIARY LANES WHERE NEEDED. (UTILIZE TOLL CREDIT MATCH FOR RSTP/STBG)	$205,695
ORANGE	STATE HIGHWAY	ORA150110	2M0736	91	SR-91 (SR-57 TO SR-55) - ADD 1 MF LANE EB FROM 55 TO 57; ADD 1 MF LANE WB FROM GLASSELL TO STATE COLLEGE; IMPROVE INTERCHANGES AND MERGING FROM LAKEVIEW TO RAYMOND(PA&ED PHASE). AUXILIARY LANES WILL BE ADDED IN CERTAIN SEGMENTS (PA&ED PHASE).	$456,190
ORANGE	STATE HIGHWAY	ORA150201	ORA150201	5	I-5 HOV LANE EXTENSION FROM AVENIDA PICO TO SAN DIEGO COUNTY LINE (PSR/PDS). SPLIT PROJECT. TOLL CREDIT FOR CMAQ.	$450
ORANGE	STATE HIGHWAY	ORA151401	2H01143	5	I-5 HOV LANE EXTENSION FROM AVENIDA PICO TO SAN DIEGO COUNTY LINE (PSR/PDS). SPLIT PROJECT. TOLL CREDIT FOR RSTP.	$121
ORANGE	STATE HIGHWAY	ORA170005	2M0719	605	I-605/KATELLA AVE INTERCHANGE - IMPROVE THE LOCAL INTERCHANGE TO IMPROVE FREEWAY ACCESS, TRAFFIC OPERATIONS, ENHANCE SAFETY, AND IMPROVE PEDESTRIAN AND BICYCLE FACILITIES WITHIN PROJECT LIMITS.	$1,250
ORANGE	STATE HIGHWAY	ORA171904	2M0730	5	I-5 IMPROVEMENTS FROM SR-73 TO EL TORO ROAD (REPLACEMENT PLANTING/LANDSCAPING). REPLACEMENT PLANTING/LANDSCAPING RELATED TO ORA131711, ORA111801, AND ORA131712.	$12,245
ORANGE	STATE HIGHWAY	ORA190102	ORA120507	74	WIDEN ROUTE 74 FROM 2 TO 4 LANES - CITY SEGMENT (IN SAN JUAN CAPISTRANO FROM CALLE ENTRADERO TO CITY/COUNTY LINE FROM 2 LANES TO 4 LANES) PA&ED ONLY	$2,600
ORANGE	STATE HIGHWAY	ORA990929	2H01143	5	INTERSTATE 5 ADD 1 HOV IN EACH DIRECTION FROM SOUTH OF AVENIDA PICO TO SOUTH OF AVENIDA VISTA HERMOSA AND RECONFIGURE AVENIDA PICO INTERCHANGE. PPNO:2531D (UTILIZE TOLL CREDIT MATCH FOR CMAQ, IMD, AND STIP). COMBINE WITH ORA150401. HOV SIGNAGE FROM PM 2.1 TO 3.7	$98,789
ORANGE	TRANSIT	ORA000817	REG0702	0	PURCHASE (36) STANDARD 60-FOOT REPLACEMENT BUS - ALTERNATIVE FUEL - (20) IN FY13/14, (16) IN FY15/16. TRANSIT DEVELOPMENT TOLL CREDIT/ TOLL MATCH FOR FTA-TR @ $3,783 IN FY11/12 AND FTA 5307 @$1,505 IN FY11/12.	$31,105

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
ORANGE	TRANSIT	ORA020106	ORA020106	0	PREVENTIVE MAINTENANCE (OCTA): PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES2 AND TABLE 3 CATEGORIES - PURCHASE OF OFFICE, SHOP, AND OPERATING EQUIPMENT FOR EXISTING FACILITIES. TRANSIT DEVELOPMENT CREDITS/TOLL CREDITS: FY16/17 OF SECTION 5307 @ $3,525, FY16/17 OF SECTION 5337 @ $620, FY17/18 OF SECTION 5307 @ $2,936, FY 17/18 OF SECTION 5337 @ $631, FY18/19 OF SECTION 5307 @ $3,061, FY18/19 OF SECTION 5337 @ $642, FY19/20 OF SECTION 5307 @ $3,024, FY19/20 OF SECTION 5337 @ $653, FY20/21	$109,118
ORANGE	TRANSIT	ORA020118	ORA020118	0	PURCHASE REPLACEMENT PARATRANSIT VANS (99) - PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - PURCHASE OF NEW BUSES AND RAIL CARS TO REPLACE EXISTING VEHICLES OR FOR MINOR EXPANSIONS OF THE FLEET.	$17,834
ORANGE	TRANSIT	ORA020811	2L206	0	PURCHASE (173) 40-FOOT ALTERNATIVE FUEL REPLACEMENT BUSES (OCTA) IN FY 2016-17. TRANSIT DEVELOPMENT CREDITS IN FTA 5307 FY11/12 @ $1,267 & FY12/13 @ $1,878, FTA 5307 FY16-17 @ $1,951, FTA 5339 FY16-17 @ $197, AND FTA 5339 FY17-18 @ $926.	$95,240
ORANGE	TRANSIT	ORA020818	ORA110619	0	GROUPED PROJECTS FOR ACTIVITIES THAT DO NOT LEAD TO CONSTRUCTION. PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - SPECIFIC ACTIVITIES WHICH DO NOT INVOLVE OR LEAD DIRECTLY TO CONSTRUCTION, SUCH AS: PLANNING AND TECHNICAL STUDIES, GRANTS FOR TRAINING AND RESEARCH PROGRAMS, PLANNING ACTIVITIES CONDUCTED PURSUANT TO TITLES 23 AND 49 U.S.C, FEDERAL-AID SYSTEMS REVISIONS, ENGINEERING TO ASSESS SOCIAL, ECONOMIC, AND ENVIRONMENTAL EFFECTS OF THE PROPOSED ACTION OR ALTERNAT	$1,304
ORANGE	TRANSIT	ORA021202	ORA021202	0	BUS OPERATING ASSISTANCE FTA9 - FOR PARATRANSIT (MISSION VIEJO)	$32,323
ORANGE	TRANSIT	ORA021203	ORA021203	0	PREVENTIVE MAINTENANCE (MISSION VIEJO) TRANSIT DEVELOPMENT CREDITS: FY16/17 OF FTA 5307 @ $29, FY16/17 OF FTA 5337 @ $7, FY17/18 OF FTA 5307 @ $1,791, FY17/18 OF FTA 5337 @ $8, FY18/19 OF FTA 5307 @ $1,828, FY18/19 OF FTA 5337 @ $8, FY19/20 OF FTA 5307 @ $1,865, FY19/20 OF FTA 5337 @ $8, FY20/21 OF FTA 5307 @ $1,865, FY20/21 OF FTA 5337 @ $8, FY21/22 OF FTA 5307 @ $1,865 AND FY21/22 OF FTA 5337 @ $8.	$46,453
ORANGE	TRANSIT	ORA030612	ORA030612	0	PLACENTIA TRANSIT STATION - E OF SR-57 AND MELROSE ST AND N OF CROWTHER AVE. CONSTRUCT NEW METROLINK STATION AND RAIL SIDEING PPNO 9514	$34,825
ORANGE	TRANSIT	ORA080801	2TR0704	0	POSTIVE TRAIN CONTROL FOR METROLINK WILL HELP TO PREVENT TRAIN-TO-TRAIN COLLISIONS, SPEEDING AND OVER-SPEED DERAILMENTS, AND MOVEMENT OF A TRAIN THROUGH A WRONG RAIL SEGMENT OR INTO TRACK WORK ZONES. THE IMPLEMENTATION OF THE PROJECT WILL ENHANCE THE SAFETY AND SECURITY OF COMMUTER RAIL SERVICE, WHILE HELPING TO MEET 2015 FEDERAL MANDATE ENACTED IN THE RSIA OF 2008.	$38,098
ORANGE	TRANSIT	ORA080803	2OM0701	0	CAPITAL COST OF CONTRACTING (COSTS ASSOCIATED WITH CONTRACTING FOR ACCESS AND CONTRACTED FIXED ROUTE SERVICES. - OCTA/MISSION VIEJO), CONTRACTED SERVICES (ACCESS - 5310 ONLY - OCTA, MISSION VIEJO AND RIV/SB). TRANSIT DEVELOPMENT CREDITS IN FY16/17 OF FTA 5307 @ $5,385, FY16/17 OF FTA 5310 @ $415, FY17/18 OF FTA 5307 @ $4,142, FY17/18 OF FTA 5310 @ $424, FY18/19 OF FTA 5307 @ $4,171, FY18/19 OF FTA 5310 @ $433, FY18/19 OF FTA 5339 @ $620, FY19/20 OF FTA 5307 @ $4,391, FY19/20 OF FTA 5310 @ $442, FY19/20 O	$366,149
ORANGE	TRANSIT	ORA080909	2TR1001	0	OC STREETCAR BETWEEN SARTC AND A NEW TRANSIT CENTER IN GARDEN GROVE, NEAR THE INTERSECTION OF HARBOR BOULEVARD AND WESTMINSTER AVENUE. (TRANSIT DEVELOPMENT CREDIT MATCH FOR FHWA TRANSFER FY16/17 IS $306K & TDC MATCH FOR FHWA TRANSFER FY18/19 IS $2.861M)	$414,275
ORANGE	TRANSIT	ORA085001	2TR0704	0	ORANGE TRANSPORTATION CENTER PARKING STRUCTURE - PROJECT WILL PROVIDE APPROXIMATELY 600 ADDITIONAL TRANSIT PARKING SPACES AT THE ORANGE STATION PARKING CENTER. (UTILIZE TRANSIT DEVELOPMENT CREDIT MATCH FHWA TRANSFER FY 16/17 FOR $467)	$33,181
ORANGE	TRANSIT	ORA085004	2TR0704	0	ANAHEIM CANYON STATION PROJECT WILL ADD DOUBLE TRACK AND ANOTHER PLATFORM AS WELL AS EXTEND THE EXISTING PLATFORM TO BE IN CONFORMANCE WITH THE METROLINK STANDARDS FOR PASSENGER PLATFORM LENGTH. (PROJECT UTILIZES $2,657 IN TOLL CREDIT IN FY16/17 FOR CON)	$27,906
ORANGE	TRANSIT	ORA110303	REG0702	0	PURCHASE (11) MIDSIZE 32-FOOT ALTERNATIVE FUEL REPLACEMENT BUSES (OCTA) - (11) IN FY 2021-2022	$2,454
ORANGE	TRANSIT	ORA110305	2TR0704	0	THE LAGUNA NIGUEL/MISSION VIEJO STATION IMPROVEMENTS. IMPROVEMENTS INCLUDE PEDESTRIAN ACCESSIBILITY, RESTROOMS, BENCHES, SHADE STRUCTURES, AN ADA UNDERCROSSING AND OTHER STRUCTURES OR AMENITIES. TDC MATCH FOR FY 21/22 $594.	$8,524

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
ORANGE	TRANSIT	ORA110619	ORA110619	0	FTA SECTION 5316 JOBS ACCESS REVERSE COMMUTE (OCTA) VARIOUS PROJECTS TO INCREASE TRANSPORTATION ACCESS TO JOBS FOR LOW INCOME INDIVIDUALS, INCLUDING VOUCHER PROGRAMS AND VANPOOLS	$14,040
ORANGE	TRANSIT	ORA111209	2TR0704	0	LAGUNA NIGUEL TO SAN JUAN CAPISTRANO PASSING SIDING - ADD 1.8 MILES OF NEW RAILROAD TRACK ADJACENT TO THE EXISTING MAIN TRACK. MP 193.9 - MP 195.7 (PROJECT WILL UTILIZE TRANSIT DEVELOPMENT CREDITS MATCH - 5307 FHWA TRANSFER FY13/14 FOR $438 AND FY16/17 FOR $2,125) (PPNO 2107)	$30,830
ORANGE	TRANSIT	ORA111802	2L206	0	PURCHASE (34) 40-FOOT ALTERNATIVE FUEL REPLACEMENT BUSES (MISSION VIEJO) IN FY 2016-17. TRANSIT DEVELOPMENT CREDITS IN FTA 5307 FY17/18 @ $379, AND FTA 5339 FY17/18 @ $134.	$20,081
ORANGE	TRANSIT	ORA112006	RRC0701	0	CONTROL POINT 4TH STREET WILL ESTABLISH A NEW CP AT 4TH STREET (MP 175.7) AND PROVIDE A NEW NO. 10 POWER TURNOUT TO THE UNION PACIFIC RAILROAD (UPRR) SPUR APPROXIMATELY 0.5 MILES SOUTH OF THE SANTA ANA STATION (MP 175.6), REPLACING THE EXISTING HAND-THROWN TURNOUT, AS WELL AS CONSTRUCTING A NEW POWER DERAIL ON THE UPRR CONNECTING TRACK. PROJECT WILL UTILIZE $800,000 IN TRANSIT DEVELOPMENT CREDITS MATCH FOR FY 12/13.	$4,000
ORANGE	TRANSIT	ORA112008	REG0702	0	SLOPE STABILIZATION IN THE PACIFIC SURFLINER CORRIDOR IN THE CITIES OF LAGUNA NIGUEL AND MISSION VIEJO. UTILIZE $400 IN TRANSIT DEVELOPMENT CREDITS MATCH FOR FTA 5309 FY 12/13 AND $225 FOR FTA 5337 FY 17/18.	$3,457
ORANGE	TRANSIT	ORA112501	REG0702	0	TRANSIT SYSTEM STUDY PILOT PROJECT - OPERATING ASSISTANCE. (PROJECT WILL UTILIZE $1,200,000 IN TOLL CREDIT IN FY12/13 FOR CONSTRUCTION PHASE)	$6,000
ORANGE	TRANSIT	ORA112702	2120001	0	RIDESHARE VANPOOL PROGRAM - CAPITAL LEASE COST FY12/13 - FY20/21. TRANSIT DEVELOPMENT CREDITS: FY12-13 FTA 5307 @ $1,338 AND FY17/18 CMAQ @ $516.	$16,169
ORANGE	TRANSIT	ORA113027	2TR0704	0	FULLERTON TRANSPORTATION CENTER ELEVATORS EXPANSION	$4,600
ORANGE	TRANSIT	ORA120318	ORA120318	0	ANAHEIM REGIONAL TRANS INTERMODAL CENTER (ARTIC) PHASE I - INCLUDE EXPAND OF EXIST AMTRAK/METROLINK STATION AT ANA STAD TO PROVIDE ACCESS W/ TRANS SVC.	$183,863
ORANGE	TRANSIT	ORA130099	2TR0703	0	PURCHASE (15) EXPANSION PARATRANSIT VANS (OCTA)	$2,741
ORANGE	TRANSIT	ORA130901	REG0702	0	CAPITAL MAINTENANCE ON BUS SYSTEM. BUS MAINTENANCE AND ADMINISTRATIVE FACILITIES, BUS REBUILDS AND PURCHASE OF MISCELLANEOUS SUPPORT EQUIPMENT. PROJECTS CONSISTENT WITH 40 CFR PART 93.126 EXEMPT. TABLES 2 & 3 CATEGORIES - REHAB OR RECONSTRUCTION OF TRACK STRUCTURES, TRACK, TRACKBED IN EXISTING ROW INCLUDING PURCHASE OF REPLACEMENT LOCOMOTIVES WITH TIER-4 TECH. NON-CAPACITY INCREASING. TRANSIT DEVELOPMENT CREDITS/TOLL CREDITS IN FTA 5339 FY16/17 @ $847.	$4,232
ORANGE	TRANSIT	ORA151309	2120008	0	FIVE 40' COMPRESSED NATURAL GAS EXPANSION BUSES (ROUTE 560)	$2,320
ORANGE	TRANSIT	ORA151310	2TR0709	0	1% ASSOCIATED TRANSIT ENHANCEMENTS – GROUP PROJECTS FOR TRANSPORTATION ENHANCEMENT ACTIVITIES (OCTA) PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES – TRANSPORTATION ENHANCEMENT ACTIVITIES (EXCEPT REHABILITATION AND OPERATION OF HISTORIC TRANSPORTATION BUILDINGS, STRUCTURES, OR FACILITIES). (TRANSIT DEVELOPMENT CREDITS MATCH - FTA 5307 FY16/17 $92K)	$3,096
ORANGE	TRANSIT	ORA151311	2TR0709	0	1% ASSOCIATED TRANSIT ENHANCEMENTS – GROUP PROJECTS FOR TRANSPORTATION ENHANCEMENT ACTIVITIES (MISSION VIEJO) PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES – TRANSPORTATION ENHANCEMENT ACTIVITIES (EXCEPT REHABILITATION AND OPERATION OF HISTORIC TRANSPORTATION BUILDINGS, STRUCTURES, OR FACILITIES). (TRANSIT DEVELOPMENT CREDITS MATCH - FTA 5307 FY16/17 FOR $19K)	$380
ORANGE	TRANSIT	ORA152204	2TR0703	0	GROUPED PROJECTS FOR PURCHASE OF OFFICE, SHOP, AND OPERATING EQUIPMENT FOR EXISTING FACILITIES (PARATRANSIT SERVICE EQUIPMENT). PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - GROUP PROJECTS FOR PURCHASE OF OFFICE, SHOP, AND OPERATING EQUIPMENT FOR EXISTING FACILITIES. FY 2014 ORANGE COUNTY FTA 5310 PROJECTS. (TRANSIT DEVELOPMENT CREDITS MATCH – FTA 5310 FY15/16 FOR $147)	$735

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
ORANGE	TRANSIT	ORA159801	ORA37111	0	SAN JUAN CREEK BRIDGE REPLACEMENT - BRIDGE #197.9 IN THE CITY OF SAN JUAN CAPISTRANO NEAR THE CAMINO CAPISTRANO EXIT OF THE INTERSTATE 5 FREEWAY. REPLACING AN OCTA-OWNED THREE SPAN STEEL RAILROAD BRIDGE. (TRANSIT DEVELOPMENT CREDIT MATCH FTA 5337 FY15/16 FOR $2,565, FY16/17 FOR $879, AND FY17/18 $72)	$38,371
ORANGE	TRANSIT	ORA170006	ORA110613	0	SECURITY SURVEILLANCE AND MONITORING EQUIPMENT FOR TRANSIT	$5,910
ORANGE	TRANSIT	ORA170805	REG0702	0	PREVENTIVE MAINTENANCE (SCRRA): PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - REHABILITATION OF TRANSIT VEHICLES (TRANSIT DEVELOPMENT CREDITS/TOLL CREDITS IN FY16/17 @ $1,200 AND FY17/18 @ 1,675).	$14,374
ORANGE	TRANSIT	ORA171401	2L206	0	SIX 40' COMPRESSED NATURAL GAS EXPANSION BUSES (ROUTE 529)	$3,595
ORANGE	TRANSIT	ORA171610	2L206	0	NON-REVENUE VEHICLES	$29
ORANGE	TRANSIT	ORA172201	ORA110613	0	TRANSIT SECURITY AND OPERATIONS CENTER	$6,310
ORANGE	TRANSIT	ORA174	ORA174	0	BUS OPERATING ASSISTANCE FTA9 - FOR PARATRANSIT (OCTA)	$151,170
ORANGE	TRANSIT	ORA37111	ORA37111	0	CAPITAL MAINTENANCE ON METROLINK SYSTEM - REHABILITATION, RECONSTRUCTION OR REPLACEMENT OF TRACK STRUCTURES, TRACK AND TRACKBED, SIGNALS, COMMUNICATION SYSTEMS, FACILITIES, STATIONS, PLATFORMS, SIGNAGE, FARE COLLECTION EQUIPMENT (TVM) AND SYSTEMS, AND ROLLING STOCK INCLUDING THE PURCHASE OF REPLACEMENT LOCOMOTIVES WITH TIER-4 TECHNOLOGY.(NON-CAPACITY INCREASING), TDC MATCH FOR FTA 5337: FY 15/16 $714, FY 16/17 $2,288, FY 17/18 $3,097, FY 18/19 $3,151, FY 19/20 $3,205, FY 20/21 $3,205, AND FY 21/22 $3,205.	$113,319
ORANGE	TRANSIT	ORA37115	ORA37115	0	OPERATING ASSISTANCE FOR COMMUTER RAIL	$151,182
ORANGE	TRANSIT	ORA65002	ORA65002	0	RIDESHARE SERVICES RIDEGUIDE, DATABASE, CUSTOMER INFO, AND MARKETING (ORANGE COUNTY PORTION).	$6,732
ORANGE	TRANSIT	ORA990933	ORA199	0	TRANSIT OPERATING ASSISTANCE (LAGUNA BEACH)	$19,900
RIVERSIDE	LOCAL HIGHWAY	991203	991203	0	IN WESTERN RIV CO IN THE CITY OF TEMECULA: PHASE 1: EXTEND OVERLAND DRIVE (4 LANES) FROM COMMERCE CENTER DRIVE TO AVENIDA ALVARADO/DIAZ RD INTERSECTION. SEE 991203A FOR PHASE 2 BRIDGE PROJECT.	$9,391
RIVERSIDE	LOCAL HIGHWAY	991203A	991203	0	IN WESTERN RIV CO IN THE CITY OF TEMECULA: PHASE 2: REPLACE 2-LANE LOW WATER CROSSING WITH 4-LANE BRIDGE (BR#00L0087) OVER MURRIETA CREEK AT AVENIDA ALVARADO. SEE 991203 FOR PHASE 1.	$9,271
RIVERSIDE	LOCAL HIGHWAY	RIV011236	RIV011236	0	IN RIV COUNTY & MURRIETA - EXTEND/CONSTRUCT CLINTON KEITH ROAD (6 LANES ULTIMATE WIDENING FOR APPROX 4.3 MILES) INCLUDING CONSTRUCTION OF 2 BRIDGES FROM WHITEWOOD RD/MEADOWLARK LN TO WINCHESTER ROAD (SR79) - PROJECT TO BE COMPLETED IN PHASES.	$101,693
RIVERSIDE	LOCAL HIGHWAY	RIV011240	RIV011240	0	IN CORONA ON EXISTING MCKINLEY ST - CONSTRUCT UP TO 6 LANE GRADE SEPARATION OVERCROSSING BRIDGE OVER EXISTING BNSF RAILROAD CROSSING AND ROADWAY IMPROVEMENTS. INCLUDING BUT NOT LIMITED TO CONS OF STRUCTURAL WALLS, DRAINAGE FACILITIES, BIKE & PED FACILITIES, AND UTILITY WORK. ROW ACQUSITION & RELOCATION ANTICIPATED.	$90,500
RIVERSIDE	LOCAL HIGHWAY	RIV031202	RIV031202	0	I-10 BYPASS SOUTH (FORMERLY RAMSEY ST. EXT.): CONSTRUCT TWO LANES OF AN ULTIMATE 4-LANE ROADWAY TO PROVIDE A BY-PASS/NETWORK FACILITY FOR THE I-10, APPROX. 1/2 MILE S/O I-10 BETWEEN THE EASTERN END OF THE CITY OF BANNING AND APACHE TRAIL IN CABAZON. OTHER IMPROVEMENTS INCLUDE THE CONSTRUCTION OF BRIDGE CROSSINGS AT SMITH CREEK AND SAN GORGONIO RIVER.	$98,225
RIVERSIDE	LOCAL HIGHWAY	RIV031204	RIV031204	0	IN MURRIETA - CONSTRUCT NEW 2 LANE GUAVA ST. BRIDGE (400') OVER MURRIETA CREEK FROM WASHINGTON AVE TO ADAMS AVE W/ SHOULDERS & ALL REQUIRED APPROACHES (BR#: 56C0162)	$7,454
RIVERSIDE	LOCAL HIGHWAY	RIV031205	RIV031205	0	IN THE CITY OF PALM SPRINGS - WIDEN RAMON RD FROM 4 TO 6 LNS (3 IN EA DIR), FROM EL CIELO RD TO SUNRISE WY., WITH INTERSECTION WIDENING AT EL CIELO RD (ADD WB RT TURN LANE), AT FARRELL DR (ADD SB LEFT TURN LANE), & AT SUNRISE WY (ADD SB LEFT, NB LEFT, AND WB LEFT). (PA&ED ONLY).	$4,750

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
RIVERSIDE	LOCAL HIGHWAY	RIV031206	RIV031206	0	ON S. PALM CANYON DR OVER ARENAS CANYON SOUTH DRAINAGE CHANNEL: REPLACE EXISTING 4 LANE LOW-WATER CROSSING WITH A NEW 4-LANE BRIDGE, INCLUDING DRAINAGE IMPROVEMENTS CONSISTING OF LEVEE CHANNELIZATION (HBRR #: 00L0027).	$4,875
RIVERSIDE	LOCAL HIGHWAY	RIV031218	RIV031218	0	IN WESTERN RIV CO - NEW MID CO PKWY: CONS 6 THRU LN (3 LNS IN EA DIR) APPROX 16 MI. BTWN I-215 IN PERRIS EAST TO SR79 IN SAN JACINTO, INC. CONS/RECONS OF 13 ICS, ADD OF AUX LN REDLANDS-EVANS & EB AUXILIARY LN EVANS-ANTELOPE. I-215 IMP: ADD 1 MF LN IN EA DIR NUEVO RD -VAN BUREN BLVD, & 1 AUX LN IN EA DIR MID CO PKWY-CAJALCO/RAMONA EXP & FROM MID CO PKWY-NUEVO (PORTION OF MCP SPLIT TO PLACENTIA RIV031218A).	$1,691,500
RIVERSIDE	LOCAL HIGHWAY	RIV041047	RIV041047	0	GROUPED PROJECTS FOR TRANSPORTATION ENHANCEMENT ACTIVITIES: PROJECTS ARE CONSISTENT WITH 40 CRF PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - TRANSPORTATION ENHANCEMENT ACTIVITIES (EXCEPT REHABILITATION AND OPERATION OF HISTORIC TRANSPORTATION BUILDINGS, STRUCTURES, OR FACILITIES.	$1,600
RIVERSIDE	LOCAL HIGHWAY	RIV050201	RIV050201	0	GROUPED PROJECTS FOR BRIDGE REHABILITATION AND RECONSTRUCTION - HBP PROGRAM; PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLE 2 CATEGORIES - WIDENING NARROW PAVEMENTS OR RECONSTRUCTING BRIDGES (NO ADDITIONAL TRAVEL LANES). TC USED TO MATCH HBP FUNDS	$202,642
RIVERSIDE	LOCAL HIGHWAY	RIV060102	RIV060102	0	IN CALIMESA - WIDEN EB COUNTY LN RD FROM 1 TO 2 LNS (I-10 TO 600' E/O CALIMESA BLVD), CONSTRUCT 90 FT. ROUNDABOUT AT INTERSECTION OF CALIMESA BLVD AND COUNTY LN RD, WIDEN ALL ADJACENT CORNERS FOR TRANSITION TO ROUNDABOUT INCLUDING CURB AND GUTTER AS REQUIRED. ADDITIONAL IMPROVEMENTS INCLUDE DRAINAGE AND CONCRETE WORK (SAFETEA-LU-DEMO ID 445, 1316)	$2,366
RIVERSIDE	LOCAL HIGHWAY	RIV060113	RIV060113	0	CONSTRUCT NEW 4 LANE BRIDGE OVER MURRIETA CREEK (PART OF WESTERN BYPASS CORRIDOR) INCLUDING APPROACHES, CURB & GUTTER, SIDEWALKS, & STORM DRAIN FACILITIES	$10,327
RIVERSIDE	LOCAL HIGHWAY	RIV060114	RIV060114	0	IN SOUTHWEST TEMECULA: DESIGN AND CONSTRUCT 4 LANE WESTERN BYPASS CORRIDOR (PHASE 1) FROM SR79 SOUTH TO RANCHO CALIFORNIA RD	$13,500
RIVERSIDE	LOCAL HIGHWAY	RIV070702	3AL304	0	NEAR SR60 AND BEAUMONT W/O JCT SR60/I-10: CONSTRUCT NEW 4 LANE (2 LNS EACH DIR) POTRERO BLVD FROM SR 60 SOUTH & EAST TO SR79 (PA&ED/PRE-DESIGN)	$800
RIVERSIDE	LOCAL HIGHWAY	RIV071280	3G01G10	0	IN RIVERSIDE ON MARY STREET: REPLACE EXISTING 4 LN (2 LNS IN EA DIR) R/R X-ING WITH A 4 LN (2 LNS IN EA DIR - NON-CAPACITY) U.C. GRADE SEPARATION ON MARY ST BETWEEN MARGUERITE AVE AND INDIANA AVE.	$38,000
RIVERSIDE	LOCAL HIGHWAY	RIV071288	3G0705	0	IN EASTERN RIVERSIDE CO. IN THE COACHELLA VALLEY FOR THE COMMUNITY OF MECCA– CONSTRUCT A NEW TWO-LN (1-LN IN EA DIR) GRADE SEPARATION BYPASS S/O AVE 66 BEGINNING 2,800 FT E/O SR-86 & CONNECTING BACK TO AVE 66 AT DALE KILER RD. BYPASS WILL BE APPROX. 0.9 MILES WITH ELEVATED STRUCTURE OVER THE UPRR, HAMMOND RD., INCLUDING REALIGNED SH 195. PROJECT INCLUDES REALIGNED CONNECTIONS TO SH-111 & LINCOLN.	$41,026
RIVERSIDE	LOCAL HIGHWAY	RIV080905	3A01WT049A	0	IN THE CITY OF MORENO VALLEY - WIDEN ALESSANDRO BLVD BETWEEN I-215 AND FREDERICK ST FROM 4 TO 6 LANES. PROJECT WILL COMPLETE GAP CLOSURE AND REPLACING EXISTING SIDEWALKS & UPGRADE ADA RAMPS.	$12,401
RIVERSIDE	LOCAL HIGHWAY	RIV080907	3A01WT051	0	IN THE CITY OF MORENO VALLEY - WIDEN ALESSANDRO BLVD BETWEEN NASON ST AND GILMAN SPRINGS RD FROM 2 TO 4 LANES; REALIGN ALESSANDRO BLVD WITHIN PROJECT LIMITS BETWEEN THEODORE ST AND GILMAN SPRINGS RD. IMPROVEMENTS INCLUDE MEDIANS, TRAFFIC SIGNALS, CHANNELIZATION, LEFT TURN POCKETS, DEDICATED RIGHT TURN, DRAINAGE, LANDSCAPING, SIDEWALKS, BIKE LANES, AND TRAILS. (PA&ED ONLY)	$62,000
RIVERSIDE	LOCAL HIGHWAY	RIV080908	3A01WT053	0	IN THE CITY OF MORENO VALLEY - WIDEN GILMAN SPRINGS RD BETWEEN SR-60 AND ALESSANDRO BLVD FROM 2 TO 6 LANES. IMPROVEMENTS INCLUDE MEDIANS, TRAFFIC SIGNALS, CHANNELIZATION, LEFT TURN POCKETS, DEDICATED RIGHT TURN, DRAINAGE, ACCESS ROADS, LANDSCAPING, SIDEWALKS, AND BIKE LANES. (PA&ED ONLY)	$41,500
RIVERSIDE	LOCAL HIGHWAY	RIV080909	3A01WT153	0	IN THE CITY OF MORENO VALLEY - WIDEN GILMAN SPRINGS RD BETWEEN ALESSANDRO BLVD AND BRIDGE ST FROM 2 TO 6 LANES. IMPROVEMENTS INCLUDE MEDIANS, TRAFFIC SIGNALS, CHANNELIZATION, LEFT TURN POCKETS, DEDICATED RIGHT TURN, DRAINAGE, ACCESS ROADS, LANDSCAPING, SIDEWALKS, AND BIKE LANES.	$51,000

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
RIVERSIDE	LOCAL HIGHWAY	RIV080911	3A0801	0	IN THE CITY OF MORENO VALLEY - WIDEN HEACOCK ST BETWEEN SAN MICHELE RD AND HARLEY KNOX RD, FROM 2 TO 4 LANES; REALIGN HEACOCK ST WITHIN PROJECT LIMITS BETWEEN NANDINA AND HARLEY KNOX; REPLACE BRIDGE OVER PVSD LATERAL B.	$9,911
RIVERSIDE	LOCAL HIGHWAY	RIV080912	3A04WT056B	0	IN THE CITY OF MORENO VALLEY - WIDEN BOX SPRINGS RD BETWEEN 2000' WEST OF CLARK ST AND DAY ST FROM 2 TO 4 LANES. INCLUDES UTILITY RELOCATION, GRADING, DRAINAGE, CURB, GUTTER, RETAINING WALLS, SIGNAGE, AND STRIPING.	$3,178
RIVERSIDE	LOCAL HIGHWAY	RIV080915	3A04WT056F	0	IN THE CITY OF MORENO VALLEY - WIDEN IRONWOOD AVE BETWEEN PERRIS BLVD AND VISTA DE CERROS DR. FROM 2 TO 5 LANES (2 LANES IN EACH DIRECTION AND 1 CENTER TURNING LANE) . ADDITIONAL IMPROVEMENTS INCLUDE SIGNAL MODIFICATIONS, LIGHTING, DRAINAGE, CURB, GUTTER, STRIPING, AND SIDEWALK.	$13,397
RIVERSIDE	LOCAL HIGHWAY	RIV080917	3A07155	0	IN THE CITY OF MORENO VALLEY - WIDEN MORENO BEACH DR BETWEEN CACTUS AVE AND AUTO MALL DR FROM 2 TO 6 LANES. INCLUDES SIGNALS AT COTTONWOOD AVE, ALESSANDRO BLVD, AND CACTUS AVE.	$23,000
RIVERSIDE	LOCAL HIGHWAY	RIV080918	3A07156	0	IN THE CITY OF MORENO VALLEY - WIDEN REDLANDS BLVD BETWEEN SR-60 AND CACTUS AVE FROM 2 TO 4 LANES. IMPROVEMENTS INCLUDE MEDIANS, TRAFFIC SIGNALS, CHANNELIZATION, LEFT TURN POCKETS, DEDICATED RIGHT TURN, DRAINAGE, LANDSCAPING, SIDEWALKS, BIKE LANES, AND TRAILS.	$18,300
RIVERSIDE	LOCAL HIGHWAY	RIV090405	3AL104	0	IN THE CITY OF PALM SPRINGS: REPLACE EXISTING 4-LANE LOW WATER CROSSING ON VISTA CHINO AT WHITEWATER RIVER WITH A NEW 4-LANE BRIDGE - BRIDGE NO. 00L0052.	$95,000
RIVERSIDE	LOCAL HIGHWAY	RIV090903	3A04WT137A	0	IN RIVERSIDE COUNTY ON CAJALCO RD – CAJALCO RD. WIDENING FROM 2 TO 4 THRU LNS (2 IN EA DIR) FROM TEMESCAL CANYON RD. TO HARVILL AVE AND FROM 4 TO 6 LANES FROM HARVILL AVE TO I-215, INCLUDING TURN POCKETS AND A BRIDGE RECONSTRUCTION OVER A WATER CROSSING (RTP IDS: 3A04WT137 AND 3A04WT138) (PA&ED ONLY) ($803 IN FY 09/10 AND $344.01 IN FY 15/16 OF TC USED FOR STPL MATCH IN PA&ED).	$173,185
RIVERSIDE	LOCAL HIGHWAY	RIV090908	3A0808	0	IN MORENO VALLEY, WIDEN WORLD LOGISTICS CENTER PARKWAY FROM 2 TO 4 LANES FROM ALESSANDRO BLVD TO EUCALYPTUS AVE, INCLUDING TRAFFIC SIGNALS, CHANNELIZATION IMPROVEMENTS, LEFT-TURN POCKETS, DEDICATED RIGHT-TURN LANES, DRAINAGE IMPROVEMENTS, LANDSCAPING, SIDEWALKS, AND BIKE LANES.	$15,456
RIVERSIDE	LOCAL HIGHWAY	RIV090909	3A0807	0	IN MORENO VALLEY, WIDEN WORLD LOGISTICS CENTER PARKWAY FROM 2 TO 4 LANES + 2 AUX LANES FROM EUCALYPTUS AVE TO SR-60 EB RAMPS, INCLUDING MEDIANS, TRAFFIC SIGNALS, CHANNELIZATION IMPROVEMENTS, LEFT-TURN POCKETS, DEDICATED RIGHT-TURN LANES, DRAINAGE IMPROVEMENTS, LANDSCAPING, SIDEWALKS, AND BIKE LANES.	$513
RIVERSIDE	LOCAL HIGHWAY	RIV090910	3A0806	0	IN MORENO VALLEY, WIDEN WORLD LOGISTICS CENTER PARKWAY/THEODORE ST FROM 2 TO 4 LANES FROM SR-60 WB RAMPS TO IRONWOOD AVE, INCLUDING TRAFFIC SIGNALS, CHANNELIZATION IMPROVEMENTS, LEFT-TURN POCKETS, DEDICATED RIGHT-TURN LANES, DRAINAGE IMPROVEMENTS, LANDSCAPING, SIDEWALKS, AND BIKE LANES.	$513
RIVERSIDE	LOCAL HIGHWAY	RIV090911	3A0805	0	IN MORENO VALLEY, WIDEN KITCHING ST FROM 2 TO 4 LANES FROM GENTIAN AVE TO CACTUS AVE , INCLUDING SIDEWALK INSTALLATION WITHIN PROJECT LIMITS.	$990
RIVERSIDE	LOCAL HIGHWAY	RIV091001	3A07023	0	IN THE COACHELLA VALLEY IN THE CITY OF DESERT HOT SPRINGS - INDIAN AVE WIDENING: WIDENING OF INDIAN AVE FROM 2 TO 6 THROUGH LANES (3 IN EA DIR), BETWEEN HWY 62 AND MISSION LAKES BLVD., INCLUDING THE CONSTRUCTION OF AN ALL WEATHER BRIDGE OVER MISSION CREEK (PA&ED).	$44,000
RIVERSIDE	LOCAL HIGHWAY	RIV091002	3A10WT02	0	IN WESTERN RIVERSIDE COUNTY IN THE CITY OF MORENO VALLEY - EUCALYPTUS AVE. EXTENSION: CONSTRUCTION OF 3 THROUGH LANES (2 LANES WB & 1 LANE EB) BETWEEN REDLANDS BLVD. AND WORLD LOGISITICS CENTER PARKWAY, INCLUDING THE INSTALLATION OF MEDIANS, LEFT TURN POCKETS, DEDICATED RIGHT TURN LANES, DRAINAGE IMPROVEMENTS, LANDSCAPING, SIDEWALKS, AND A CLASS I BIKE PATH.	$861
RIVERSIDE	LOCAL HIGHWAY	RIV091003	3A10WT02	0	IN WESTERN RIVERSIDE COUNTY IN THE CITY OF MORENO VALLEY - EUCALYPTUS AVE. WIDENING/EXTENSION: CONSTRUCTION OF A 2ND EB LANE FROM REDLANDS BLVD. TO WORLD LOGISTICS CENTER PARKWAY ST & EXTENSION OF EUCALYPTUS AVE. TO REDLANDS BLVD., WITH A SIGNALIZED INTERSECTION. SEE RIV091002 FOR PH I.	$3,550
RIVERSIDE	LOCAL HIGHWAY	RIV091005	REG0703	0	IN MID WESTERN RIVERSIDE COUNTY IN THE CITY OF LAKE ELSINORE - CONSTRUCTION OF A TRAFFIC SIGNAL AT THE INTERSECTION OF SR-74 AND GUNNERSON AVENUE AND WIDENING OF THE ROUTE TO PROVIDE FOR TWO LEFT TURN LANES.	$2,450

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
RIVERSIDE	LOCAL HIGHWAY	RIV091006	3A07316	0	IN EASTERN RIVERSIDE CO. IN THE COACHELLA VALLEY - HWY 111 WIDENING W/IN INDIAN WELLS CITY LIMITS: WID FROM 4 TO 6 THRU LNS (3 LNS IN EA DIR) BTWN THE WCL (570' W/O VILLAGE CTR DR) & EL DORADO DR (RTP ID'S 3A07316 & 3A07257) INCLUDING THE INSTAL OF A RAISED, LANDSCAPE MEDIAN, LEFT TURN PH @ EL DORADO DR, DUAL LEFT TURN PH @ THE SB AND EB COOK ST, RT TURN ONLY LNS AT THE EAST, WEST, AND SB COOK ST.	$27,788
RIVERSIDE	LOCAL HIGHWAY	RIV091011	3A07027	0	IN EASTERN RIVERSIDE COUNTY IN THE COACHELLA VALLEY - DATE PALM DR OVER THE WHITEWATER RIVER: WIDENING OF DATE PALM DR FROM 4 TO 6 LNS (3 LNS IN EA DIR), FROM APPROX. 350 FT S/O THE BRIDGE TO 250 FT N/O THE BRIDGE (VIA ESTRADA TO THE NORTH AND PEREZ RD. TO THE SOUTH), INCLUDING THE CONSTRUCTION OF A RAISED MEDIAN AND SIDEWALK ALONG THE EAST SIDE OF THE PROJECT (BRIDGE NO. 56C0189).	$18,703
RIVERSIDE	LOCAL HIGHWAY	RIV091209	3A07258	0	IN EASTERN RIVERSIDE CO. IN THE COACHELLA VALLEY - HWY 111 WIDENING WITHIN INDIAN WELLS CITY LIMITS: WIDENING FROM 4 TO 6 THRU LNS (3 LNS IN EA DIR) BTWN PROVINCE WAY & EAST CITY LIMITS (W/O WASHINGTON), INCLUDING THE INSTALL OF A RAISED, LANDSCAPE MEDIAN AND RIGHT TURN ONLY LANE AT INDIAN WELLS LN (RTP ID'S 3A07258 & 3A07259).	$32,779
RIVERSIDE	LOCAL HIGHWAY	RIV100102	3AL204	0	IN WESTERN RIVERSIDE CO IN BEAUMONT: SR79 BYPASS EXT NO. PH II – INSTAL OF A 3-LN PRE-FAB BRIDGES ON THE EASTSIDE OF THE PH I POTRERO BRIDGE SR79 BYPASS EXT. NO. (3LNS EA DIRECTION), EXTENDING THE POTRERO BLVD 0.675 MI. NO. FROM THE FUTURE SR60/POTRERO FWY IC (RIV050535), TO CONNECT TO THE OAK VALLEY PKWY IN BEAUMONT, INCLUDING THE INSTAL OF A CLASS I MULTI-PURPOSES TRAIL, FLARED INTERSECTION AND TURNING POCKETS.	$21,846
RIVERSIDE	LOCAL HIGHWAY	RIV110124	3A07100	0	IN THE COACHELLA VALLEY IN THE CITY OF PALM SPRINGS - RAMON RD. WIDENING BETWEEN SAN LUIS REY DR & LANDAU BLVD.: WIDENING OF RAMON RD. FROM A 4-LN ARTERIAL TO A 6-LN ARTERIAL (3-LNS IN EA DIR) BETWEEN SAN LUIS REY DR & LANDAU BLVD., INCLUDING THE WIDENING/ REPLACEMENT OF THE WHITEWATER RIVER BRIDGE (BRIDGE NO. 56C0287), INCLUDING SEISMIC RETROFIT AND SCOUR COUNTERMEASURES AS NECESSARY.	$28,506
RIVERSIDE	LOCAL HIGHWAY	RIV110501	3A07028	0	IN COACHELLA VALLEY IN THE CITY OF CATHEDRAL CITY - DATE PALM DR WIDENING FROM I-10 TO VARNER RD.: WIDENING OF DATE PALM DR. FROM 2 TO 6 LNS (3 LNS IN EA DIR) FROM I-10 TO VARNER RD INCLUDING A BOX CULVERT SPANNING THE LONG CANYON WASH. OTHER IMPROVEMENTS INCLUDE ADDITIONAL TURNING LANES AT INTERSECTION OF DATE PALM DR. & VARNER RD., TRAFFIC SIGNALIZATION, SIDEWALKS, MEDIANS AND BIKE LANES.	$6,791
RIVERSIDE	LOCAL HIGHWAY	RIV110825	RIV110825	0	IN THE CITY OF COACHELLA - AVE 50 OVER COACHELLA STORMWATER CHANNEL: (PHASE 1) REPLACEMENT OF A 2-LN LOW WATER X-ING (BRIDGE NO. 00L0055) WITH A 6-LN (3-LNS IN EA DIR) BRIDGE ON NEW ROADWAY ALIGNMENT FROM APPROX. 300-FT W/O APACHE TRAIL TO SR-86 INTRSCTN. INCLUDING BIKE LANES, SIDEWALKS, RECONSTRUCT TRAFFIC SIGNAL/DRIVEWAYS, CHANNEL SCOUR PRTCTN, & RETAINING EXISTING LOW WATER X-ING & CULVERTS.	$29,915
RIVERSIDE	LOCAL HIGHWAY	RIV111003	3A04WT165	0	IN WESTERN RIVERSIDE COUNTY IN THE CITY OF JURUPA VALLEY - MARKET STREET BRIDGE REPLACEMENT: REPLACE THE EXISTING TWO LANE (ONE LANE IN EACH DIRECTION) MARKET STREET BRIDGE OVER THE SANTA ANA RIVER, 0.4 MILES NORTHWEST OF SR60 WITH A FOUR LANE (TWO LANES IN EACH DIRECTION) BRIDGE. BRIDGE NO. 56C0024	$44,520
RIVERSIDE	LOCAL HIGHWAY	RIV111121	3GL04	0	IN RIVERSIDE ON THIRD STREET: REPLACE EXISTING 4 LANE (2 IN EACH DIRECTION) R/R/ X-ING WITH A 4-LN (2 LNS IN EA DIR - NON-CAPACITY) U.C. GRADE SEPARATION ON THIRD ST BETWEEN VINE ST AND PARK AVE.	$45,000
RIVERSIDE	LOCAL HIGHWAY	RIV111131	RIV111131	0	IN MURRIETA – KELLER RD. EXTENSION: EXTENSION OF KELLER RD. FROM WHITEWOOD RD (EAST) TO SR79 (WINCHESTER RD). THE PROJECT EXTENSION WILL INCLUDE 4 LANES (2 LNS IN EA DIR), A LEFT TURN LANE, BIKE LANES, AND INSTALLATION OF CURB, GUTTER AND SIDEWALK	$34,000
RIVERSIDE	LOCAL HIGHWAY	RIV111202	3A07137	0	IN THE CITY OF INDIO - AVE 44 BRIDGE REPLACEMENT: REPLACE EXISTING AVENUE 44 TWO LANE LOW WATER CROSSING OVER THE COACHELLA VALLEY STORMWATER CHANNEL WITH A FOUR LANE BRIDGE (BRIDGE NO. 00L0056), INCLUDING 6 FT SIDEWALK ON EACH SIDE OF THE BRIDGE.	$19,230
RIVERSIDE	LOCAL HIGHWAY	RIV111203	3A04WT198	0	IN LAKE ELSINORE - TEMESCAL CANYON RD BRIDGE REPLACEMENT/REALIGNMENT: REPLACE TEMESCAL CANYON RD. 2 LANE BRIDGE WITH A 4 LANE OVER TEMESCAL WASH, 0.42 MI. W/O LAKE STREET AND PROVIDE TRANSITION TO A 2 LANE ROADWAY (BOTH SIDES). OTHER IMPROVEMENTS INCLUDE CONS OF 706 LF OF SIDEWALK AND 8 FT CLASS II BIKE LNS ON EACH SIDE OF THE BRIDGE. (BRIDGE NO. 56C0050).	$22,412
RIVERSIDE	LOCAL HIGHWAY	RIV111208	3GL04	0	IN RIVERSIDE - MADISON ST GRADE SEPARATION: CONSTRUCT A 4- LN (2 LNS IN EA DIR)NON-CAPACITY ENHANCING MADISON ST/BNSF UNDERPASS BETWEEN INDIANA AVE AND PETERS ST/YSMAEL VILLEGAS ST.	$38,000

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
RIVERSIDE	LOCAL HIGHWAY	RIV120206	3AL104	0	IN EASTERN RIVERSIDE COUNTY IN PALM SPRINGS - WIDENING OF WEST SAN RAFAEL RD: WIDENING OF WEST SAN RAFAEL RD FROM TWO TO FOUR LANES (2 LANES IN EACH DIRECTION) WITH A CONTINUOUS LEFT TURN LANE FROM N. INDIAN CANYON DR. TO N. VIRGINIA RD.	$4,900
RIVERSIDE	LOCAL HIGHWAY	RIV121202	3A07061	0	IN EASTERN RIVERSIDE COUNTY IN THE CITY OF LA QUINTA - ON DUNE PALMS RD: REPLACE 3-LANE LOW WATER CROSSING WITH 4 LANE BRIDGE OVER THE COACHELLA VALLEY STORMWATER CHANNEL (WHITEWATER RIVER - BRIDGE NO.00L0070)	$17,510
RIVERSIDE	LOCAL HIGHWAY	RIV121203	3A04CV027	0	IN EASTERN RIVERSIDE COUNTY IN THE COACHELLA VALLEY - ON AVE 56/AIRPORT DR, REPLACE 2 LANE BRIDGE WITH A 4 LANE BRIDGE OVER WHITEWATER RIVER .21 MILES E/O HWY 111 (BRIDGE NO.56C0020).	$15,755
RIVERSIDE	LOCAL HIGHWAY	RIV121204	3A01WT159	0	IN WESTERN RIVERSIDE COUNTY IN THE CITY OF NORCO - ON HAMNER AVE OVER SANTA ANA RIVER .5 MILES N/O OF SIXTH STREET, REPLACE 2 LANE BRIDGE WITH A 6 LANE BRIDGE (BRIDGE NO.56C0446).	$62,661
RIVERSIDE	LOCAL HIGHWAY	RIV130401	3AL304	0	GROUPED PROJECTS FOR PAVEMENT RESURFACING AND/OR REHABILITATION ON THE LOCAL ROADS SYSTEM: PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - PAVEMENT RESURFACING AND/OR REHABILITATION.	$5,082
RIVERSIDE	LOCAL HIGHWAY	RIV130402	3AL104	0	GROUPED PROJECTS FOR PAVEMENT RESURFACING AND/OR REHABILITATION ON THE LOCAL ROADS SYSTEM: PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - PAVEMENT RESURFACING AND/OR REHABILITATION.	$518
RIVERSIDE	LOCAL HIGHWAY	RIV130808	3AL304	0	GROUPED PROJECTS FOR PAVEMENT RESURFACING AND/OR REHABILITATION IN RIVERSIDE COUNTY/CITY OF MORENO VALLEY: PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - PAVEMENT RESURFACING AND/OR REHABILITATION.	$3,950
RIVERSIDE	LOCAL HIGHWAY	RIV131005	3NL04	0	IN EAST RIVERSIDE CO. FOR CVAG: CONSTRUCT IN PHASES A NEW 50 MILE BICYCLE, PED AND LOW SPEED ELECTRICAL VEHICLE PATH FROM DESERT HOT SPRINGS TO THE SALTON SEA ROUGHLY ALONG WHITEWATER RIVER. PH I WILL CONSTRUCT LINK FROM PALM SPRINGS TO COACHELLA. FUTURE PHASES WILL CONSTRUCT LINK FROM DESERT HOT SPRINGS TO PALM SPRINGS AND COACHELLA TO THE SALTON SEA (PPNO 1019). TC FOR FY 19/20 CMAQ ENG.	$98,988
RIVERSIDE	LOCAL HIGHWAY	RIV140301	3NL04	0	IN WESTERN RIVERSIDE COUNTY FOR THE CITY OF TEMECULA - CONSTRUCT REMAINING ONE MILE MISSING LINK IN THE SANTA GERTRUDIS CREEK RECREATIONAL MULTI-USE PEDESTRIAN AND BICYCLE TRAIL FROM YNEZ ROAD TO MURRIETA CREEK MULTI-PURPOSE TRAIL.	$4,761
RIVERSIDE	LOCAL HIGHWAY	RIV140401	3A04WT179	0	IN WESTERN RIVERSIDE COUNTY NEAR THE CITY OF MENIFEE - ON NUEVO ROAD, REHABILITATE AND WIDEN EXISTING 2 LANE BRIDGE TO A 4 LANE BRIDGE OVER SAN JACINTO RIVER 1.2 MILES W/O LAKEVIEW AVENUE. (BRIDGE NO. 56C0004).	$7,040
RIVERSIDE	LOCAL HIGHWAY	RIV140815	REG0703	0	IN EASTERN RIVERSIDE CO FOR CITY OF RANCHO MIRAGE-CONSTRUCT FREE RT ,PORKCHOP ISLAND &CURB &GUTTER;RELOCATE SIGNAL POLE;REPLACE SIGNAL LOOP;REMOVE &RELOCATE CONCRETE PAVEMENT,SPANDREL,CROSS GUTTER,HANDICAP RAMP &BUS TURNOUT;& INSTALL 13,218 L.F.OF 4FT. SAND FENCING ALONG RAMON RD FROM LOS ALAMOS RD TO BOB HOPE DR & ALONG DINAH SHORE DR N/S FROM BOB HOPE DR TO KEY LARGO AVE (PM 2.5 BEN 3.341KG/DAY)	$966
RIVERSIDE	LOCAL HIGHWAY	RIV140816	3NL04	0	IN EASTERN RIVERSIDE COUNTY FOR THE CITY OF COACHELLA - INSTALL 8.2 MILES OF CLASS II BIKE LANES ON CITY ARTERIALS TO FACILITATE RESIDENTIAL TO COMMERCIAL CONNECTIVITY ($52.76 OF TC TO MATCH CMAQ IN FY 16/17)(PM 2.5 BENEFITS .816 KG/DAY)	$520
RIVERSIDE	LOCAL HIGHWAY	RIV140818	3NL04	0	IN CITY OF PALM SPRINGS-6.25 MI. CLASS II & III BIKE LNS ON:SAN RAFAEL DR FR PALM CYN TO SUNRISE WY;SAN RAFAEL DR FR VIRGINIA RD TO INDIAN CYN;FARRELL DR FR RAMON RD TO TAHQUITZ CYN;MESQUITE AV FR SUNRISE WY TO COMPADRE RD;LA VERNE WY FR S. PALM CYN TO E. PALM CYN;CAMINO REAL FR E. PALM CYN TO LA VERNE WY;CROSSLEY RD FR RAMON TO 341 AV;AVE CABALERROS FR ALEJOS RD TO TAHQUITZ CYN(PM2.5=.018 KG/DAY)	$475
RIVERSIDE	LOCAL HIGHWAY	RIV140819	3AL104	0	IN EASTERN RIVERSIDE COUNTY FOR THE CITY OF INDIO - FULLY PAVE ABOUT ONE MILE OF UNPAVED CITY ROADS ALONG (4) RESIDENTIAL STREETS IN INDIO, NORTH OF INTERSTATE 10. STREETS TO BE REPAVED ARE: RANCHO LOS CERRITOS DR; PRIMROSE LANE; GALINDO CT; AND SABRINA CT (PM 2.5 BENEFITS 17.92 KG/DAY)	$1,279
RIVERSIDE	LOCAL HIGHWAY	RIV140820	3ITS08	0	IN EASTERN RIVERSIDE COUNTY FOR CVAG: REGIONAL SIGNAL SYCHRONIZATION PROGRAM THROUGH THE COACHELLA VALLEY INCLUDING BUT NOT LIMITED TO SIGNAL UPGRADES, COMMUNICATION SYSTEMS, HARDWARE AND SOFTWARE. (PM 2.5 BENEFITS)	$18,828

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
RIVERSIDE	LOCAL HIGHWAY	RIV140820A	3ITS08	0	IN EASTERN RIVERSIDE COUNTY FOR CVAG: REGIONAL SIGNAL SYNC PH II ON 18 CORRIDORS (MONTEREY, COOK, PALM DR, BOB HOPE, FRED WARING, DINAH SHORE, GENE AUTRY, DATE PALM, INDIO BLVD, JEFFERSON, PALM CANYON, VISTA CHINO, COUNTRY CLUB, MONROE, AVE 48, SUNRISE, INDIAN CYN, JACKSON) TO INCLUDE SIGNAL UPGRADES, COMMUNICATION SYSTEMS, HARDWARE AND SOFTWARE.	$54,600
RIVERSIDE	LOCAL HIGHWAY	RIV140838	3NL04	0	IN WESTERN RIVERSIDE CO. FOR THE COUNTY OF RIVERSIDE IN MEAD VALLEY-CLARK ST S/W & INTERSECTION SAFETY IMPROVEMENTS: ON EASTSIDE OF CLARK ST B/W RIDER ST AND CAJALCO RD, CONSTRUCT APPROX. 2,000 L.F. OF CONCRETE SIDEWALK, CURB & GUTTER, PAVEMENT IMPROVEMENTS, NEW CURB RAMPS MEETING LATEST ADA REQS, DRIVEWAY APPROACHES, SIGNS, MARKINGS, & OTHER INCIDENTAL ITEMS TO IMPROVE PEDESTRIAN SAFETY. (HSIP)	$1,405
RIVERSIDE	LOCAL HIGHWAY	RIV140841	3NL04	0	IN WESTERN RIVERSIDE COUNTY FOR CITY OF RIVERSIDE-IOWA AVE & MLK BLVD BIKE IMPROVEMENTS: CONSTRUCT 0.8 MI 10 FT WIDE TWO DIR MULTI-USE PATH ON N.SIDE OF MLK BLVD B/W CANYON CREST DR & CHICAGO AVE & WIDENING IOWA AVE B/W MLK BLVD & EVERTON PL INCLUDES GRADING, ASPHALT PAVING, SIGNS, & RESTRIPING & INSTALL 6 FT CLASS II BIKE LNS FOR 0.8 MI WITH 2 FT BUFFERS	$332
RIVERSIDE	LOCAL HIGHWAY	RIV140842	7120004	0	IN EASTERN RIVERSIDE COUNTY FOR THE CITY OF COACHELLA - ATP IMPOVEMENTS CYCLE 1: ADD 7 MI. OF CLASS II BIKE LANES & CLASS III BIKEWAYS W/ SHARROWS, APSHALT BIKE PATH, PED XING, & CONSTRUCTION OF 2 MI. OF SIDEWALKS AT DIFFERENT LOCATIONS & LANDSCAPED MEDIANS ALONG AVE 50 & AVE 52 FROM WESTERN CITY LIMITS TO CV LINK. TC USED TO MATCH ATP	$1,764
RIVERSIDE	LOCAL HIGHWAY	RIV140843	3NL04	0	IN WESTERN RIVERSIDE COUNTY IN THE CITY OF RIVERSIDE-WELLS/ARLANZA SIDEWALK IMPROVEMENTS: INSTALL ADA RAMPS, DRIVEWAY APPROACHES & 27,600 SQ FT OF SIDEWALK ON ONE SIDE OF FOUR STREETS (CHALLEN AVE, IVANHOE AVE, KENT AVE, BABB AVE) SURROUNDING WELLS MIDDLE SCHOOL AND ARLANZA ELEMENTARY SCHOOL. TC USED TO MATCH ATP FUNDS	$1,768
RIVERSIDE	LOCAL HIGHWAY	RIV140844	3NL04	0	IN WESTERN RIVERSIDE CO. IN THE CITY OF RIVERSIDE - NORTE VISTA SIDEWALK IMPROVEMENTS: INSTALL ADA RAMPS, DRIVEWAY APPROACHES & 94,200 SQ.FT. OF SIDEWALK ON ONE SIDE OF FOUR STREETS (GAYLORD ST, JONES AVE, CHADBOURNE AVE, BUSHNELL AVE) NEAR NORTE VISTA HIGH SCHOOL, ROSEMARY KENNEDY ELEMENTARY SCHOOL, AND TWINHILL ELEMENTARY SCHOOL.	$2,833
RIVERSIDE	LOCAL HIGHWAY	RIV140847	3NL04	0	IN EASTERN RIVERSIDE COUNTY FOR THE COUNTY OF RIVERSIDE IN MECCA - MECCA SIDEWALK & ROADWAY SAFETY IMPROVEMENTS: INSTALL 4,300 L.F. OF CONCRETE SIDEWALK, CURB AND GUTTER, PAVEMENT IMPROVEMENTS, CURB RAMPS, DRIVEWAY APPROACHES, SIGNS AND MARKERS ALONG SIXTH ST., DALE KILER RD., & BROWN ST	$945
RIVERSIDE	LOCAL HIGHWAY	RIV140848	3NL04	0	IN EASTERN RIVERSIDE COUNTY IN THE CITY OF INDIO – ANDREW JACKSON ELEM PED IMPROVEMENTS: ON TEN STREETS WITHIN THE ANDREW JACKSON ELEM SCHOOL COMMUNITY, INSTALL SIDEWALKS, UPGRADE PED ACCESS RAMPS AND DRIVEWAY APPROACHES, THREE ENHANCED CROSSWALKS, AND TWO SPEED FEEDBACK SIGNS. TC USED TO MATCH ATP	$2,581
RIVERSIDE	LOCAL HIGHWAY	RIV140849	3NL04	0	IN WESTERN RIVERSIDE CO. IN THE CITY OF MORENO VALLEY – CITYWIDE SRTS PED FACILITY IMPROVEMENTS: INSTALL 2,840 FT. OF SIDEWALK GAP CLOSURES, CURBS, GUTTERS, STREET LIGHTS, ADA RAMPS, & STREET WIDENING ON DRACAEA AVE, EUCALYPTUS AVE, IRONWOOD AVE, KITCHING ST, SANDY GLADE AVE, AND ELSWORTH ST; NON-INFRASTRUCTURE INCLUDES BIKE/PED SAFETY CAMPAIGN & BIKE SAFETY CLASSES. TC USED TO MATCH ATP	$1,640
RIVERSIDE	LOCAL HIGHWAY	RIV140851	3NL04	0	IN WESTERN RIVERSIDE CO. IN THE CITY OF PERRIS – PERRIS VALLEY STORM DRAIN CHANNEL TRAIL: NEW 15-FT WIDE 4.32 MILES OF CONCRETE MULTI-USE TRAIL PARALLEL TO PERRIS VALLEY STORM DRAIN FROM NORTHERN CITY LIMITS TO SAN JACINTO RIVER TRAIL AT KABIAN REGIONAL PARK IN S.WEST CITY LIMITS, INCLUDES LANDSCAPING IRRIGATION, SIGNAGE, CHAIN LINK FENCE AND SPLIT RAIL PVC FENCE. TC USED TO MATCH ATP	$3,828
RIVERSIDE	LOCAL HIGHWAY	RIV140852	3NL04	0	IN WESTERN RIVERSIDE CO. IN THE CITY OF RIVERSIDE – DOWNTOWN & ADJOINING AREAS BICYCLE AND PED IMPROVEMENTS: 17 MILES OF BIKE LANES, 2,500 FT. OF CONNECTING SIDEWALKS, BIKE STATION AT METROLINK, CONNECTIVITY MAP KIOSKS, TWO NEW HAWK SIGNALS, BIKE STAGING AREA, BIKE SHARE TERMINAL, BIKE CORRALS, BIKE BLVD, PEDESTRIAN SIGNALS, WALKING PATH, ALL-WAY STOP CROSSWALK & NEW SIDEWALK.	$997

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
RIVERSIDE	LOCAL HIGHWAY	RIV140853	7120004	0	IN RIV CO FOR CO'S DPH-PROJECTS ARE CONSISTENT WTH 40 CFR PART 93.126 EXEMPT TABLES 2&TABLE 3 CAT-SPECIFIC ACTIVITIES WHICH DO NOT INVOLVE OR LEAD TO CON,SUCH AS: PLAN &TECH STUDIES,GRANTS FOR TRAINING&RESEARCH PROGRAMS,PLAN ACTIVITES CONDUCTED PUR TO TITLES 23 & 49 USC,FED-AID SYSTEMS REV,ENG TO ASSESS SOCIAL,ECONOMIC,&ENVIRONMENTAL AFFECTS OF THE PROPOSED ACTION OR ALTERNATIVE TO THAT ACTION	$1,350
RIVERSIDE	LOCAL HIGHWAY	RIV141202	3NL04	0	GROUPED PROJECTS FOR BICYCLE AND PEDESTRIAN FACILTIIES IN THE COUNTY OF RIVERSIDE/CITY OF HEMET: PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - BICYCLE AND PEDESTRIAN FACILITIES (BOTH MOTORIZED AND NON-MOTORIZED).	$3,936
RIVERSIDE	LOCAL HIGHWAY	RIV150901	3A04WT197	0	IN WESTERN RIVERSIDE COUNTY SOUTHEAST OF CORONA - (GAP CLOSURE) WIDEN TEMESCAL CYN ROAD FROM TWO TO FOUR LANES INCLUDING BUT NOT LIMITED TO CURB&GUTTER AND CURB RAMPS IN THREE SEGMENTS; SEGMENT 1:EL CERRITO RD TO TOM BARNES ST.(.7 MI) (SPLIT PROJ. RIV150901A) ; SEGMENT 2: DOS LAGOS DR TO PULSAR CT (.7 MI) (RIV150901); AND SEGMENT 3: DAWSON CYN RD TO NORTH .7 MILES (.7 MI) (RIV150901).	$23,470
RIVERSIDE	LOCAL HIGHWAY	RIV150901A	3A04WT197	0	IN WESTERN RIVERSIDE COUNTY SOUTHEAST OF CORONA - (GAP CLOSURE) WIDEN TEMESCAL CYN ROAD FROM TWO TO FOUR LANES INCLUDING BUT NOT LIMITED TO CURB&GUTTER AND CURB RAMPS IN SEGMENT 1: EL CERRITO RD TO TOM BARNES ST.(.7 MI) (SEGMENT 1 OF RIV150901 - NEW SPLIT PROJECT) (PA&ED ONLY).	$1,530
RIVERSIDE	LOCAL HIGHWAY	RIV151001	3A07031	0	IN EASTERN RIVERSIDE COUNTY FOR THE CITY OF INDIO - RECONSTRUCT AND IMPROVE HIGHWAY 111 FROM 760 FT WEST OF MADISON ST TO RUBIDOUX ST INCLUDING UPDATING ALL TRAFFIC SIGNALS AND UPDATE ALL SIDEWALKS, RAMPS AND DRIVEWAYS TO CURRENT ADA STANDARDS. WIDEN OF HIGHWAY 111 FROM 4 LANES (2 IN EACH DIR) TO 6 LANES (3 IN EACH DIR).	$10,920
RIVERSIDE	LOCAL HIGHWAY	RIV151102	RIV010206	0	IN WESTERN RIV CO. FOR CITY OF LAKE ELSINORE - CONSTRUCT/EXTEND CAMINO DEL NORTE FROM MAIN ST TO FRANKLIN ST 2 LNS (1 IN EA DIR), 8' SHOULDERS ON EACH SIDE, CLASS III BIKE LNS (650LF), ADD TURNING LNS & CONSTRUCT NEW TRAFFIC SIGNAL AT INTERSECTION OF CAMINO DEL NORTE & FRANKLIN ST. CONSTRUCT/EXTEND CYN ESTATES DR FROM EXISTING FRANKLIN ST TO NEW FRANKLIN ST 2 LNS (1 IN EA DIR), WITH NEW S/W (390LF) ON SOUTHERN SIDE OF CANYONE ESTATES DR.	$5,050
RIVERSIDE	LOCAL HIGHWAY	RIV151103	3160036	0	IN WESTERN RIVERSIDE COUNTY FOR THE CITY OF MORENO VALLEY - CONSTRUCT NEW BRIDGE (MINIMUM 2 LNS IN EA DIR) AND STREET IMPROVEMENTS ON INDIAN ST OVER PERRIS VALLEY STORM DRAIN LATERAL A FROM 150FT S/O SUPERIOR AVE TO S/S OF CHANNEL. IMPROVEMENTS INCLUDE: SIDEWALKS/BIKE LANES, ROADWAY APPROACHES, CHANNEL IMPROVEMENTS, UTILITY RELOCATIONS AND RELATED WORK.	$4,900
RIVERSIDE	LOCAL HIGHWAY	RIV151130	RRC0702	0	IN WESTERN RIVERSIDE COUNTY IN THE CITY OF RIVERSIDE JACKSON ST. GRADE SEPARATION: GRADE SEPARATE EXISTING JACKSON ST/BNSF RAIL CROSSING BY CONSTRUCTING A 4-LN (2 LNS IN EA DIR) NON CAPACITY ENHANCING UNDERPASS ON JACKSON ST BTWN INDIANA AVE & 200 FT S/O SAGUARO RD (PA&ED ONLY).	$1,500
RIVERSIDE	LOCAL HIGHWAY	RIV151131	3G01G07	0	IN WESTERN RIVERSIDE COUNTY IN THE CITY OF RIVERSIDE - SPRUCE ST GRADE SEPARATION: GRADE SEPARATE EXISTING SPRUCE ST/BNSF RAIL CROSSING BY CONSTRUCTING A 4-LN (2 LNS IN EA DIR) NON-CAPACITY ENHANCING UNDERPASS ON SPRUCE ST BTWN SR91 EB OFF RAMP AND 800 FT E/O KANSAS ST (PA&ED ONLY).	$1,500
RIVERSIDE	LOCAL HIGHWAY	RIV151132	3NL04	0	GROUPED PROJECTS FOR BICYCLE AND PEDESTRIAN FACILITIES - NON - MOTORIZED - PROJECTS CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - BICYCLE AND PEDESTRIAN FACILITIES (BOTH MOTORIZED AND NON-MOTORIZED).	$3,345
RIVERSIDE	LOCAL HIGHWAY	RIV151202	3ITS07	0	IN WESTERN RIVERSIDE COUNTY IN THE CITY OF MORENO VALLEY - DESIGN AND CONSTRUCTION OF ITS, INCLUDING AN ETHERNET FIBER-OPTIC BACKBONE SYSTEM, CCTV CAMERAS AT 26 KEY INTERSECTIONS, AND NEW TRAFFIC SIGNAL CONTROLLERS AT EXISTING 43 SIGNALIZED INTERSECTIONS (CMAQ PM 2.5 BENEFITS .21 KG/DAY)	$2,400
RIVERSIDE	LOCAL HIGHWAY	RIV151203	7120006	0	IN WESTERN RIVERSIDE COUNTY IN THE CITY OF MORENO VALLEY - INSTALL THREE DYNAMIC MESSAGE SIGNS ALONG ARTERIAL ROUTES APPROACHING INTERSTATE 215 AND STATE ROUTE 60. SELECTED LOCATION: PERRIS BLVD SOUTH OF CACTUS AVE, ALESSANDRO BLVD EAST OF FREDERICK AND CACTUS AVE EAST OF FREDERICK.	$451
RIVERSIDE	LOCAL HIGHWAY	RIV151209	3NL04	0	IN WESTERN RIVERSIDE COUNTY IN THE CITY OF RIVERSIDE - INSTALL UP TO FOUR BICYCLE STATIONS AND PROVIDE FORTY BICYCLES, TEN AT EACH STATION, TO IMPLEMENT A BIKE SHARE PROGRAM IN THE VICINITY OF DOWNTOWN RIVERSIDE, RIVERSIDE METROLINK STATION AND UNIVERSITY OF CALIFORNIA IN RIVERSIDE.	$303

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
RIVERSIDE	LOCAL HIGHWAY	RIV151210	3NL04	0	IN WESTERN RIVERSIDE COUNTY FOR THE COUNTY OF RIVERSIDE - CONSTRUCTION OF A 5.2 MILE MULTI-MODAL URBAN TRAIL ALONG THE SALT CREEK FLOOD CONTROL CHANNEL IN THE CITIES OF HEMET AND MENIFEE. THE MULTI-MODAL TRAIL WILL INCLUDE A 14 FT WIDE CLASS I BIKEWAY AND 5 FT WIDE DECOMPOSED GRANITE PEDESTRIAL TRAIL. TOLL CREDITS $584K USED FOR CON IN FY17/18.	$6,405
RIVERSIDE	LOCAL HIGHWAY	RIV151213	3NL04	0	IN WESTERN RIVERSIDE COUNTY IN THE CITY OF WILDOMAR - WIDENING (NON-CAPACITY) OF GRAND AVE (CLINTON KEITH RD TO DAVID BROWN MIDDLE SCHOOL) TO ACCOMODATE A CLASS II BIKE LANE AND MINIMAL WORK TO INCORPORATE CLASS II/III BIKE LANES ON CLINTON KEITH RD FROM GRAND AVE TO GEORGE AVE. IMPROVEMENTS INCLUDE A TOTAL OF 7,300 LF OF NEW BIKE LANES (PM 2.5 BENEFITS).	$951
RIVERSIDE	LOCAL HIGHWAY	RIV151214	3NL04	0	IN WESTERN RIVERSIDE COUNTY IN THE CITY OF WILDOMAR - WIDENING OF GRAND AVE (CORYDON RD TO DAVID BROWN MIDDLE SCHOOL) TO INCLUDE A CLASS II BIKE LANES. IMPROVEMENTS INCLUDE A TOTAL OF 12,000 LF OF NEW BIKE LANES	$1,019
RIVERSIDE	LOCAL HIGHWAY	RIV151216	3AL304	0	IN WESTERN RIVERSIDE COUNTY IN THE CITY OF RIVERSIDE - WIDENING OF MAGNOLIA AVENUE WITHIN EXISTING R/W FROM 4 TO 6 LANES (2 EA DIR TO 3 EA DIR) FROM BUCHANAN ST TO BANBURY DRIVE.	$7,901
RIVERSIDE	LOCAL HIGHWAY	RIV151217	3A07057	0	IN EASTERN RIVERSIDE COUNTY IN THE CITY OF COACHELLA - WIDENING OF AVENUE 48 FROM 2 TO 6 LANES (1 LN EA DIR TO 3 LNS EA DIR) FROM JACKSON RD TO VAN BUREN ST INCLUDING TRAFFIC SIGNAL MODIFICATIONS, STREET LIGHTING, DRAINAGE IMPROVEMENTS INCLUDING SIDEWALK AND BICYCLE LANES AND LANDSCAPING	$3,600
RIVERSIDE	LOCAL HIGHWAY	RIV160401	REG0704	0	IN EASTERN RIVERSIDE COUNTY NEAR THE CITY OF PALM SPRINGS - COMPOSITION AND PRINTING OF PALM SPRINGS OHV TRAIL MAP. (PROJECT #RTM-15-011)	$19
RIVERSIDE	LOCAL HIGHWAY	RIV160402	3NL04	0	GROUPED PROJECTS FOR BICYCLE AND PEDESTRIAN FACILITIES FUNDED WITH ATP: PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - BICYCLE AND PEDESTRIAN FACILITIES (BOTH MOTORIZED AND NON-MOTORIZED). TC UTILIZATION FOR MORENO VALLEY FOR FY16/17, FY17/18, FY18/19.	$2,059
RIVERSIDE	LOCAL HIGHWAY	RIV160403	3NL04	0	IN WESTERN RIVERSIDE COUNTY FOR THE CITY OF SAN JACINTO - INSTALLATION OF APPROX. 36,900 LF OF CLASS II AND III BIKE LANES, APPROX 12,900 LF OF SIDEWALK, PEDESTRIAN RAMPS, FOUR-WAY STOPS, AND TRAFFIC SIGNAL.	$656
RIVERSIDE	LOCAL HIGHWAY	RIV160404	3NL04	0	IN WESTERN RIVERSIDE COUNTY FOR THE CITY OF RIVERSIDE - CITYWIDE BIKE AND PEDESTRIAN IMPROVEMENTS INCLUDING: INSTALL OF 5.5 MI OF CLASS II BIKE LANES ON CENTRAL AVE; 2.4 MI OF CYCLE TRACKS ON WATKINS DR AND CANYON CREST; SHARROW PAVEMENT MARKINGS AROUND FAIRMOUNT PARK; 20 BIKE RACKS THROUGHOUT DOWNTOWN AREA; & HAWK SIGNALS AT 3 UNCONTROLLED CROSSWALKS.	$1,249
RIVERSIDE	LOCAL HIGHWAY	RIV160405	3161L005	0	IN WESTERN RIVERSIDE COUNTY FOR THE CITY OF CORONA - MAGNOLIA AVE BRIDGE WIDENING FROM 4 TO 6 LANES FROM EL CAMINO AVE TO 1000 FT E/O ALL AMERICAN WY, INCLUDING THE WIDENING OVER THE TEMESCAL CHANNEL; PROJECT TO INCLUDE CONSTRUCTION OF MISSING SIDEWALK, BIKE LANES, ADA COMPLIANT RAMPS, AND DECORATIVE LANDSCAPING.	$500
RIVERSIDE	LOCAL HIGHWAY	RIV160501	3NL04	0	GROUPED PROJECTS FOR BICYCLE AND PEDESTRIAN FACILITIES FUNDED WITH ATP: PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - BICYCLE AND PEDESTRIAN FACILITIES (BOTH MOTORIZED AND NON-MOTORIZED).	$3,032
RIVERSIDE	LOCAL HIGHWAY	RIV160502	3NL04	0	IN RIVERSIDE COUNTY IN THE PALO VERDE AREA NEAR BLYTHE - 3RD PLACE SIDEWALK AND ROADWAY SAFETY IMPROVEMENTS INCLUDES CONSTRUCTION OF APPROX. 1,500 LF OF CONCRETE SIDEWALK, CURB & GUTTER, PAVEMENT IMPROVEMENTS, ADA COMPLIANT CURB RAMPS, DRIVEWAY APPROACHES, FLASHING BEACONS, SIGNS, MARKINGS & OTHER INCIDENTAL ITEMS TO IMPROVE SAFETY.	$871
RIVERSIDE	LOCAL HIGHWAY	RIV160503	3NL04	0	IN WESTERN RIVERSIDE COUNTY FOR THE CITY OF BANNING - CONSTRUCTION OF NEW BICYCLE AND SRTS IMPROVEMENTS TO PROVIDE NEW CLASS II AND CLASS III BIKE LANES AND PED FACILITIES ALONG HIGHLAND SPRINGS, 8TH ST, AND RAMSEY ST. TC UTILIZATION FOR FY16/17 AND FY17/18.	$1,082
RIVERSIDE	LOCAL HIGHWAY	RIV160504	3NL04	0	IN WESTERN RIVERSIDE COUNTY FOR THE CITY OF JURUPA VALLEY - SRTS PROJECT TO PROVIDE CURB, GUTTER, SIDEWALK, AND DIRT TRAILS ALONG MARTIN ST, 48TH ST, AND TROTH ST, INCLUDING LED CROSSWALK FLASHERS AT THE MARTIN/BELLEGRAVE INTERSECTION AND CURB BUMP OUTS AT THE MARTIN ST INTERSECTIONS.	$1,467
RIVERSIDE	LOCAL HIGHWAY	RIV160505	3NL04	0	IN WESTERN RIVERSIDE COUNTY FOR THE CITY OF WILDOMAR - CONSTRUCTION OF 3.7 MILE MULTI-USE TRAIL ALONG GRAND AVE FROM CORYDON RD TO CLINTON KEITH AVE.	$1,541

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
RIVERSIDE	LOCAL HIGHWAY	RIV160901	3161L001	0	IN EASTERN RIVERSIDE COUNTY IN THE CITY OF LA QUINTA - WIDEN AVENUE 50 FROM WASHINTON ST TO PARK AVE- WB INCREASE FROM 1 TO 2 LANES; EB EXISTING 2 LANES. PROJECT TO INSTALL (.3 MI) SIDEWALK AND CLASS II BIKE LANES. TO INCLUDE REPLACEMENT OF AN EXISTING LOW WATER CROSSING WITH A BRIDGE (BRIDGE NO. 00L0091) AND NECESSARY SLOPE AND CHANNEL SCOUR PROTECTION MEASURES.	$15,224
RIVERSIDE	LOCAL HIGHWAY	RIV160902	3A01WT196	0	IN LAKE ELSINORE - CONS OF A NEW 4-LANE DIVIDED ROADWAY, REALIGNING EXISTING TEMESCAL CANYON ROAD AND REPLACE EXISTING 2-LANE UNIMPROVED TEMESCAL CANYON ROAD FROM LAKE STREET TO 650 FT EASTERLY OF CITY'S WESTERLY BOUNDARY. SEGMENT OF THIS REALIGNED ROAD INCLUDES A 706' SECTION THAT HAS A 375' BRIDGE FUNDED BY HBP LISTED SEPARATELY UNDER RIV111203.	$5,750
RIVERSIDE	LOCAL HIGHWAY	RIV170130	3AL304	0	IN WESTERN RIVERSIDE COUNTY IN MARCH JPA AREA - CONSTRUCT NEW EXTENSION OF VAN BUREN BLVD FROM MARCH FIELD AIR MUSEUM TO NANDINA AVE WITH 4 LANE ARTERIAL WITH CENTER TURN MEDIAN.	$8,800
RIVERSIDE	LOCAL HIGHWAY	RIV171202	2016A319	0	IN THE CITY OF EASTVALE: BICYCLE SAFETY ENHANCEMENT ON 65TH STREET FROM HAMNER AVE AND ARCHIBALD AVE - INSTALLATION OF ROAD DIET FROM 4 TO 2 LANES WITH PROTECTED CLASS IV BIKE LANES (10,500 LF).	$414
RIVERSIDE	LOCAL HIGHWAY	RIV171203	3NL04	0	IN THE CITY OF MORENO VALLEY: GENTIAN AVE FROM KITCHING ST TO LASSELLE STREET INSTALLATION OF APPROX. 1/2 MILE OF CLASS II BIKE LANE. EUCALYPTUS AVE FROM ELSWORTH ST TO FREDERICK ST INSTALLATION OF APPROX. 1/2 MILE OF CLASS II BIKE LANE.	$70
RIVERSIDE	LOCAL HIGHWAY	RIV171204	3NL04	0	IN THE CITY OF BEAUMONT: 8TH STREET BIKE LANE AND SIDEWALK IMPROVEMENTS BETWEEN PENNSYVANIA AVE AND XENIA AVE APPROX. 6,800 LINEAR FEET OF SIDEWALK AND CLASS III BIKE LANES ALONG 8TH ST.	$322
RIVERSIDE	LOCAL HIGHWAY	RIV171205	3NL04	0	IN THE CITY OF LAKE ELSINORE: INSTALLATION OF MISSING LINK SIDEWALKS ON CHANEY STREET FROM W. FLINT ST TO W. SUMNER AVE APPROX. 1,800 LF; ON W. SUMNER AVE, MOHR ST AND DAVID ST BETWEEN CHANEY ST AND W. LAKESHORE DR APPROX. 910 LF; AND ON W. LAKESHORE DR BETWEEN MACHADO ST AND WISE ST APPROX. 1,350 LF.	$736
RIVERSIDE	LOCAL HIGHWAY	RIV180103	2016A319	0	IN WESTERN RIV CO IN THE CITY OF BANNING - CONSTRUCT SUN LAKES BLVD EASTERLY EXTENSION (APPROX 1.1 MILES) FROM HIGHLAND HOME RD TO LINCOLN ST AND SUNSET AVE, INCLUDING 4 LANES (2 LANES EACH DIRECTION), RAISED MEDIAN, AND CONSTRUCTION OF TWO BRIDGES.	$1,250
RIVERSIDE	LOCAL HIGHWAY	RIV180105	3G01G26	0	IN WESTERN RIV CO IN THE CITY OF BEAUMONT - GRADE SEPERATION UNDER CROSSING AT CALIFORNIA AVE UPRR, INCLUDING WIDENING OF CALIFORNIA AVE FROM 1ST ST TO 6TH ST FROM 2 TO 4 LANES.	$36,000
RIVERSIDE	LOCAL HIGHWAY	RIV180106	3A01CV091	0	IN COACHELLA VALLEY FOR CITY OF CATHEDRAL CITY - WIDENING OF VARNER ROAD FROM 2 TO 4 LANES (2 LANES EA DIRECTION) WITH CENTER MEDIAN FROM DATE PALM DR TO BOB HOPE DR.	$14,300
RIVERSIDE	LOCAL HIGHWAY	RIV180107	3A01CV089	0	IN COACHELLA VALLEY FOR CITY OF CATHEDRAL CITY - WIDENING OF VARNER ROAD FROM 2 TO 6 LANES (3 LANES EA DIRECTION) WITH CENTER MEDIAN AND BOX CULVERTS AT LONGS CREEK CROSSING.	$21,135
RIVERSIDE	LOCAL HIGHWAY	RIV180109	2016A319	0	IN WESTERN RIV CO FOR THE CITY OF CORONA - ATMS PHASE 3 PROJECT TO INCLUDE UPDATE OF EXISTING ATMS MASTER PLAN, ENHANCE EXISTING SYSTEM WITH ADDITION OF ITS ELEMENTS TO GREEN RIVER RD, EAST FOOTHILL BLVD, RIVER RD, AND OTHER IN-FILL LOCATIONS. ITS ELEMENTS TO INCLUDE COMMUNICATIONS INFRASTRUCTURE, ADVANCE TRAFFIC CONTROLLER UPGRADES, TRAFFIC MONITORING CAMERAS, UPGRADED VEHICLE DETECTION SYSTEMS AND COUNT STATIONS, ENTIRE CITY TRAFFIC NETWORK WILL BE UPDATED W/ NEW TRAFFIC SIGNAL SYNC. (PAED ONLY).	$250
RIVERSIDE	LOCAL HIGHWAY	RIV180110	3160012	0	IN WESTERN RIV CO IN THE CITY OF CORONA - 2-LANE GRADE SEPARATION (NON CAPACITY) AT RADIO RD BNSF RAILROAD SB EAST SUB LINE.	$30,000
RIVERSIDE	LOCAL HIGHWAY	RIV180111	3120036	0	IN WESTERN RIV CO IN THE CITY OF JURUPA VALLEY - ON JURUPA ROAD, CONSTRUCT A 2 LANE GRADE SEPARATION, CROSSING THE UPRR AND VAN BUREN BLVD WITH RECONSTRUCTED CONNECTION TO VAN BUREN BLVD.	$108,400
RIVERSIDE	LOCAL HIGHWAY	RIV180114	3A01WT124	0	IN WESTERN RIV CO IN THE CITY OF EASTVALE - WIDENING OF ARCHIBALD AVE FROM 2 TO 4 LANES (2-LANES EA DIR) BETWEEN SAN BERNARDINO COUNTY LINE TO 65TH ST (APPROX 3,300 LF).	$36,308

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
RIVERSIDE	LOCAL HIGHWAY	RIV180115	3A01WT158	0	IN WESTERN RIV CO IN THE CITY OF EASTVALE - WIDENING OF HAMNER AVE FROM 2 TO 6 LANES (3-LANES EA DIR) BETWEEN CANTU GALLEANO RANCH RD AND LIMONITE AVE (APPROX 2 MILES).	$14,542
RIVERSIDE	LOCAL HIGHWAY	RIV180116	3120002	0	IN WESTERN RIV CO IN THE CITY OF EASTVALE - WIDENING OF LIMONITE AVE FROM 4 TO 6 LANES (3-LANES EA DIR) BETWEEN ARCHIBALD AVE AND HAMNER AVE (APPROX 2 MILES).	$8,034
RIVERSIDE	LOCAL HIGHWAY	RIV180117	3A04WT186	0	IN WESTERN RIV CO IN THE CITY OF EASTVALE - WIDENING OF SCHLEISMAN RD FROM 2 TO 4 LANES (2-LANES EA DIR) BETWEEN THE SAN BERNARDINO COUNTY LINE TO HARRISON AVE (APPROX 1.5 MILES).	$22,643
RIVERSIDE	LOCAL HIGHWAY	RIV180118	3A04WT188	0	IN WESTERN RIV CO IN THE CITY OF EASTVALE - WIDENING OF SCHLEISMAN RD FROM 2 TO 4 LANES (2-LANES EA DIR) BETWEEN SUMNER AVE AND HAMNER AVE (APPROX 1.1 MILES).	$9,782
RIVERSIDE	LOCAL HIGHWAY	RIV180119	2016A319	0	IN WESTERN RIV CO INT HE MARCH JPA - CONSTRUCT EXTENSION OF 2-LANE LOCAL CONNECTOR ON BARTON DR FROM CAMINO DEL SOL TO GROVE COMMUNITY DR.	$4,000
RIVERSIDE	LOCAL HIGHWAY	RIV180120	2016A319	0	IN WESTERN RIV CO IN THE MARCH JPA - CONSTRUCT EXTENSION OF CACTUS AVE FROM MERIDIAN PKWY TO BARTON DR WITH 4-LANE ARTERIAL WITH CENTER MEDIAN.	$6,800
RIVERSIDE	LOCAL HIGHWAY	RIV180121	2016A319	0	IN WESTERN RIV CO IN THE MARCH JPA - CONSTRUCT EXTENSION OF SAN GORGONIO DR FROM ALESSANDRO BLVD TO CACTUS AVE WITH 4-LANE ARTERIAL WITH CENTER MEDIAN.	$4,000
RIVERSIDE	LOCAL HIGHWAY	RIV180122	3A01WT049A	0	IN WESTERN RIV CO IN THE CITY OF MORENO VALLEY - WIDEN ALESSANDRO FROM I215 TO OLD 215 FROM 4 TO 6 THROUGH LANES. THE PROJECT WILL MODIFY THE INTERSECTION OF OLD 215 AND ALESSANDRO TO REMOVE THE EXISTING “PORK CHOP” ISLANDS, RELOCATE THE TRAFFIC SIGNALS, INSTALL BUS PAD AT THE NORTHWEST CORNER, CLOSE SIDEWALK GAP ON NORTH SIDE, INSTALL BIKE LANES, WIDEN 300 FEET OF ROADWAY ON APPROACH TO I-215, AND MODIFY THE I-215 RAMP SIGNAL TO PROVIDE THREE CONTINUOUS LANES THROUGH THE PROJECT LIMITS.	$478
RIVERSIDE	LOCAL HIGHWAY	RIV180123	3A01WT049A	0	IN WESTERN RIV CO IN THE CITY OF MORENO VALLEY - WIDEN ALESSANDRO FROM OLD 215 TO FREDERICK STREET FROM 2 TO 3 CONTINUOUS THROUGH LANES IN THE WESTBOUND DIRECTION, FOR A TOTAL OF 6 THROUGH LANES IN THIS SEGMENT. PROJECT WILL ADD ONE CONTINUOUS WESTBOUND LANE, REPLACE EXISTING SIDEWALKS AS NEEDED, CONSTRUCT RAISED MEDIANS, MODIFY SIGNALS, UPGRADE ADA RAMPS, INSTALL BIKE LANES.	$260
RIVERSIDE	LOCAL HIGHWAY	RIV180124	3A01WT050C	0	IN WESTERN RIV CO IN THE CITY OF MORENO VALLEY - WIDEN ALESSANDRO BOULEVARD FROM 300 FEET EAST OF KITCHING STREET TO LASSELLE STREET FROM 2 TO 6 THROUGH LANES – 3 IN EACH DIRECTION, INCLUDING ADDITION OF SIDEWALKS, ADA RAMPS, RAISED MEDIANS, BIKE LANES, AND UPGRADE TRAFFIC SIGNALS.	$500
RIVERSIDE	LOCAL HIGHWAY	RIV180125	3A01WT050C	0	IN WESTERN RIV CO IN THE CITY OF MORENO VALLEY - WIDEN ALESSANDRO BOULEVARD FROM LASSELLE STREET TO NASON STREET FROM 2 TO 6 THROUGH LANES – 3 IN EACH DIRECTION. INCLUDING ADDITION OF SIDEWALKS, ADA RAMPS, RAISED MEDIANS, BIKE LANES, AND UPGRADE TRAFFIC SIGNALS.	$1,000
RIVERSIDE	LOCAL HIGHWAY	RIV180126A	3A01WT133	0	IN WESTERN RIV CO IN THE CITY OF WILDOMAR - PH 1: WIDEN BUNDY CANYON RD FROM 2 TO 4 LANES FROM I-15 TO MURRIETA RD. PH 2 IN RIV180126B.	$26,115
RIVERSIDE	LOCAL HIGHWAY	RIV180126B	3A01WT134	0	IN WESTERN RIV CO IN THE CITY OF WILDOMAR - PH 2: WIDEN BUNDY CANYON RD FROM 2 TO 4 LANES FROM MISSION TRAIL TO I-15. PH 1 IN RIV180126A.	$5,189
RIVERSIDE	LOCAL HIGHWAY	RIV180127	3A01WT071	0	IN WESTERN RIV CO IN THE CITY OF WILDOMAR - WIDENENING OF CLINTON KEITH RD FROM ARYA RD TO COPPER CRAFT FROM 3 TO 6 LANES (3 LNS EA DIRECTION).	$12,156
RIVERSIDE	LOCAL HIGHWAY	RIV180128	2016A319	0	IN WESTERN RIV CO IN THE CITY OF WILDOMAR - EXTENSION OF 2-LANE LA ESTRELLA RD FROM GEORGE AVE TO SUSAN DR (0.10 MILES)	$1,153

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
RIVERSIDE	LOCAL HIGHWAY	RIV180129	2016A319	0	IN WESTERN RIV CO IN THE CITY OF BEAUMONT - GRADE SEPERATION UNDER CROSSING AT PENNSYLVANIA AVE AND UPRR, INCLUDING WIDENING OF PENNSYLVANIA AVE FROM 1ST ST TO 6TH ST FROM 2 TO 4 LANES TO INCLUDE SIDEWALK IMPROVEMENTS (APPROX. 4,435 LF) AND TRAFFIC SIGNALIZATION.	$2,200
RIVERSIDE	LOCAL HIGHWAY	RIV180132	3NL04	0	IN WESTERN RIV CO IN THE CITY OF TEMECULA - DESIGN AND CONSTRUCTION OF CLASS I MULTI-USE TRAIL UNDERCRIOSSING AT MARGARITA RD ALONG SANTA GERTRUDIS CREEK.	$1,849
RIVERSIDE	LOCAL HIGHWAY	RIV180133	RIV180133	0	IN WESTERN RIV CO IN THE CITY OF MENIFEE - BRADLEY RD BRIDGE REPLACEMENT OF 400-FT, 4-LANES OVER EXISTING SALT CREEK CHANNEL FROM RIO VISTA DR TO POTMAC DR.	$10,930
RIVERSIDE	LOCAL HIGHWAY	RIV180134	3160042	0	IN WESTERN RIV CO IN THE CITY OF TEMECULA - YNEZ RD WIDENING FROM 2 TO 4-LANES FROM RANCHO VISTA RD TO LA PAZ ST, INCLUDING CURB & GUTTER, SIDEWALK, ADA IMPROVEMENTS, AND LANDSCAPE MEDIAN.	$419
RIVERSIDE	LOCAL HIGHWAY	RIV180135	3A01WT222A	0	IN WESTERN RIV CO IN THE CITY OF TEMECULA - DIAZ RD WIDENING FROM 2 TO 4-LANES FROM WINCHESTER RD TO RANCHO CALIFORNIA RD (AS PART OF WESTERN BYPASS CORRIDOR)	$6,500
RIVERSIDE	LOCAL HIGHWAY	RIV180136	RIV180136	0	IN WESTERN RIV CO IN THE CITY OF MENIFEE - MURRIETA RD WIDENING FROM 2 TO 4-LANES FROM PARK CITY AVE TO CAMINO DEL SOL SUR OVER (400-FT), OVER SALT CREEK CHANNEL, INCLUDING A TRAFFIC SIGNAL AT MURRIETA RD & VALLEY BLVD.	$12,500
RIVERSIDE	LOCAL HIGHWAY	RIV180137	RIV180137	0	IN WESTERN RIV CO IN THE CITY OF MENIFEE - MURRIETA RD WIDENING FROM 2 TO 4-LANES FROM HOLLAND RD TO SCOTT RD (2-MILES).	$8,100
RIVERSIDE	LOCAL HIGHWAY	RIV180138	RIV180138	0	IN WESTERN RIV CO IN THE CITY OF MENIFEE - MURRIETA RD AND HOLLAND RD INTERSECTION REALIGNMNET TO REPLACE A TWO-WAY INTERSECTION WITH STOP STOPS AND OFFSET AND SIGNALIZE THE INTERSTCTION, INSTALL STREET LIGHTS, ADA RAMPS AND SIDEWALKS. PROJECT TO INCLUDE WIDENING FROM SURREY RD TO 600-FT S/O HOLLAND RD FROM 2 TO 4-LANES.	$6,253
RIVERSIDE	LOCAL HIGHWAY	RIV180139	3A04WT177	0	IN WESTERN RIV CO IN THE CITY OF MENIFEE - NEWPORT RD WIDENING FROM MURRIETA RD TO BRADLEY RD (1-MILE) TO INCLUDE A 3RD LANE EB AND SAFETY MEDIANS, STREET LIGHTS, MODIFY TRAFFIC SIGNALS, CONSTRUCT SIDEWALKS (3,440LF ON SOUTH SIDE) AND ADA RAMPS, CLASS II BIKE LANES (3,440LF ON SOUTH SIDE), AND RELOCATE EXISTING POWER POLES.	$1,800
RIVERSIDE	LOCAL HIGHWAY	RIV180140	3A01WT207	0	IN WETERN RIV CO IN THE CITY OF MENIFEE - SCOTT RD/BUNDY CANYON RD WIDENING FROM 2 TO 4-LANES FROM HAUN RD TO MURRIETA RD (APPROX 1.78-MILES), RELOCATE EXISTING POWER POLES, ACQUIRE ADDITIONAL RIGHT-OF-WAY, CONSTRUCT DRAINAGE IMPROVEMENTS.	$27,580
RIVERSIDE	LOCAL HIGHWAY	RIV180141	2016A319	0	IN WESTERN RIV CO IN THE CITY OF MENIFEE - WIDENING OF VALLEY BLVD FROM 2 TO 4-LANES (2-LNS EA DIRECTION) FROM MCCALL BLVD TO HONEY RUN RD AND GAP CLOSURE ON VALLEY BLVD FROM HONEY RUN RD TO MURRIETA RD (0 TO 4 LANES) INCLUDING INSTALL OF TRAFFIC SIGNALS, NEW LANE STRIPING, CURB AND GUTTER, CLASS II BIKE LANES (9,000LF), SIDEWALKS (6,300LF), AND ADA RAMPS.	$391
RIVERSIDE	LOCAL HIGHWAY	RIV180145	2016A319	0	IN THE COACHELLA VALLEY IN THE CITY OF COACHELLA: WIDEN DILLON RD FROM 2 TO 6 LANES, FROM CABAZON RD TO SR-86 I/C, INCLUDING RECONSTRUCTION OF BRIDGE (#56C0318) OVER COACHELLA VALLEY STORMWATER CHANNEL, SIDEWALK, MEDIANS AND BIKE LANES.	$4,800
RIVERSIDE	LOCAL HIGHWAY	RIV180401	3AL204	0	IN EASTERN RIVERSIDE COUNTY IN THE CITY OF LA QUINTA – ON AVENUE 50 OVER LA QUINTA EVACUATION CHANNEL, REPLACE 3-LANE LOW WATER CROSSING WITH 4-LANE BRIDGE (BRIDGE NO. 00L0091).	$14,020
RIVERSIDE	LOCAL HIGHWAY	RIV181002	3NL04	0	IN WESTERN RIV COUNTY, IN THE CITY OF MORENO VALLEY – JUAN BAUTISTA DE ANZA GAP CLOSURE: CONSTRUCT A 2-MILE BICYCLE AND PEDESTRIAN PATH SEGMENT (1-MILE CLASS II, 1-MILE SIDEWALK) OF JUAN BAUTISTA DE ANZA TRAIL THAT CONNECTS TO AN EXISTING SEGMENT OF THE DE ANZA TRAIL, LAKE PERRIS STATE PARK, RANCHO VERDE HS, AND THE CITY OF PERRIS' TRAIL NETWORK. (ATP-3 AUG STATE) (STATE-ONLY FUNDING)	$3,149
RIVERSIDE	LOCAL HIGHWAY	RIV181003	2016A319	0	IN RIV CO, CITY OF LA QUINTA- LA QUINTA VILLAGE COMPLETE STREETS-A ROAD DIET:INSTALL BIKE LNS (CLASS II-3,796LF,CLASS III-550LF) ON CALLE TAMPICO (EISENHOWER DR - WASHINGTON ST.), EISENHOWER (CALLE TAMPICO - CALLE SINALOA), CALLE SINALOA/AVE. 52 (EISENHOWER DR. - DESERT CLUB DRIVE); REDUCE TRAVEL LNS FROM 4 TO 2;INSTALL 5 ROUNDABOUTS,MIDBLK XINGS W/ FLASH BEACONS. (ATP-3 AUG STATE) (STATE-ONLY FUNDS)	$9,530

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
RIVERSIDE	LOCAL HIGHWAY	RIV181004	3NL04	0	IN COACHELLA VALLEY IN THE CITY OF DESERT HOT SPRINGS – PALM DR BIKE AND PED. IMPROVEMENTS: CONSTRUCT 2-MI CLASS II BIKE LANES & .65-MI SIDEWALK GAP CLOSURES ALONG PALM DR B/W CAMINO AVENTURA TO TWO BUNCH PALMS TR; INCL BUFFERED BIKE LANE STRIPING, NARROWED TRAFFIC LANES, ADA RAMPS, BUS WARNING SIGNS AND LIGHTS, REDUCED SPEED LIMIT, STREET LIGHTS, & RAISED MEDIAN (ATP-3 AUGMENTATION-STATEWIDE)	$965
RIVERSIDE	LOCAL HIGHWAY	RIV181005	3NL04	0	IN RIVERSIDE COUNTY IN THE AREAS OF BANNING/CABAZON AND EASTERN COACHELLA VALLEY (OASIS, THERMAL, NORTH SHORE, MECCA) – IMPLEMENTATION OF A COMPREHENSIVE SRTS PROGRAM, INCLUDING COMMUNITY TRAININGS FOR PEDESTRIAN/BIKE SAFETY, WALKABILITY WORKSHOPS, SAFETY CAMPAIGNS ON SCHOOL CAMPUS, INCREASED TARGETED ENFORCEMENT AND WALK/BIKE TO SCHOOL DAYS (ATP-3 AUGMENTATION).	$1,099
RIVERSIDE	LOCAL HIGHWAY	RIV181006	3NL04	0	IN WEST. RIV CO IN JURUPA VALLEY - PACIFIC AV SRTS & ROAD DIET: ON PACIFIC AV (B/W MISSION BLVD & 45TH)-COMPLETE SIDEWALKS (900 LF) ON WEST SIDE, NEW S/W (4,100 LF) ON EAST SIDE, CLASS II (4,100 LF EA DIR) BIKE LANES, ADD CURB EXTENSIONS AT INTERSECTIONS, ENHANCED CROSSWALKS, PED FLASHER AT PACIFIC AV & RUSTIC LN (NO REDUCTION OF LNS). (ATP-3 MPO)	$2,638
RIVERSIDE	LOCAL HIGHWAY	RIV181007	3NL04	0	IN WEST RIV CO IN UNINCORPORATED CABAZON – CABAZON SRTS SIDEWALK SAFETY IMPROVEMENTS: INSTALL 3,000 LF OF NEW S/W, CURB&GUTTER, PAVEMENT WIDENING, ADA CURB RAMPS, DRIVEWAY APPROACHES, SIGNS, MARKINGS ALONG THE EAST SIDE OF BROADWAY ST. (B/W CARMEN AVE & 400 FT. S/O MAIN ST) & ALONG THE S/S OF CARMEN AVE (B/W ALMOND ST & CABAZON ELEMENTARY) (ATP-3 AUG-STATEWIDE) (STATE-ONLY FUNDS)	$1,120
RIVERSIDE	LOCAL HIGHWAY	RIV181008	3NL04	0	IN COACHELLA VALLEY IN CITY OF INDIO – HERBERT HOOVER ELEM PED. IMPROVEMENTS: CONSTRUCT 5.5-MI OF SIDEWALK, CROSSWALKS AND ADA IMPROVEMENTS ALONG 14 SEGMENTS BOUNDED BY INDIO BLVD IN THE NE, MONROE ST TO THE WEST, AND REQUA AVE TO THE SOUTH AND DEGLET NOOR ST TO THE EAST TO CLOSE EXISTING SIDEWALK GAPS; INCL EDUCATIONAL OUTREACH TO STUDENTS & FAMILIES. (ATP-3 AUG STATE) TC UTILIZ FOR FY18, FY20.	$2,983
RIVERSIDE	LOCAL HIGHWAY	RIV181009	3NL04	0	IN WESTERN RIV CO, CITY OF PERRIS – PERRIS VALLEY STORM DRAIN CHANNEL TR PH 2: CONSTRUCT NEW 3.1-MILE MULTI-USE TRAIL EXTENSION PARALLEL TO THE PVSD, LOCATED SOUTH FROM NUEVO RD WITH A BRIDGE CROSSING THE METZ CHANNEL AND AT-GRADE CROSSING AT SAN JACINTO AVE, AN UNDERPASS BELOW THE I-215 LEADING TO THE SO PERRIS METROLINK STATION AT CASE RD. (ATP 3-AUG-STATE) TC UTILIZATION IN FY18, FY19, FY21.	$3,204
RIVERSIDE	LOCAL HIGHWAY	RIV181010	3NL04	0	IN CITY OF HEMET - HEMET VALLEY BIKEWAY CONX: INSTALL CLASS II (1,200 LF), III (10,500 LF) BIKE LNS, NEW S/W (4,000 LF) W/ ADA RAMPS, XING IMP., ON PALM BW ESPLANDE & JOHNSTN, WHITTIER BW PALM & GILBERT, JOHNSTN BW PALM & GILBERT, GILBERT BW WHITTIER & CHAMBERS, CHAMBERS BW GILBERT & STATE; BIKE STAGING W/ DETECTION, LOCKERS, REPAIR AREA; INCL OUTREACH. (ATP-3 AUG STATE) TC UTILIZ FOR FY19, FY20.	$2,438
RIVERSIDE	LOCAL HIGHWAY	RIV181011	7120004	0	IN WESTERN RIVERSIDE - RIVERSIDE COUNTY SAFE ROUTES TO SCHOOL PROGRAM: IMPLEMENTATION OF A COMPREHENSIVE SRTS PROGRAM IN THE CITY OF LAKE ELSINORE, INCLUDING COMMUNITY PED/BIKE SAFETY TRAINING, WALKABILITY WORKSHOPS, ON CAMPUS SAFETY CAMPAIGNS, & INCREASED TARGETED ENFORCEMENT AND WALK/BIKE TO SCHOOL DAYS, INCORPORATING SCAG'S GO HUMAN CAMPAIGN (ATP-3 AUG STATEWIDE SB1).	$625
RIVERSIDE	LOCAL HIGHWAY	RIV181012	3NL04	0	IN WESTERN RIVERSIDE COUNTY IN THE CITY OF RIVERSIDE - LA SIERRA NEIGHBORHOOD SIDEWALK IMP: INSTALLATION OF 1.28 MILE OF ADA-COMPLIANT SIDEWALK ON CARMINE ST, RICHMOND ST, NORWOOD AVE. FROM COLLEGE AVENUE TO SIERRA VISTA AVE., ON DOVERWOOD DR. FROM BUTLER DR. TO LA SIERRA AVE., ON A PORTION OF BUTLER DR. AND ON COLLEGE AVE FROM DOVERWOOD DR. TO NORWOOD AVE. (ATP-3 AUG STATEWIDE, SOF)	$1,215
RIVERSIDE	LOCAL HIGHWAY	RIV181050	3200L014	0	IN WESTERN RIV CO IN THE CITY OF EASTVALE - CONSTRUCT THE LIMONITE AVE GAP CLOSURE AND CONSTRUCT BRIDGE OVER CUCAMONGA CREEK INCLUDING CAPACITY ENHANCEMENT.	$9,690
RIVERSIDE	LOCAL HIGHWAY	RIV181110	3200L072	0	IN WESTERN RIVERSIDE COUNTY - CONSTRUCT 6 LANE ARTERIAL ON CLINTON KEITH ROAD FROM LEON RD TO SR-79.	$18,301
RIVERSIDE	LOCAL HIGHWAY	RIV181111	3200L015	0	IN THE CITY OF JURUPA VALLEY, WIDEN VAN BUREN BLVD FROM 4 TO 6 LANES FROM LIMONITE AVENUE TO SANTA ANA RIVER.	$7,000

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
RIVERSIDE	LOCAL HIGHWAY	RIV190623	3AL304	0	IN WESTERN RIVERSIDE COUNTY FOR THE CITY OF CALIMESA (JOINT PROJECT WITH CITY OF YUCAIPA) – ON COUNTY LINE RD B/W PARK AV AND BRYANT ST, CONSTRUCT 4 SINGLE-LANE AND 1 MULTI-LANE ROUNDABOUTS; AND IMPROVEMENTS TO STREET, PEDESTRIAN FACILITIES, AND BICYCLE FACILITIES. (PA/ED ONLY)	$10,050
RIVERSIDE	LOCAL HIGHWAY	RIV990727	RIV990727	0	IN PALM SPRINGS: WIDEN INDIAN CANYON DR FROM 2 TO 6 LANES (3 IN EACH DIRECTION), FROM UPRR OVERCROSSING TO GARNET AVE (HBRR#:56C0025).	$19,860
RIVERSIDE	STATE HIGHWAY	RIV010206	RIV010206	15	AT I-15/RR CYN RD IC & NEW I-15/FRANKLIN ST IC: WIDEN RR CYN RD UC FROM 7 TO 8 LNS (SUMMERHILL DR - MISSION TR), RCNSTCT NB EXIT/ENTRY RAMPS TO HOOK RAMP CNECTN TO GRAPE ST, WIDEN SB ENTRY RAMP FROM 1-3 LNS, WIDEN SHLDRS SB EXIT RAMP, WIDEN GRAPE ST TO CONST DEDICATED RT TN LN AT NB HOOK RAMP AND RR CYN RD, & CONS RAMP ACCEL/DECEL LNS AT RR CYN RD (PH I); CONS NEW I-15/FRANKLIN ST IC, CONST AUX LN	$78,294
RIVERSIDE	STATE HIGHWAY	RIV010206A	RIV010206	15	AT I-15/RR CYN RD IC: WIDEN RR CYN RD UC FROM 7 TO 8 LNS (SUMMERHILL DR - MISSION TR), EXT 2-LN NB RAMP TO GORE, CNSTCT NB EXIT/ENTRY RAMPS TO HOOK RAMP CNECTN TO GRAPE ST, WIDEN SB ENTRY RAMP FROM 1-3 LNS, WIDEN SHLDRS SB EXIT RAMP, WIDEN GRAPE ST TO CONST DEDICATED RT TN LN AT NB HOOK RAMP AND RR CYN RD, CONS RAMP ACCEL/DECEL LNS AT RR CYN RD & SPOT IMPRVNT REMOVE EX. OH SIGN AT PM 17.8 & INSTALL NEW OH SIGN AT PM 17.5 & 18.1 (PPNO 3004U).	$45,295
RIVERSIDE	STATE HIGHWAY	RIV010206B	RIV010206	15	AT I-15/FRANKLIN ST IC: CONS AUX LN SOUTH TO RR CYN RD, CONS AUX LN NORTH TO MAIN ST, WIDEN SB ON RAMP FROM MAIN ST FROM 1 TO 2 LNS, INSTALL NEW TRAFFIC SIGNALS AT THE MAIN ST RAMP INTERSECTION, CONS AUTO CENTER DR EXTENSION FROM OLD FRANKLIN ST OC TO FLINT ST AND EXTEND CANYON VIEW ESTATE-CAMINO DEL NORTE FROM OLD FRANKLIN ST TO EXISTING CAMINO DEL NORTE ABOUT 1800 FT S/O MAIN ST.	$67,999
RIVERSIDE	STATE HIGHWAY	RIV010208	RIV010208	15	AT I-15/CAJALCO RD IC NEAR CORONA: DESIGN, RECONST/REALIGN & WIDEN CAJALCO RD FROM 2 TO 6 THRU LNS FROM TEMESCAL CYN RD TO BEDFORD CYN RD, RECONST/WIDEN SB ENTRY FROM 1-2 LNS, SB EXIT FROM 2-5 LNS, NB ENTRY FROM 1-2 LNS, NB EXIT FROM 2-4 LNS, ADD AUX LNS BTWN NB ENTRY AND NB EXIT TO EL CERRITO RD AND BTWN SB ENTRY FROM EL CERRITO RD AND SB EXIT. ($840 TC FY 11/12 ENG & $600 TC FY 13/14 R/W) .	$74,199
RIVERSIDE	STATE HIGHWAY	RIV011232	RIV011232	215	AT I-215/SCOTT RD IC: RECONST/WIDEN FROM 2 - 6 LNS (4 THRU & 2 TURN) BTWN ANTELOPE RD & HAUN RD - RECONST/WIDEN RAMPS; NB ENTRY 1 TO 3 LNS; SB EXIT 2 TO 4 LNS; ADD NB EXIT LOOP RAMP (2 LNS) & SB ENTRY LOOP RAMP (3 LNS); ENTRY RAMPS INCLUDE HOV LN; RAMPS INCLUDE EXT. ACCEL/ DECEL LNS, ADD EXT. RT LNS (PROJECT SPLIT INTO 2 PHASES - SEE RIV011232A).	$58,573
RIVERSIDE	STATE HIGHWAY	RIV011233	RIV011233	15	AT I-15/LIMONITE AVE IC - RECONSTRUCT/WIDEN LIMONITE AVE FROM 4 TO 6 THROUGH LANES BETWEEN EASTVALE GATEWAY AND 475' E/O PATS RANCH RD, RECONST/WIDEN NB AND SB EXIT RAMPS FROM 3 TO 4 LANES, REPLACE NB AND SB ENTRY RAMPS WITH ENTRY LOOP RAMPS FROM 2 TO 3 LANES, ENTRY RAMPS INCLUDE HOV LANE, RAMPS INCLUDE EXTENDED ACCELERATION/DECELERATION LANES AND EXTENDED RIGHT TURN LANES (EA 0E150).	$67,837
RIVERSIDE	STATE HIGHWAY	RIV030901	RIV030901	10	ON I-10 IN EASTERN COACHELLA (AT 3.4 MILES E/O DILLON RD & 9.1 MILES W/O CACTUS CITY SRRA): CONSTRUCT NEW 6 THROUGH LANE AVENUE 50 IC (3 LANES EACH DIR. APPROX 600' N/O I-10 AND 1,100' S/O I-10), EB EXIT RAMP (3 LANES), WB EXIT RAMP (2 LANES), EB & WB ENTRY RAMPS (2 LANES), WB LOOP ENTRY RAMPS (2 LANES) & ADD ACC LN 3,800' WB DIR, WEST OF IC (EA: 45210)	$60,000
RIVERSIDE	STATE HIGHWAY	RIV031209	RIV031209	10	AT I-10/PORTOLA AVE (B/W MONTEREY IC & COOK IC): CONSTRUCT NEW 6 THRU LANE PORTOLA AVE IC FROM DINAH SHORE DR TO VARNER RD & RAMPS (EB EXIT 2 LNS, WB EXIT 3 LNS, EB & WB ENTRY 2 LNS, WB ENTRY LOOP RAMP 2 LNS, ENTRY INCL HOV LN, WIDENING INCLUDES BRIDGE OVER UPRR & RELOCATE/WIDEN VARNER 2 TO 4 LNS, ADD EB/WB AUX LNS (MONTEREY TO PORTOLA AND PORTOLA TO COOK), EXTEND 4TH WB LANE COOK TO PORTOLA (EA	$81,148
RIVERSIDE	STATE HIGHWAY	RIV031215	RIV031215	15	FRENCH VALLEY PKWY IC/ARTERIAL PHASES: PH II - CONSTRUCT 2 LN NB CD (N/O WINCHESTER IC ON-RAMPS TO JUST N/O RTE 15/215 JCT WITH CONNECTORS TO RTE 15 AND RTE 215 (I-215 PM: 8.43 TO 9.75); AND PH III - CONSTRUCT 6 LN OC (JEFFERSON TO YNEZ) & RAMPS, NB/SB AUX LN, CD LNS (1 LN NB & 3 LN SB) & MODIFY WINCHESTER RD IC (EA:43272) (PPNO. 0021K).	$218,840

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
RIVERSIDE	STATE HIGHWAY	RIV031218A	RIV031218	215	I-215/PLACENTIA AVE (PL) IC: CONS OF NEW ON/OFF RAMPS ON THE EAST & WEST SIDE, .3 MILES S/O PERRIS BLVD UNDRCRSG TO .5 MILES N/O OLEANDER AVE OVRCRSG. RELOCTN OF EAST FRNTGE RD 410 FT EAST, RMVE WEST FRNTGE RD CNCTN TO PL AVE, WIDEN PL BRDGE & OVRCRSG FRM 2 TO 6 LNS BTWN HARVILL AVE TO & INDIAN AVE, INSTALL HOV & RAMP METERING ON THE ON-RAMPS, INSTLL NEW TRAFFIC SIGNALS AT INDIAN AVE, EAST FRNTGE RD, RAMP INTRSCTNS (HARVILL ST) & ADVNCE FWY OH SIGNS AT SPOT LCATIONS AT PM R27.9, R, R30.7, R31.0, & R32.8.	$76,975
RIVERSIDE	STATE HIGHWAY	RIV041052	RIV041052	60	IN MORENO VALLEY AT SR-60/MORENO BEACH DR IC: MODIFY MORENO BEACH DR IC - WIDEN OC FROM 2 TO 6 THROUGH LANES, REALIGN/WIDEN RAMPS (WB EXIT 1 TO 2 LANES), ADD NEW WB ENTRY RAMP (2 LANES), ADD WB AUX LANE, AND INSTALL RELATED DRAINAGE AND ASSOCIATED WORK (EA: 32303).	$39,022
RIVERSIDE	STATE HIGHWAY	RIV050533	RIV050533	215	AT I-215/CACTUS AVE IC: WIDEN IC FROM 3 TO 6 THRU LNS (EB FROM 2 TO 3 BTWN W/O BNSF RR TO 1300' E/O VETERANS WAY, ADD 4TH EB LANE FROM NB EXIT RAMP TO E/O ELSWORTH ST, WIDEN WB FROM 1&2 TO 3 THRU LNS FROM COMMERCE CENTER DR TO BNSF RR), WIDEN RAMPS 1 TO 2&3 LNS (ENTRY RAMPS INCL HOV), EXTEND NB AUX LN BTWN ALESSANDRO BLVD SOUTH TO CACTUS AVE NB ENTRY LOOP RAMP & ADD DEDICATED RT-TURN LNS (EA0E760)	$65,370
RIVERSIDE	STATE HIGHWAY	RIV050535	RIV050535	60	ON SR60 BTWN JACK RABBIT TR & SR60/I-10 JCT: PH1-CONST. NEW POTRERO 6 LN OC (3 LNS EACH DIR) W/TEMP CONNECT TO WESTERN KNOLLS (EA34141/34143). PH2: NEW IC ON/OFF RAMPS. CONST. WB/EB EXIT & ENTRY RAMPS (2 LNS) & WB/EB LOOP ENTRY RAMPS (2 LNS) (ENTRY RAMPS INCL HOV LANE), INCL EB/WB AUX LNS AT EXIT RAMPS, REALIGN WESTERN KNOLLS AVE, AND REMOVE WESTERN KNOLLS AVE CONNECTION TO SR60 (EA34142/34143).	$61,244
RIVERSIDE	STATE HIGHWAY	RIV060109	RIV060109	15	AT I-15/SR74 (CENTRAL AVE) IC JCT MOD. BTWN 1,000 FT W/O COLLIER AVE TO RIVERSIDE ST: ADD NB LOOP ENTRY RAMP WITH ACCEL LN, REALIGN NB ENTRY & EXIT RAMPS, ADD SB ACCEL/DECEL LNS, ADD NB DECEL LN, WIDEN SR 74 FROM RIVERSIDE DR. TO CENTRAL AVE 2 TO 4 THROUGH LANES AND FROM COLLIER AVE TO CAMBERN AVE FROM 6 TO 8 THRU LNS, CONST NEW RIVERSIDE AVE OC & SR74 PM 15.5 TO 18.5 (EA: 0F3100).	$58,250
RIVERSIDE	STATE HIGHWAY	RIV060111	RIV060111	215	IN MID WESTERN-RIVERSIDE CO IN THE CITY OF PERRIS - I-215/ETHANAC RD IC IMP.: IC OPERATIONAL IMP. OF THE NB & SB OFF RAMPS @ I-215/ ETHANAC RD AND ON ETHANAC ON EITHER SIDE OF I-215 FOR UP TO 1,200 FT. IMPROVEMENTS CONSIST OF THE WIDENING OF THE ON AND OFF RAMPS TO PROVIDE LEFT AND RIGHT TURN POCKETS, T.S. UPGRADE AT THE RAMP TERMINI & WIDEN OC 2 TO 4 LANES WITH TURN LANES.	$24,500
RIVERSIDE	STATE HIGHWAY	RIV060115	RIV060115	10	AT I-10/OAK VALLEY PKWY IC: RECONSTRUCT/WIDEN IC FROM 2 TO 6 THROUGH LANES FROM APPROX 500 FT. W/O DESERT LAWN DR TO GOLF CLUB DR, WIDEN RAMPS - EB ENTRY 1 TO 2 LANES, EB & WB EXIT 1 TO 4 LANES, WB ENTRY 1 TO 3 LANES, , ADD NEW EB/WB ENTRY LOOP RAMPS (2 LANES) , ENTRY RAMPS INCLUDE HOV PREFERENTIAL LANE, AND RAMPS INCLUDE EXTENDED ACCELERATION/DECELERATION LANE (EA: 0G280).	$47,500
RIVERSIDE	STATE HIGHWAY	RIV060116	RIV060116	10	I-10/CHERRY VALLEY BLVD IC: REPLACEMENT OF EXISTING CURVED OVERCROSSING EXTENDING 1800 LINEAR FEET FROM ROBERTS ROAD (SOUTH) TO APPROXIMATELY 500 FT E/O CALIMESA BLVD. ASSOCIATED PROJECT IMPROVEMENTS INCLUDE REALIGNMENT OF CALIMESA BLVD AND RAMP REALIGNMENT FOR ALL FOUR RAMPS WITH MINOR RAMP WIDENING (CMAQ PM 2.5 BENEFITS PROJECT).	$34,543
RIVERSIDE	STATE HIGHWAY	RIV060117	RIV060117	10	ON I-10/SINGLETON RD IC: RECONSTRUCT/WIDEN 2 TO 4 THROUGH LANES (WOODHOUSE TO CALIMESA BLVD), RECONSTRUCT/WIDEN RAMPS – EB ENTRY 1 TO 2 LNS W/ HOV PREFERENTIAL LN, WB EXIT 1 TO 3 LNS, ADD EB EXIT RAMP (3 LNS), WB ENTRY RAMP (2 LNS W/ HOV PREFERENTIAL LN), INCLUDE EXTENDED RAMP ACCEL/DECEL LNS, RELOCATE CALIMESA BLVD/SINGLETON RD INTERSECTION, ADD SB EXTENDED DEDICATED RIGHT-TURN LN (EA: 0F980)	$38,400
RIVERSIDE	STATE HIGHWAY	RIV061159	RIV061159	86	AT SR86/AVENUE 50: (PHASE 2) WIDEN & CONSTRUCT NEW 6THROUGH LANE IC FROM E/O COACHELLA STORMWATER CHANNEL BRIDGE TO E/O TYLER ST. IMPRVMNTS INCLUDE: EXTENDED RAMP ACCLRTION/DECELRTION LNS, RELOCATE/REALIGN AVE 50 AND TYLER ST, BIKE LANES, SIDEWALKS, AND RECONSTRUCT TRAFFIC SIGNALS (SAFETEA LU 1702, CA583, #2543) (EA: 0C970)	$32,160
RIVERSIDE	STATE HIGHWAY	RIV070308	RIV070308	91	AT SR91/71 JCT: REPLACE EB 91 TO NB 71 CONNECTOR W/ DIRECT CONNECTOR, AND RECONSTRUCT THE GREEN RIVER ROAD EB ON-RAMP (EA: 0F541) ($1,501/$639/$200 TOLL CREDITS WILL BE USED IN PS&E TO MATCH DEMO-SAFETEALU/DEMO-TEA21/STP, RESPECTIVELY. $159 TOLL CREDITS WILL BE USED IN R/W TO MATCH DEMO-SAFETEALU.)	$126,663

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
RIVERSIDE	STATE HIGHWAY	RIV071242	3A07045	60	IN THE CITY OF MORENO VALLEY - RECONSTRUCT INDIAN ST X-ING SR 60 FROM 150' S/O SUNNYMEAD BLVD., TO HEMLOCK AVE: COMPLETE RECONSTRUCT. OF THE BRIDGE TO PROVIDE 16'6" CLEARANCE & 4 THROUGH LANES (2 LNS IN EA DIR) & ASSOC. ST IMP. WITHIN THE PROJECT LIMITS (LEFT TURN POCKETS AT SUNNYMEAD AND HEMLOCK INTERSECT., RIGHT-TURN ONLY SB AT SUNNYMEAD, NEW TS AT HEMLOCK/INDIAN ST., & INTERCONNECT MOD).	$14,120
RIVERSIDE	STATE HIGHWAY	RIV071251	3M0720	10	ON I-10 AT APPROX PM 41.17: CONSTRUCT NEW DA VALL DR IC (6 LNS) & RAMPS (2 LNS) FROM VARNER RD TO RAMON RD INCLUDING BRIDGE OVER UPRR AND LONG CYN CREEK CHANNEL, ADD EB/WB AUX LANES (DATE PALM DR IC TO DA VALL & DA VALL TO RAMON RD)	$69,800
RIVERSIDE	STATE HIGHWAY	RIV071252	3A07020	10	ON I-10 IN INDIO AT JACKSON ST IC (AT PM 55.575): RECONSTRUCT/WIDEN IC FROM 2 TO 4 THROUGH LANES INCLUDING BRIDGE OVER WHITEWATER RIVER CHANNEL FROM SHOWCASE PKWY TO SOUTH OF WHITEWATER RIVER CHANNEL, RECONSTRUCT/WIDEN RAMPS 1 TO 2 LANES, MODIFY TRAFFIC SIGNALS	$56,000
RIVERSIDE	STATE HIGHWAY	RIV071253	3A07021	10	ON I-10 IN INDIO AT GOLF CENTER PKWY IC: RECONSTRUCT/WIDEN IC FROM 4 TO 6 THROUGH LANES INCLUDING BRIDGE OVER WHITEWATER RIVER CHANNEL BETWEEN AVENUE 44 TO S/O WHITEWATER RIVER CHANNEL, RECONSTRUCT/WIDEN RAMPS 1 TO 2 LANES, AND EXTEND RAMPS WITH ACCELERATION/DECELERATION LANES	$27,000
RIVERSIDE	STATE HIGHWAY	RIV071254	3A07022	10	ON I-10 IN INDIO AT MONROE ST IC: RECONSTRUCT/WIDEN IC FROM 2 TO 4 THROUGH LANES INCLUDING BRIDGE OVER WHITEWATER RIVER CHANNEL FROM AVENUE 42 TO S/O WHITEWATER RIVER CHANNEL, RECONSTRUCT/WIDEN RAMPS 1 TO 2 LANES, AND EXTEND RAMPS WITH ACCELERATION/ DECELERATION LANES (EA: 0K730K)	$47,000
RIVERSIDE	STATE HIGHWAY	RIV071267	RIV071267	15	I-15 IN RIVERSIDE CO: CONST. 4 TOLL EXPRESS LANES (TEL) (2 TEL EA DIR) FROM CANTU-GALLEANO RANCH RD. TO HIDDEN VALLEY PKWY & FROM THE END OF SR91 TEL TO EL CERRITO RD., & CONST. 2 TEL (1 TEL EA DIR) SR60 - CANTU-GALLEANO RANCH RD., HIDDEN VALLEY PKWY - END OF SR91 TEL, & EL CERRITO RD - CAJALCO RD. ADV. SIGN. WILL BE INST. AT THE SO. END BTWN PM 34.7 TO PM 36.6 (CAJALCO RD) & AT NO. END BTWN PM	$489,000
RIVERSIDE	STATE HIGHWAY	RIV071274	3M0717	86	AT SR86/AVENUE 52: WIDEN AND CONSTRUCT NEW 6 THROUGH LANE IC FROM E/O COACHELLA STORMWATER CHANNEL BRIDGE TO E/O TYLER ST. IMPROVEMENTS INCLUDE: REALIGN POLK ST AND RELOCATE AVE 52 AND POLK ST INTERSECTION, EXTENDED RAMP ACCELERATION/DECELERATION LANES, BIKE LANES, SIDEWALKS, AND RECONSTRUCT TRAFFIC SIGNALS (EA: 0C960).	$33,000
RIVERSIDE	STATE HIGHWAY	RIV071276	3H07A	215	ON I-215 FROM NUEVO RD TO BOX SPRINGS RD: CONSTRUCT 2 HOV LANES (1 LANE IN EACH DIRECTION) - PA&ED.	$212,500
RIVERSIDE	STATE HIGHWAY	RIV080901	3M0730	15	AT I-15/MURRIETA HOT SPRINGS RD IC - CONSTRUCT NEW NB LOOP ON RAMP AND REALIGN EXISTING NB OFF RAMP (EA: 0J650K)	$8,100
RIVERSIDE	STATE HIGHWAY	RIV080902	3M0712	60	AT SR-60/REDLANDS BLVD - WIDEN OC FROM 2 TO 6 THRU LANES; WIDEN WB EXIT & ENTRY RAMPS FROM 1 LANE TO 2 LANES AT EXIT/ENTRY, 3 LANES AT ARTERIAL AND HOV AT ENTRY; WIDEN EB EXIT & ENTRY RAMPS FROM 1 LANE TO 2 LANES AT EXIT/ENTRY AND HOV AT ENTRY; ADD AUX LANES 1000' EACH DIRECTION WEST OF IC AND 1700' EACH DIRECTION EAST OF IC	$52,000
RIVERSIDE	STATE HIGHWAY	RIV080903	3M0714	60	AT SR-60/GILMAN SPRINGS RD IC - REALIGN GILMAN SPRINGS RD/REMOVE EXISTING EB/WB RAMPS; WIDEN OC FROM 2 TO 6 THRU LANES; WB EXIT IS 1 LANE WIDENING TO 2 LANES THEN TO 3 LANES AT ARTERIAL, WB LOOP & EB ENTRY RAMPS FROM 1 LANE TO 2 LANES W/ HOV; WIDEN EB EXIT RAMPS FROM 1 LANE TO 2 LANES AT EXIT AND 3 LANES AT ARTERIAL; ADD AUX LANES TO WEST OF IC 1200' EB AND 2200' WB	$70,000
RIVERSIDE	STATE HIGHWAY	RIV080904	3M0801	60	AT SR-60/WORLD LOGISTICS CENTER PARKWAY IC: WIDEN OC FRM 2 TO 4/6 THRU LNS; WIDEN WB EXIT/ENTRY RAMPS FRM 1-2 LNS AT EXIT/ENTRY, 3 LNS AT ART. W/ HOV AT ENTRY; WIDEN EB EXIT RAMP FRM 1-2 LNS AT EXIT & 3 LNS AT ART.; WIDEN EB ENTRY RAMP FROM 1-2 LNS W/HOV; ADD EB LOOP ENTRY WITH 2 LNS AT ART & 1 LN AT ENTRY; ADD AUX LNS 1400' EB DIR E/O IC, 2,500' EB DIR W/O IC, 2,300' WB DIR W/O IC & 1,700' WB DIR E/O IC (EA0M590)	$96,613
RIVERSIDE	STATE HIGHWAY	RIV091007	3A04WT047	74	IN MID-WESTERN RIVERSIDE COUNTY IN THE CITY OF LAKE ELSINORE: WIDENING OF SR-74 FROM 2 TO 6 THROUGH LANES (3 LANES IN EACH DIRECTION), WEST OF I-15 TO THE ORTEGA MOUNTAINS. OTHER IMPROVEMENTS INCLUDE TURN POCKETS AND ONE TRAFFIC SIGNAL AT INTERSECTION OF SR74 (RIVERSIDE DR) AND GRAND AVE (RIV131127).	$11,500

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
RIVERSIDE	STATE HIGHWAY	RIV091012	3M04WT009	215	IN MID-WESTERN RIVERSIDE COUNTY IN THE CITY OF PERRIS - CASE ROAD/MATTHEWS RD. (SR-74) AT I-215 INTERCHANGE: RECONFIGURATION OF THE EXISTING CASE RD/MATTHEWS RD. (SR-74) AT I-215 IC, IMPROVING THE INTERSECTION OPERATIONS AND ELIMINATING CROSS TRAFFIC CONFLICTS ON THE SB RAMPS, WIDEN MATTHEWS RD FROM 2/3 LANES TO 4 LANES FROM CASE RD TO TRUMBLE RD (EA: 0P420).	$21,000
RIVERSIDE	STATE HIGHWAY	RIV100107	3M10WT03	215	IN SW RIVERSIDE CO. I-215/KELLER RD. IC: REPLACE EXISTING 2-LN I-215/KELLER RD. UNDERPASS WITH A NEW 4-LN (2 LNS IN EA DIR), AUX LANES AT THE SB OFF-RAMP & NB OFF-RAMP (APPROX. 2,400'), ADD 3-LN NB/SB OFF RAMPS, 2-LN NB/SB ON-RAMPS W/HOV, SWS, AND TWO 2-LN TRAFFIC CIRCLES AT THE RAMP TERMINI, AND REALIGN ANTELOPE RD APPROX 1/4 MI EAST.	$31,700
RIVERSIDE	STATE HIGHWAY	RIV110122	3M0738	215	ON I-215 IN SW RIVERSIDE COUNTY FROM ONE AND ONE-HALF MILES N/O MURRIETA HOT SPRINGS RD TO FRENCH VALLEY PKWY OFFRAMP: CONSTRUCT A THIRD MIXED-FLOW LANE IN THE MEDIAN AND AUX-LANE FROM MURRIETA HOT SPRINGS SB ENTRANCE RAMP TO ONE-HALF MILE S/O FRENCH VALLEY PKWY OFF-RAMP (WIDEN) I215/I-15 SEPARATION FROM 2 TO 4 LANES) (EA: OF163).	$14,874
RIVERSIDE	STATE HIGHWAY	RIV120201	3TK04MA13	60	ON SR-60 IN UNINCORPORATED RIVERSIDE CO: CONSTRUCT NEW EASTBOUND CLIMBING AND WESTBOUND DESCENDING TRUCK LANES FROM GILMAN SPRINGS RD TO APPROX. 1.37 MILES W/O JACK RABBIT TRAIL AND UPGRADE EXISTING INSIDE AND OUTSIDE SHOULDERS TO STANDARD WIDTHS (10-FT INSIDE SHOULDER AND 12-FT OUTSIDE SHOULDER) (EA: 0N69U) - CMAQ PM2.5 BENEFITS PROJECT.	$138,375
RIVERSIDE	STATE HIGHWAY	RIV131001	3AL104	111	IN EASTERN RIVERSIDE COUNTY IN THE CITY OF PALM SPRINGS - CONSTRUCT A SECOND LEFT TURN LANE (NON-CAPACITY INCREASING) NORTH BOUND ON GENE AUTRY TRAIL AT THE INTERSECTION OF GENE AUTRY TRAIL AND VISTA CHINO (HWY 111) (PM 2.5 BENEFITS .007KG/DAY).	$326
RIVERSIDE	STATE HIGHWAY	RIV131003	3M04WT014	215	IN CENTRAL RIVERSIDE COUNTY IN THE CITY OF PERRIS - I-215 AT NUEVO INTERCHANGE IMPROVEMENTS: WIDENING OF OC FROM 4 TO 6 LANES (3 LANES IN EA DIRECTION) AND WIDENING OF NB AND SB ENTRY RAMP FROM 2 TO 3 LANES. ADDITIONAL IMPROVEMENTS INCLUDE SIDEWALK INSTALLATION ON BOTH SIDES OF THE OC.	$13,000
RIVERSIDE	STATE HIGHWAY	RIV131127	3AL204	74	IN LAKE ELSINORE - INTERSECTION WIDENING AND TRAFFIC SIGNAL INSTALLATION - RIVERSIDE DR/SR74 AT GRAND AVE: WIDEN RIVERSIDE DR/SR74 FROM 3 TO 6 LANES AND GRAND AVENUE FROM 2 TO 4 LANES AND INSTALL TRAFFIC SIGNAL AT THE T-INTERSECTION OF RIVERSIDE DR/SR74 AT GRAND AVE.	$3,026
RIVERSIDE	STATE HIGHWAY	RIV131201	RIV131201	10	IN RIVERSIDE COUNTY IN THE CITY OF CALIMESA - RECONSTRUCTION OF EXISTING INTERCHANGE AT I-10/COUNTY LINE EXTENDING 1300 LINEAR FEET FROM COUNTY LINE LANE TO APPROX. 300 FT. W/O CALIMESA BLVD. THE PROJECT WILL INCLUDE RAMP REALIGNMENT FOR ALL FOUR RAMPS WITH MINOR RAMP WIDENING.	$15,000
RIVERSIDE	STATE HIGHWAY	RIV131202	3M01WT022	91	IN THE CITY OF RIVERSIDE - SR-91 AT ADAMS STREET INTERCHANGE RAMPS RECONFIGURATION, INCLUDING THE RECONSTRUCTION OF ADAMS ST OVERPASS, ADAMS STREET FROM AUTO CENTER DR TO BRIARWOOD DR AND INDIANA AVE FROM VANCE ST TO DETROIT DR.	$100,600
RIVERSIDE	STATE HIGHWAY	RIV140840	3NL04	111	IN EASTERN RIVERSIDE CO. FOR THE COUNTY OF RIVERSIDE IN MECCA-GRAPEFRUIT BLVD/4TH ST PED & RDWY SAFETY IMPROVEMENTS: ON W/S OF GRAPEFRUIT BLVD B/W 4TH ST & 3,000 FT SOUTH OF 66TH AVE, CONSTRUCT APPROX. 3,500 L.F. OF ASPHALT CONCRETE WALKWAY & 250 L.F. OF CONCRETE S/W, CURB & GUTTER, ADA CURB UPGRADES & WIDENING, TRAFFIC SIGNAL IMPROVEMENTS.	$2,300
RIVERSIDE	STATE HIGHWAY	RIV150930	7120003	91	IN WESTERN RIVERSIDE COUNTY, ABOUT 0.4 ,MILES E/O RIVERSIDE/ORANGE COUNTY LINE, ABOUT 1.8 MILES SOUTHWEST OF PRADO DAM AND 0.7 MILES W/O GREEN RIVER RD IC: CONSTRUCT B CANYON WILDLIFE CROSSING CORRIDOR (PPNO 0071E) (EA OR010).	$1,880
RIVERSIDE	STATE HIGHWAY	RIV151104	3ITS0717	999	FREEWAY SERVICE PATROL - CONTINUING IMPLEMENTATION OF FREEWAY SERVICE PATROL ON SR91 (ORANGE CO LINE TO 60/91/215), SR60 (MILLIKEN TO MAIN), SR60/I-215 IC TO THEODORE, I-215 (RIVERSIDE COUNTY LINE TO SR-74/4TH ST), I-15 (HIDDEN VALLEY PKWY TO SR60), AND ON I-15 (MAGNOLIA AVE TO INDIAN TRUCK TR).	$17,122
RIVERSIDE	STATE HIGHWAY	RIV151218	3M0719	215	IN WESTERN RIVERSIDE COUNTY IN MENIFEE: RECONSTRUCT/WIDEN I-215 IC AT MC CALL BLVD. - WIDEN IC FROM 4 TO 6 LANES (SUN CITY BLVD TO EASTERLY OF ENCANTO DR), WIDEN ENTRY RAMPS (RAMP METERED / NON HOV PREFERENTIAL LANE), WIDEN EXIT RAMPS (DUAL LEFT @ SB & DUAL RIGHT @ NB WITH MCCALL), ADD DUAL LEFT-TURN AND DEDICATED RIGHT-TURN LANES (EA 1F700).	$32,300

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
RIVERSIDE	STATE HIGHWAY	RIV151219	REG0701	215	IN WESTERN RIVERSIDE COUNTY IN MENIFEE: CONSTRUCT NEW HOLLAND AVE 4-LANE OC (2 LNS IN EA DIR) OVER I-215 AND ANTELOPE RD. PROJECT INCLUDES REALIGNMENT OF WILLOWOOD WAY, RESTRIPING OF HANOVER LANE AND ALBION LANE, AND CONSTRUCTION OF AN ACCESS ROAD FOR BUSINESS ON THE WEST SIDE OF I-215 (EA 1F980).	$27,000
RIVERSIDE	STATE HIGHWAY	RIV151220	7120003	60	IN WESTERN RIVERSIDE COUNTY IN THE CITY OF MORENO VALLEY ALONG SR 60 - WIDEN FROM TWO TO THREE LANES IN EACH DIRECTION IN THE EXISTING MEDIAN TO PROVIDE ONE ADDITIONAL GENERAL PURPOSE LANE IN EACH DIRECTION FROM REDLANDS BLVD. TO GILMAN SPRINGS RD.	$7,500
RIVERSIDE	STATE HIGHWAY	RIV151221	7120003	91	IN THE CITY OF RIVERSIDE - SR 91 HOV REMNANT WORK: COMPLETE THE REMAINING WORK FROM THE SR91 HOV ASSOCIATED TO THE UPRR LINE ALONG PACHAPPA UNDERPASS, PAVE THE FULL STRUCTURE SECTION OF WB 91 AUX. LNS AND SHOULDER FROM STA 340+32 TO STA 342+50 (218 FT) & CONS FULL STRUCTURE SECTION FOR THE 2ND RT LN OF MISION INN WB EXIT RAMP (EA 44843) - TC UTILIZ $1,694.8 TO MATCH CON IN FY 20.	$17,895
RIVERSIDE	STATE HIGHWAY	RIV160101	RIV071250B	15	IN WESTERN RIVERSIDE COUNTY ON SR-91/I-15: ON I-15 - ADD TOLL EXPRESS LANE MEDIAN DIRECT CONNECT FROM SB15 TO WB91 & EB91 TO NB15, 1 TOLL EXPRESS LANE EACH DIRECTION FROM HIDDEN VALLEY TO SR91 DIRECT CONNECTOR. CONSTRUCT OPERATIONAL IMPROVEMENT AND AUXILARY LANE ALONG SR91. CONSTRUCT ADDITIONAL SIGNAGE ALONG SR91 AT PM R18.0 IN OR COUNTY.	$180,000
RIVERSIDE	STATE HIGHWAY	RIV170901	3160001	15	IN WESTERN RIVERSIDE COUNTY – ON I-15, ADD 2 EXPRESS LANES IN EACH DIRECTION, GENERALLY IN THE MEDIAN, FROM CAJALCO ROAD IN THE CITY OF CORONA TO SR-74 (CENTRAL AVENUE) IN THE CITY OF LAKE ELSINORE. CONSTRUCT ONE AUXILIARY LANE IN THE SOUTHBOUND DIRECTION FROM CAJALCO ROAD TO WEIRICK ROAD.	$544,000
RIVERSIDE	STATE HIGHWAY	RIV180101	3A04WT059	215	IN WESTERN RIVERSIDE COUNTY IN THE CITY OF PERRIS: I-215 AT HARLEY KNOX BLVD. IC IMPROVEMENT - RECONSTRUCT AND WIDEN HARLEY KNOX BLVD. IC FROM 2 TO 4 LANES AND RECONSTRUCT/WIDEN RAMPS.	$34,500
RIVERSIDE	STATE HIGHWAY	RIV180102	RIV180102	15	IN THE CITY OF CORONA ON EXISTING ONTARIO AVE – WIDEN AND REALIGN EXISTING 5 TO 7 LANES BY ADDING 1 WB THRU LANE AND 1 EB THRU LANE, CONSTRUCT TIE BACK WALL AND 815' SIDEWALK W/ADA RAMPS ON THE SOUTH SIDE OF ONTARIO AVE BETWEEN COMPTON AVE AND E/O STATE ST.	$6,078
RIVERSIDE	STATE HIGHWAY	RIV180104	2016A319	10	IN WESTERN RIVERSIDE COUNTY IN THE CITY OF BANNING: I-10/HIGHLAND SPRINGS IC IMPROVEMENTS - WIDEN FROM 5 TO 7 THRU LANES FROM 275 FT N/O THE W/B OFF/ON RAMPS TO 250 FT S/O THE E/B OFF/ON RAMPS, WIDEN EXISTING 2 LN W/B OFF RAMP TO 4 LNS & 2 LN E/B OFF RAMPS TO 4 LNS, ENTRY RAMPS TO INCLUDE HOV PREFERENCIAL LANE AND EXTENDED ACCELERATION/DECELERATION LANE. (PA&ED ONLY)	$1,250
RIVERSIDE	STATE HIGHWAY	RIV180108	3M0722	10	IN COACHELLA VALLEY FOR CITY OF CATHEDRAL CITY - CONSTRUCT THE PROPOSED I-10 IC FROM LANDAU BLVD BETWEEN VISTA CHINO AND VARNER RD FROM 4 TO 6 LANES AND ADD NEW EXTENSION TO LANDAU BLVD BETWEEN I-10 AND PROPOSED VALLEY CENTER DRIVE. INCLUDES NEW GRADE SEPARATION WITH UPRR AND NEW FREEWAY CONNECTION AT NEW 6 LANE IC ON LANDAU I-10. (PA&ED ONLY)	$1,200
RIVERSIDE	STATE HIGHWAY	RIV180142	RIV180142	86	IN THE CITY OF COACHELLA: AT SR-86/DILLON RD BETWEEN COACHELLA VALLEY STORMWATER CHANNEL BRIDGE TO HARRISON PL. RECONSTRUCT IC ADD ACCELERATION LANES - WIDEN FROM 4-6 LANES, INCLUDES TRAFFIC MODIFICATIONS, TURNING LANES. (EA 0K960K)	$26,500
RIVERSIDE	STATE HIGHWAY	RIV180143	2016A319	10	IN THE CITY OF COACHELLA: AT I-10 DILLON RD BETWEEN 800 FT SOUTH OF VISTA DEL SUR TO 600 NORTH OF VISTA DEL NORTE - RECONSTRUCT IC ADD ACCELERATION LANE ON W/B - WIDEN FROM 4-6 LANES, INCLUDES TRAFFIC SIGNAL MODIFICATIONS, TURNING LANES. (EA 0K950K)	$25,500
RIVERSIDE	STATE HIGHWAY	RIV180144	RIV180144	15	IN THE CITY OF LAKE ELSINORE - MAIN ST/I-15 IC IMPROVEMENTS: WIDENING OF NB MAIN ST UNDER THE FREEWAY FROM 1 TO 2 LNS, ADD AN ADDITIONAL LN TO THE NB ENTRANCE AND EXIT RAMPS. WIDEN SB OFF RAMP TO ACCOMODATE 1 RT LN, 1 LT LN, AND 1 THRU LT LN AT MAIN ST INTERSECTION. INSTALL RAMP METERS & TRAFFIC SIGNALS AT THE ON & OFF RAMPS INTERSECTIONS, AND CAMINO DEL NORTE/MAIN ST INTERSECTION.	$4,200
RIVERSIDE	STATE HIGHWAY	RIV181105	3M04WT004	10	IN WESTERN RIV CO IN THE CITY OF BEAUMONT - RE-CONSTRUCT AND IMPROVE WB AND EB ON-RAMP AT THE PENNSYLVANIA AND I-10/INTERCHANGE. PROVIDE NEW WB AND EB OFF-RAMP. PROVIDE TRAFFIC SIGNALIZATION FOR THE INTERCHANGE	$5,920
RIVERSIDE	STATE HIGHWAY	RIV181106	3200S011	91	IN WESTERN RIVERSIDE COUNTY - ON SR-91 CONSTRUCT 1 LN WESTBOUND FROM GREEN RIVER ROAD (RIVERSIDE COUNTY) TO SR-241 (ORANGE COUNTY)	$50,000

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
RIVERSIDE	STATE HIGHWAY	RIV181113	3200S010	15	IN WESTERN RIVERSIDE COUNTY - CONSTRUCT 1 AUX LN SB FROM CAJACLCO ROAD TO WEIRICK ROAD. CONSTRUCT 1 EXPRESS LN NB FROM BEDFORD CANYON WASH TO CAJALCO RAOD.	$28,000
RIVERSIDE	STATE HIGHWAY	RIV62024	RIV62024	79	ON SR79 IN SOUTHWESTERN RIVERSIDE COUNTY BETWEEN 2.0 KILOMETERS SOUTH OF DOMENIGONI PKWY TO GILMAN SPRINGS ROAD: REALIGN AND WIDEN SR79 FROM 2 TO 4 THROUGH LANES.	$1,523,000
RIVERSIDE	STATE HIGHWAY	RIV62031	RIV62031	15	I-15/SR79 SO. IC: REMOVE SB EXIT RAMP, ADD NEW SB EXIT LOOP RAMP, REALIGN SB EXIT RAMP (2 LNS) W/AUX LN. WIDEN SB ENTRY 1 TO 3, NB EXIT 1 TO 4, NB ENTRY 1 TO 3 & RECON SR79S.	$45,841
RIVERSIDE	STATE HIGHWAY	RIVLS01	3GR104	999	GRPED PRJCTS FOR SAFETY IMPRVMNTS - SHOPP CLLISION RDUCTN PRGRM: PRJCTS ARE CNSISTNT W/ 40 CFR PART 93.126 EXEMPT TBLS 2&3 - RR/HWY CRSSING, SAFER NON-FED-AID SYSTM RDS, SHULDR IMPRVMNTS, TRFFIC CNTRL DVICES/OPRTING ASSIST OTHR THN SGNLS, INTERSCTN SGNL PRJCTS AT INDVL INTERSCTNS, PVMNT MRKING DEMO, TCL OTSIDE THE UA, LGHTNG IMPRVMNTS, EMRGNCY TRCK PLOVRS. INCLDS SHOPP FNDING BYOND FNCLY CNSTR YRS	$136,727
RIVERSIDE	STATE HIGHWAY	RIVLS02	30M0701	999	GROUPED PROJECTS FOR PAVEMENT RESURFACING AND/OR REHABILITATION - SHOPP ROADWAY PRESERVATION PROGRAM: PROJECTS ARE CONSISTENT W/ 40 CFR PART 93.126 EXEMPT TABLE 2 - PAVEMENT RESURFACING AND/OR REHABILITATION, EMERGENCY RELIEF (23 USC 125), WIDENING NARROW PAVEMENTS OR RECONSTRUCTING BRIDGES (NO ADDITIONAL TRAVEL LANES).	$974,278
RIVERSIDE	STATE HIGHWAY	RIVLS03A	30M07 01	999	GROUPED PROJECTS FOR PAVEMENT RESURFACING AND/OR REHABILITATION - SHOPP ROADWAY PRESERVATION PROGRAM: PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 CATEGORIES – PAVEMENT RESURFACING AND/OR REHABILITATION, EMERGENCY RELIEF (23 U.S.C. 125), WIDENING NARROW PAVEMENTS OR RECONSTRUCTING BRIDGES (NO ADDITIONAL TRAVEL LANES).	$7,600
RIVERSIDE	STATE HIGHWAY	RIVLS06	30M0701	999	GROUPED PROJECTS FOR BRIDGE REHABILITATION AND RECONSTRUCTION - SHOPP PROGRAM: PROJECTS ARE CONSISTENT W/40 CFR 93.126 EXEMPT TABLE 2 - WIDENING NARROW PAVEMENTS OR RECONSTRUCTING BRIDGES (NO ADDITIONAL TRAVEL LANES).	$90,082
RIVERSIDE	STATE HIGHWAY	RIVLS08	3GR104	999	GROUPED PROJECTS FOR SAFETY IMPROVEMENTS, SHOULDER IMPROVEMENTS, PAVEMENT RESURFACING AND/OR REHABILITATION - MINOR PROGRAM: PROJECTS ARE CONSISTENT W/ 40 CFR PART 93.126 EXEMPT TABLES 2&3 - RR/HWY CROSSING, SAFER NON-FED-AID SYSTEM RDS, SHOULDR IMPRVMNTS, TRAFFIC CONTROL DEVICES/OPERATING ASSISTANCE OTHER THAN SIGNALS, INTERSCTN SIGNAL PROJECTS AT INDVL INTERSCTN, (DESCRIPTION CONT. IN COMMENTS)	$4,683
RIVERSIDE	STATE HIGHWAY	RIVLS09	REG0701	999	GROUPED PROJECTS FOR SAFETY IMPROVEMENTS - SHOPP MANDATES PROGRAM: PROJECTS ARE CONSISTENT W/ 40 CFR PART 93.126 EXEMPT TABLES 2&3 - RR/HWY CROSSING, SAFER NON-FED-AID SYSTEM RDS, SHOULDR IMPRVMNTS, TRAFFIC CNTRL DEVICES/OPERATING ASSIST OTHER THAN SIGNALS, INTERSCTN SIGNAL PRJCTS AT INDVL INTERSCTNS, PVMNT MARKING DEMO, TCL OUTSIDE THE UA, LIGHTING IMPRVMNTS, EMERGENCY TRUCK PULLOVERS	$38,629
RIVERSIDE	STATE HIGHWAY	RIVLS10	3GR104	999	GROUPED PROJECTS FOR SAFETY IMPROVEMENTS - SHOPP MOBILITY PROGRAM: PROJECTS ARE CONSISTENT W/ 40 CFR PART 93.126 EXEMPT TABLES 2&3 - RR/HWY CROSSING, SAFER NON-FED-AID SYSTEM RDS, SHOULDR IMPRVMNTS, TRAFFIC CNTRL DEVICES/OPERATING ASSIST OTHER THAN SIGNALS, INTERSCTN SIGNAL PRJCTS AT INDVL INTERSCTNS, PVMNT MARKING DEMO, TCL OUTSIDE THE UA, LIGHTING IMPRVMNTS, EMERGENCY TRUCK PULLOVERS	$6,179
RIVERSIDE	STATE HIGHWAY	RIVLS12	REG0701	999	GROUPED PROJECTS FOR EMERGENCY REPAIR - SHOPP EMERGENCY RESPONSE PROGRAM: PROJECTS ARE CONSISTENT W/40 CFR PART 93.126 EXEMPT TABLE 2 - REPAIR DAMAGE CAUSED BY NATURAL DISASTERS, CIVIL UNREST, OR TERRORIST ACTS. APPLIES TO DAMAGES THAT DO NOT QUALIFY FOR FED EMERGENCY RELIEF FUNDS OR TO DAMAGES THAT QUALIFY FOR FED EMERGENCY RELIEF FUNDS BUT EXTEND BEYOND THE FEDERALLY DECLARED DISASTER PERIOD.	$18,982
RIVERSIDE	STATE HIGHWAY	RIVLS13	REG0701	999	GROUPED PROJECTS FOR PAVEMENT RESURFACING AND/OR REHABILITATION ON THE STATE HIGHWAY SYSTEM - HIGHWAY MAINTENANCE: PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 & 3 - PAVEMENT RESURFACING AND/OR REHABILITATION	$8,490

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
RIVERSIDE	TRANSIT	RIV071218	REG0702	0	PURCHASE SCHEDULING AND RUNCUTTING SOFTWARE FOR IMPROVED OPERATIONS COST/BENEFIT ANALYSIS OF TRIP TIMES, REVENUE HOURS, HEADWAYS, OPERATOR PAY SHEETS, ETC. (FY 07 5307 & FY 09 5307).	$411
RIVERSIDE	TRANSIT	RIV110809	REG0702	0	IN COACHELLA VALLEY AT EXISTING SUNLINE FACILITIES - TRANSIT SECURITY ENHANCEMENT PROJECT FOR STAFF IN THE SAFETY/SECURITY DEPARTMENT AND TO ENHANCE BUS STOPS THROUGHOUT THE VALLEY (PROP 1B FUNDED PROJECT).	$395
RIVERSIDE	TRANSIT	RIV110822	REG0702	0	IN WESTERN RIVERSIDE COUNTY FOR RTA - CAPITAL MAINTENANCE SPARES: PURCHASE OF SPARE PARTS FOR ROLLING STOCK UNDER THE BUS MAINTENANCE PROGRAM (FY 12 - 5307) (UZA: RIV-SB).	$1,679
RIVERSIDE	TRANSIT	RIV111207	3160053	0	IN WESTERN RIVERSIDE COUNTY - CONTINUE THE IMPLEMENTATION OF PARK-N-RIDE FACILITIES THROUGH PROPERTY LEASES (VARIOUS LOCATIONS THROUGHOUT THE WESTERN COUNTY).	$1,585
RIVERSIDE	TRANSIT	RIV120101	3CR104	0	RCTC COMMUTER RAIL SYSTEMATIC IMP. OF FACILITIES AND EQUIPMT: REHAB OF RCTC'S COMM. RAIL IN COORDINATION W/METROLINK, INCLUDING REHAB OF TRACK, SIGNALS, COMMUNICATION, MECHANICAL & LAYOVER FACILITIES, ROLLING STOCK (LOCOMOTIVES/PASSENGER RAIL CARS), TVMS, DEV. OF PTC IN SO. CA., & IMPS AND REHAB OF METROLINK STATION PARKING AND FACILITIES.	$24,281
RIVERSIDE	TRANSIT	RIV120821	REG0702	0	IN WESTERN RIVERSIDE COUNTY FOR RTA - CAPITAL MAINTENANCE SPARES: PURCHASE OF SPARE PARTS FOR ROLLING STOCK UNDER THE BUS MAINTENANCE PROGRAM (FTA 5307 - FY 13) (UZA: RIV-SB).	$830
RIVERSIDE	TRANSIT	RIV130201	3120027	0	IN WESTERN RIVERSIDE COUNTY FOR RTA WITHIN THE CITY LIMITS OF RIVERSIDE - REGIONAL TRANSIT CENTER FOR MASS TRANSIT SERVICE IN WESTERN RIVERSIDE COUNTY. LOCATION TO BE IN THE GENERAL VICINITY ON VINE STREET BETWEEN 10TH STREET AND 14TH STREET ACROSS FROM DOWNTOWN RIVERSIDE METROLINK STATION. (PA&ED ONLY)	$3,499
RIVERSIDE	TRANSIT	RIV130610	REG0702	0	IN EASTERN RIVERSIDE COUNTY FOR SUNLINE - CNG FUELING STATION REPLACEMENT (UZA INDIO-CATHEDRAL CITY-PALM SPRINGS) (FTA 5307 FY 12/13)	$5,200
RIVERSIDE	TRANSIT	RIV140502	REG0702	0	IN EASTERN RIVERSIDE COUNTY FOR SUNLINE: PURCHASE ONE NEW BATTERY DOMINATE HYDROGEN HYBRID ELECTRIC FUEL CELL BUS. (FTA 5309C - $4,251)	$5,151
RIVERSIDE	TRANSIT	RIV140802	3160059	0	IN WESTERN RIVERSIDE COUNTY FOR THE CITY OF RIVERSIDE: CAPITALIZED PREVENTATIVE MAINTENANCE. (FY14 5307 - $320K) (UZA: RS)	$400
RIVERSIDE	TRANSIT	RIV140810	3TL504	0	IN COACHELLA VALLEY FOR SUNLINE TRANSIT AGENCY: PURCHASE OF 5 HYDROGEN FUEL CELL BUSES. (FY15 5307) (FY13 & FY14 LONO 5312) (UZA: INCCPS) ($967K IN TRANSIT DEVELOPMENT CREDIT MATCH FOR FY17 LONO 5312).	$13,104
RIVERSIDE	TRANSIT	RIV140811	REG0702	0	IN COACHELLA VALLEY FOR SUNLINE TRANSIT AGENCY: PURCHASE OF A NEW ASSET MANAGEMENT TOOL. (FY17 5307 - $400K) (UZA: INCCPS)	$500
RIVERSIDE	TRANSIT	RIV140821	REG0702	0	IN COACHELLA VALLEY FOR SUNLINE TRANSIT AGENCY: VANPOOL PILOT PROGRAM THAT WILL TARGET EASTERN COACHELLA VALLEY AGRICULTURAL WORKERS, LARGE EMPLOYERS SUCH AS GOVERNMENT AGENCIES, STUDENTS AND OTHER GROUPS. PURCHASE OF 50 VANS. THE PROGRAM WILL PROVIDE A THREE YEAR START-UP PROJECT FOR A BROKERAGE SERVICE AND FIRST YEAR SUBSIDIES FOR UP TO 70 VANS. (CMAQ - $1,762K)	$1,990
RIVERSIDE	TRANSIT	RIV140822	3TL504	0	IN COACHELLA VALLEY FOR SUNLINE TRANSIT AGENCY: PURCHASE OF TWO NEW BUSES AND OPERATIONS OF NEW BUS SERVICE THAT WILL DIRECTLY LINK DESERT HOT SPRINGS AND PALM DESERT. SERVICE TO OPERATE ON WEEKDAYS AND WILL INCLUDE FOUR TRIPS IN THE MORNING (HOURLY) FROM DESERT HOT SPRINGS TO PALM DESERT AND FOUR TRIPS IN THE AFTERNOON (HOURLY) FROM PALM DESERT TO DESERT HOT SPRINGS.	$1,897
RIVERSIDE	TRANSIT	RIV140829	REG0702	0	IN WESTERN RIVERSIDE COUNTY FOR RTA: REPLACEMENT OF FAREBOXES ON DIRECTLY-OPERATED BUSES THAT ARE EXPERIENCING INCREASED FAILURES AND CONTRACT-OPERATED BUSES THAT HAVE MET THEIR USEFUL LIFE. (FY14 5307) (UZA: RS - $2,717K)	$3,396

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
RIVERSIDE	TRANSIT	RIV140830	3TC0702	0	IN WESTERN RIVERSIDE COUNTY FOR RTA: TRANSIT ENHANCEMENTS INCLUDING BUT NOT LIMITED TO BUS SHELTERS AND BENCHES, KIOSKS, SIGNAGE, AND LIGHTING TO ENHANCE SECURITY AND SAFETY AND ADA ACCESS. (FY14 5307) (UZA: MT - $80K, HEMET - $40K).	$150
RIVERSIDE	TRANSIT	RIV140834	REG0702	0	IN WESTERN RIVERSIDE COUNTY FOR RTA: INFORMATION SYSTEMS INCLUDING BUT NOT LIMITED TO THE PURCHASE OF COMPUTERS, PRINTERS, SERVERS, AUDIO-VISUAL EQUIPMENT, COPIES, AND SOFTWARE. (FY14 5307) (UZA: RS - $374K).	$467
RIVERSIDE	TRANSIT	RIV140835	REG0702	0	GROUPED PROJECTS FOR TRANSPORTATION ENHANCEMENT ACTIVITIES: PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - TRANSPORTATION ENHANCEMENT ACTIVITIES (EXCEPT REHABILITATION AND OPERATION OF HISTORIC TRANSPORTATION BUILDINGS, STRUCTURES, OR FACILITIES).	$6,372
RIVERSIDE	TRANSIT	RIV141203	3CR104	0	RCTC COMMUTER RAIL UPGRADES: IN COORDINATION W/ METROLINK TO IMPROVE PASSENGER ACCESS (STATION PLATFORMS, PED BRIDGES, WALKWAYS, BIKE PATHS & STORAGE); TRACK AND LAYOVER FACILITIES; TECHNOLOGY UPGRADES (TIX VENDING MACHINES, INFO KIOSKS, SIGNAGE); & SAFETY/SECURITY IMPROVEMENTS (FENCING & ACCESS CONTROL TO THE PLATFORMS, LIGHTING). ($3,579K TC FOR FY15)	$17,895
RIVERSIDE	TRANSIT	RIV150301	REG0702	0	GROUPED PROJECTS FOR PURCHASE OF OFFICE, SHOP, AND OPERATING EQUIPMENT FOR EXISTING FACILITIES: PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - PURCHASE OF OFFICE, SHOP, AND OPERATING EQUIPMENT FOR EXISTING FACILITIES.	$1
RIVERSIDE	TRANSIT	RIV150302	REG0702	0	GROUPED PROJECTS FOR PURCHASE OF NEW BUSES AND RAIL CARS TO REPLACE EXISTING VEHICLES OR FOR MINOR EXPANSIONS OF THE FLEET: PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - PURCHASE OF NEW BUSES AND RAIL CARS TO REPLACE EXISTING VEHICLES OR FOR MINOR EXPANSIONS OF THE FLEET.	$779
RIVERSIDE	TRANSIT	RIV150303	REG0702	0	IN RIVERSIDE COUNTY FOR INDEPENDENT LIVING PARTNERSHIP - CONTINUATION OF TRIP PROGRAM (FTA 5310 - FFY 12/13 AND FFY 13/14) ($449K TRANSPORTATION DEVELOPMENT CREDIT UTILIZATION FOR FTA 5310).	$898
RIVERSIDE	TRANSIT	RIV150601	REG0702	0	IN WESTERN RIVERSIDE COUNTY FOR RCTC: OPERATING ASSISTANCE FOR START UP OF PERRIS VALLEY LINE ($2.294M TRANSIT DEVELOPMENT CREDIT TO MATCH 5307-TRANSFER FROM FHWA).	$20,000
RIVERSIDE	TRANSIT	RIV150604	REG0702	0	IN WESTERN RIVERSIDE COUNTY FOR RTA: PURCHASE OF 14 REPLACEMENT ALTERNATE-FUEL CONTRACT-OPERATED FIXED ROUTE VEHICLES AND 2 ALTERNATE FUELTROLLEY BUSES. (FY15 5307) (UZA: MURR/TEMEC)	$3,228
RIVERSIDE	TRANSIT	RIV150605	3160050	0	IN WESTERN RIVERSIDE COUNTY FOR RTA: PURCHASE OF 29 REPLACEMENT PARATRANSIT VEHICLES. (FY15 5307) (UZA: HEMET)	$2,714
RIVERSIDE	TRANSIT	RIV150607	3TC0702	0	IN WESTERN RIVERSIDE COUNTY FOR RTA: ASSOCIATED TRANSIT IMPROVEMENTS INCLUDING BUT NOT LIMITED TO BUS SHELTERS AND BENCHES, KIOSKS, SIGNAGE, AND LIGHTING TO ENHANCE SECURITY AND SAFETY AND ADA ACCESS. (FY15 5307) (UZA: RIV/SB - $802K, MT - $46K, HEMET - $32K).	$1,100
RIVERSIDE	TRANSIT	RIV150609	REG0702	0	IN WESTERN RIVERSIDE COUNTY FOR RTA: SUPPORT EQUIPMENT INCLUDING BUT NOT LIMITED TO BODY SHOP HEATER, SHOP AIR COMPRESSORS, SCISSORS LIFT, MOBILITY DEVICES FOR TRAINING, PORTABLE CRANE, AND HAND JACKS. (FY15 5307) (UZA: MT)	$217
RIVERSIDE	TRANSIT	RIV150610	REG0702	0	IN WESTERN RIVERSIDE COUNTY FOR RTA: FACILITY MAINTENANCE IN RIVERSIDE, HEMET, AND CORONA INCLUDING BUT NOT LIMITED TO FURNITURE, FLOORING, PAINT, PLUMBING, ELECTRICAL, LIGHTING, HVAC, PARKING LOT, AND CONCRETE. (FY15 5307) (UZA: RS)	$1,879
RIVERSIDE	TRANSIT	RIV150611	REG0702	0	IN WESTERN RIVERSIDE COUNTY FOR RTA: INFORMATION SYSTEMS INCLUDING BUT NOT LIMITED TO THE PURCHASE OF COMPUTERS, PRINTERS, SERVERS, AUDIO-VISUAL EQUIPMENT, COPIERS, AND SOFTWARE. (FY15 5307) (UZA: MT).	$329
RIVERSIDE	TRANSIT	RIV150612	3160059	0	IN WESTERN RIVERSIDE COUNTY FOR THE CITY OF RIVERSIDE SPECIAL SERVICES: CAPITALIZED PREVENTIVE MAINTENANCE (FY15 5307) (UZA: RIV/SB)	$500
RIVERSIDE	TRANSIT	RIV150613	3160058	0	IN WESTERN RIVERSIDE COUNTY FOR THE CITY OF RIVERSIDE SPECIAL SERVICES: PURCHASE OF 3 CNG REPLACEMENT BUSES (FY13 AND FY14 5339) (UZA: RIV/SB)	$341

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
RIVERSIDE	TRANSIT	RIV150614	3TL507	0	IN THE COACHELLA VALLEY FOR SUNLINE TRANSIT: PURCHASE OF 13 REPLACEMENT CNG PARATRANSIT VEHICLES. (FY15 5307) (UZA: INDIO/ CATHEDRAL CITY)	$1,560
RIVERSIDE	TRANSIT	RIV150615	3TL607	0	IN THE COACHELLA VALLEY FOR SUNLINE TRANSIT: TRANSIT ENHANCEMENTS INCLUDING BUT NOT LIMITED TO THE PURCHASE AND INSTALLATION OF 25 SHELTERS, INCLUDING CONCRETE WORK AND OTHER IMPROVEMENTS FOR ADA COMPLIANCE AND IMPROVED SAFETY. (FY15 5307) (UZA: INCCPS)	$393
RIVERSIDE	TRANSIT	RIV150616	REG0702	0	IN THE COACHELLA VALLEY FOR SUNLINE TRANSIT: REFURBISHMENT OF EXISTING HYDROGEN FUELING STATION. (FY15 5307) (UZA: INCCPS)	$1,500
RIVERSIDE	TRANSIT	RIV150619	3TL507	0	GROUPED PROJECTS FOR PURCHASE OF NEW BUSES AND RAIL CARS TO REPLACE EXISTING VEHICLES OR FOR MINOR EXPANSIONS OF THE FLEET: PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - PURCHASE OF NEW BUSES AND RAIL CARS TO REPLACE EXISTING VEHICLES OR FOR MINOR EXPANSIONS OF THE FLEET.	$7,494
RIVERSIDE	TRANSIT	RIV151002	1O0705	0	IN EASTERN RIVERSIDE COUNTY FOR CALTRANS/RCTC/CVAG FEASIBILITY STUDY OF AN INTERCITY PASSENGER RAIL SERVICE BTWN INDIO AND LOS ANGELES (PH I), AND PROJECT SERVICE DEVELOPMENT PLAN AND ENVIRONMENTAL DOCUMENT (PH II) - PA&ED ONLY (FRA FUNDED PROJECT).	$8,285
RIVERSIDE	TRANSIT	RIV151211	3120034	0	IN WESTERN RIVERSIDE COUNTY FOR RTA: RAPIDLINK SERVICE ALONG THE RTE 1 SERVICE AREA DURING WEEKDAY PEAK COMMUTE PERIODS ALONG UNIVERSITY AND MAGNOLIA AVES (RIVERSIDE/CORONA CORRIDOR) BETWEEN UCR AND CORONA. THIS INCLUDES PURCHASE OF 14 NEW BUSES (40 FT) AND OPERATING ASSISTANCE FOR THE FIRST THREE TO FIVE YEARS OF SERVICE. (CMAQ - $9,212K) (BENEFITS FOR PM 2.5 = .239 KG/DAY; PM 10 = .258 KG/DAY)	$12,283
RIVERSIDE	TRANSIT	RIV151212	3TL807	0	IN WESTERN RIVERSIDE COUNTY FOR RTA - INSTALLATION OF A TURNKEY ITS TO IMPROVE FLEET MANAGEMENT, IMPROVE EFFICIENCY, ENHANCE SERVICE AND INCREASE RIDERSHIP	$5,500
RIVERSIDE	TRANSIT	RIV160201	3120034	0	IN WESTERN RIVERSIDE CO FOR RTA - NEW EXPRESS BUS SERVICE: ROUTE 200 AND 205 CREATED TO SUPPORT INCREASED COMMUTER TRANSIT, UTILIZING THE NEW SR91 EXPRESS LANES FROM NO. RIVERSIDE CO TO ORANGE CO. BOTH ROUTES WILL PROVIDE PEAK HR EXP SVC TO MAJOR TRANSFER HUBS AND MULTI-MODAL STATIONS INCLUDING P-N-R, EMPLOYMENT CENTERS, & RETAIL DESTINATIONS IN RIV & ORANGE COUNTY.	$5,000
RIVERSIDE	TRANSIT	RIV170101	REG0702	0	IN WESTERN RIVERSIDE COUNTY FOR RTA: OPERATING ASSISTANCE FOR FIXED ROUTE AND PARATRANSIT - FY 2016/17.	$59,982
RIVERSIDE	TRANSIT	RIV170102	REG0702	0	IN WESTERN RIVERSIDE COUNTY FOR RTA: PREVENTATIVE MAINTENANCE AND CAPITAL COST OF CONTRACTING - FY 2017 (FY 17 5307 UZA: RS $7,450, MT $3,750, AND CARRY OVER $900K).	$15,125
RIVERSIDE	TRANSIT	RIV170103	3120031	0	IN WESTERN RIVERSIDE COUNTY FOR RTA: PURCHASE OF TEN (10) REPLACEMENT CNG REVENUE VEHICLES FOR USE ON CONTRACT OPERATED FIXED ROUTE SERVICE (FY 17 5307: UZA MT $1,686).	$1,984
RIVERSIDE	TRANSIT	RIV170104	3160050	0	IN WESTERN RIVERSIDE COUNTY FOR RTA: PURCHASE OF 33 REPLACEMENT UNLEADED REVENUE VEHICLES FOR USE ON DEMAND RESPONSE SERVICE (FY 17 5307: UZA RIV-SB).	$3,306
RIVERSIDE	TRANSIT	RIV170105	3TC0702	0	IN WESTERN RIVERSIDE COUNTY FOR RTA: ASSOCIATED TRANSIT IMPROVEMENTS, INCLUDING BUT NOT LIMITED TO BUS SHELTERS AND BENCHES, KIOSKS, SIGNAGE, AND LIGHTING TO ENHANCE SECURITY AND SAFETY AND ADA ACCESS (FY 17 5307 UZA: RIV-SB $80K, MT $45K, AND HEMET $35K).	$200
RIVERSIDE	TRANSIT	RIV170106	REG0702	0	IN WESTERN RIVERSIDE COUNTY FOR RTA - CAPITAL MAINTENANCE SPARES: PURCHASE OF SPARE PARTS FOR ROLLING STOCK UNDER THE BUS MAINTENANCE PROGRAM (FY 17 5307 UZA: RIV-SB $888K).	$1,110
RIVERSIDE	TRANSIT	RIV170107	REG0702	0	IN WESTERN RIVERSIDE COUNTY FOR RTA - CAPITALIZED TIRE LEASE: CAPITAL COST OF LEASING BUS TIRES (FY 17 5307 UZA: MT $243K).	$304
RIVERSIDE	TRANSIT	RIV170108	REG0702	0	IN WESTERN RIVERSIDE COUNTY FOR RTA: PURCHASE OF SUPPORT EQUIPMENT INCLUDING BUT NOT LIMITED TO SHOP AIR COMPRESSORS, SCISSORS LIFT, MOBILITY DEVICES FOR TRAINING, PORTABLE CRANE, HAND JACKS, DRILL BREAKER AND PRESSURE WASHERS (FY 17 5307 UZA: HEMET $58K)	$73

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
RIVERSIDE	TRANSIT	RIV170109	REG0702	0	IN WESTERN RIVERSIDE COUNTY FOR RTA: FACILITY MAINTENANCE IN RIVERSIDE, HEMET, AND CORONA INCLUDING BUT NOT LIMITED TO FURNITURE, FLOORING, PAINT, PLUMBING, ELECTRICAL, LIGHTING, HVAC, ROLL UP DOORS, AND PARKING LOT AND CONCRETE REPAIRS (FY 17 5307 UZA: RIV-SB).	$266
RIVERSIDE	TRANSIT	RIV170110	REG0702	0	IN WESTERN RIVERSIDE COUNT Y FOR RTA: INFORMATION SYSTEMS INCLUDING BUT NOT LIMITED TO THE PURCHASE OF COMPUTERS, PRINTERS, SERVERS, AUDIO-VISUAL EQUIPMENT, COPIERS, SOFTWARE, AND MOBILE DATA TERMINALS (FY 17 5307 UZA: HEMET).	$90
RIVERSIDE	TRANSIT	RIV170111	3160043	0	IN WESTERN RIVERSIDE COUNTY FOR RTA: OPERATIONS AND MAINTENANCE FACILITY PLANNING AND DESIGN, LAND ACQUISITION AND CONSTRUCTION OF THE NEW CENTRAL OPERATIONS AND MAINTENANCE FACILITY. PH I OF THE PROJECT INCLUDES AGENCY NEEDS ASSESSMENT (PA&ED/DESIGN ONLY).	$10,000
RIVERSIDE	TRANSIT	RIV170112	3160059	0	IN WESTERN RIVERSIDE COUNTY FOR THE CITY OF RIVERSIDE SPECIAL TRANSPORTATION SERVICES: CAPITALIZED PREVENTATIVE MAINTENANCE (FY 17 5307 UZA: RIV-SB).	$400
RIVERSIDE	TRANSIT	RIV170113	3160058	0	IN WESTERN RIVERSIDE COUNTY FOR CITY OF RIVERSIDE SPECIAL TRANSPORTATION SERVICES - VEHICLE REPLACEMENT: REPLACE EIGHT (8) PARATRANSIT CNG ALTERNATIVE FUEL VEHICLES IN ACCORDANCE WITH FTA GUIDELINES.	$226
RIVERSIDE	TRANSIT	RIV170114	REG0702	0	IN WESTERN RIVERSIDE COUNTY FOR THE CITY OF RIVERSIDE SPECIAL TRANSPORTATION SERVICES - ELECTRONIC FARE COLLECTION: PURCHASE AND IMPLEMENTATION OF ELECTRONIC FARE COLLECTION SYSTEM (FY 17 5307 UZA: RIV-SB)	$275
RIVERSIDE	TRANSIT	RIV170115	3160058	0	IN WESTERN RIVERSIDE COUNTY FOR THE CITY OF RIVERSIDE SPECIAL TRANSPORTATION SERVICES - VEHICLE REPLACEMENT: REPLACEMENT OF ONE (1) CNG ADA RESERVE VAN PER FTA GUIDELINES (FY 17 5307 UZA: RIV-SB).	$55
RIVERSIDE	TRANSIT	RIV170116	REG0702	0	IN WESTERN RIVERSIDE COUNTY FOR THE CITY OF RIVERSIDE SPECIAL TRANSPORTATION SERVICES - ADMINISTRATIVE VEHICLE REPLACEMENT: REPLACEMENT OF ONE (1) CNG ADMINISTRATIVE VEHICLE PER FTA GUIDELINES (FY 17 5307 UZA: RIV-SB).	$45
RIVERSIDE	TRANSIT	RIV170117	REG0702	0	IN THE COACHELLA VALLEY FOR SUNLINE TRANSIT: OPERATING ASSISTANCE FOR FIXED ROUTE AND PARATRANSIT SERVICE FY 16/17 (FY 17 5307 UZA: INCCPS).	$32,856
RIVERSIDE	TRANSIT	RIV170118	3TL507	0	IN THE COACHELLA VALLEY FOR SUNLINE TRANSIT - PURCHASE OF 13 REPLACEMENT CNG PARATRANSIT VEHICLES. (FY17 5307) (UZA: ICCPS).	$1,833
RIVERSIDE	TRANSIT	RIV170119	3TL504	0	IN THE COACHELLA VALLEY FOR SUNLINE TRANSIT: PURCHASE OF 2 EXPANSION CNG PARATRANSIT VEHICLES (FY17 5307) (UZA: ICCPS).	$282
RIVERSIDE	TRANSIT	RIV170120	3160065	0	IN COACHELLA VALLEY FOR SUNLINE TRANSIT AGENCY: PURCHASE OF INFORMATION TECHNOLOGY (IT) EQUIPMENT INCLUDING VARIOUS SOFTWARE AND HARDWARE (FY17 5307) (UZA: ICCPS).	$312
RIVERSIDE	TRANSIT	RIV170121	3160062	0	IN COACHELLA VALLEY FOR SUNLINE TRANSIT: PHASE 1 DEMOLITION OF THE THOUSAND PALMS SITE AND REDEVELOPMENT OF A NEW ADMINISTRATIVE OFFICE. (FTA 5339, FY'S 15 AND 16) (UZA: ICCPS).	$2,768
RIVERSIDE	TRANSIT	RIV170122	3TL1307	0	IN THE COACHELLA VALLEY FOR SUNLINE TRANSIT: PURCHASE OF 4 REPLACEMENT NON-REVENUE ELECTRIC SERVICE VEHICLES TO REPLACE CNG NON-REVENUE VEHICLES. (FY17 5307) (UZA: ICCPS).	$240
RIVERSIDE	TRANSIT	RIV170123	3TL507	0	IN COACHELLA VALLEY FOR SUNLINE TRANSIT: PURCHASE OF 5 NEW HYDROGEN ELECTRIC HYBRID FCB BUSES AND HYDROGEN STATION, TO REPLACE EXISTING CNG FLEET BUSES. (FY 17 5307) (UZA: ICCPS).	$15,337
RIVERSIDE	TRANSIT	RIV170124	3TL504	0	IN COACHELLA VALLEY FOR SUNLINE TRANSIT: PURCHASE OF LOW/NO EMISSION FIXED ROUTE REPLACEMENT VEHICLE TO SUPPORT THE SERVICE FREQUENCY IMPROVEMENT PLAN. (FY17 5307) (UZA: ICCPS).	$575
RIVERSIDE	TRANSIT	RIV170125	REG0702	0	IN WESTERN RIVERSIDE COUNTY FOR RTA: CONDUCT TRANSIT PLANNING ACTIVITIES INCLUDING THE DEVELOPMENT OF A TRANSIT ASSET MANAGEMENT PLAN, DEVELOPMENT OF SHORT RANGE TRANSIT PLAN AND VARIOUS TRANSIT STUDIES. (FY16 5307) (UZA: RS)	$150

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
RIVERSIDE	TRANSIT	RIV170126	3160062	0	IN THE COACHELLA VALLEY FOR SUNLINE TRANSIT: CONSTRUCT MAINTENANCE BAY IN THOUSAND PALMS FOR ZERO EMISSION BUSES AND PROVIDE AN INTERACTIVE LEARNING CENTER KNOWN AS THE SUNLINE CENTER OF EXCELLENCE IN ZERO EMISSION TECHNOLOGY (COEZET). (FTA 5339, FY16).	$1,800
RIVERSIDE	TRANSIT	RIV170127	REG0702	0	IN THE EASTERN RIVERSIDE COUNTY IN PARTNERSHIP WITH PALO VERDE TRANSIT AGENCY: OPERATING ASSISTANCE FOR THE BLYTHE WELLNESS EXPRESS, A DEMONSTRATION PROJECT PROVIDING TRANSPORTATION OPTIONS FOR RESIDENTS TO ACCESS MEDICAL AND HEALTHCARE SERVICES NOT AVAILABLE WITHIN THE COMMUNITY (FY 16 FTA 5312).	$346
RIVERSIDE	TRANSIT	RIV170301	REG0702	0	IN WESTERN RIVERSIDE COUNTY IN THE CITY OF RIVERSIDE LA SIERRA METROLINK PARKING LOT EXPANSION: EXPANSION OF LA SIERRA METROLINK PARKING LOT FROM 1,000 TO 1,496 SPACES TO PROVIDE FOR EXISTING DEMAND OF INTERCITY AND COMMUTER RAIL AND BUS PASSENGERS, INCLUDING SIX BUS BAYS. OTHER IMPROVEMENTS INCLUDE A NEW SIGNALIZED ACCESS/DRIVEWAY ONTO INDIANA AVE, SMALL STORAGE BUILDING, & RESTROOM FACILITY.	$6,260
RIVERSIDE	TRANSIT	RIV170302	3CR104	0	RCTC COMMUTER RAIL UPGRADES: IN COORDINATION W/ METROLINK TO IMPROVE PASSENGER ACCESS (STATION PLATFORMS, STATION PARKING UPGRADES, PED BRIDGES, WALKWAYS, BIKE PATHS & STORAGE); TRACK AND LAYOVER FACILITIES; TECHNOLOGY UPGRADES (TVM, INFO KIOSKS, SIGNAGE); & SAFETY/SECURITY IMPROVEMENTS (FENCING & ACCESS CONTROL TO THE PLATFORMS, LIGHTING). ($3,391K TDC FOR FY17)	$16,957
RIVERSIDE	TRANSIT	RIV170303	3CR104	0	RCTC COMMUTER RAIL SYSTEMATIC IMP. OF FACILITIES AND EQUIPMT: REHAB OF RCTC'S COMM. RAIL IN COORDINATION W/METROLINK, INCLUDING REHAB OF TRACK, SIGNALS, COMMUNICATION, MECHANICAL & LAYOVER FACILITIES, ROLLING STOCK (LOCOMOTIVES/PASSENGER RAIL CARS), TVMS, UPGRADE PTC IN SO. CA., & IMPS, AND REHAB OF METROLINK STATION PARKING AND FACILITIES ($3,363 TDC USED IN FY17).	$16,817
RIVERSIDE	TRANSIT	RIV180131	2016A319	0	IN WESTERN RIV CO IN THE CITY OF HEMET FOR RIVERSIDE TRANSIT AGENCY - CONSTRUCTION OF THE HEMET MOBILITY HUB ON 2 ACRE PARCEL LOCATED EAST OF RAIL ROW, SOUTH OF EAST DATE STREET, WEST OF NORTH JUANITA ST, AND NORTH OF EAST DEVONSHIRE AVE TO INCLUDE: 10 BUS BAYS, 10 SHELTERS/CANOPIES, 20 PARKING SPACES, 1 TRAFFIC SIGNAL AT DEVONSHIRE & CARMALITA, 1 CONTROLLED INTERSECTION AT DEVONSHIRE AND JUANITA; STORAGE AND RESTROOM FACILITY. (FTA 5339: FY15 $1,626 (URBAN) ; FY16 $317 AND FY17 $326 (SMALL URBAN).	$7,112
RIVERSIDE	TRANSIT	RIV180701	REG0702	0	IN CORONA - OPERATING ASSISTANCE FOR FIXED ROUTE, PARATRANSIT, CAPITAL COST OF CONTRACTING AND COMPREHENSIVE OPERATIONAL ANALYSIS (COA) - FY 2017/18. (FY 18 5307 UZA: RS $575) ($12 TRANSPORTATION DEVELOPMENT CREDIT FOR CONS. IN FY 18 5307 RS FOR COA)	$2,839
RIVERSIDE	TRANSIT	RIV180702	REG0702	0	IN WESTERN RIVERSIDE COUNTY FOR RTA: OPERATING ASSISTANCE FOR FIXED ROUTE AND PARATRANSIT - FY 2017/18. (FY18 5307: UZA: RS - $2,058; MT - $450; HT - $2,000) (FY18 5311: $556)	$63,350
RIVERSIDE	TRANSIT	RIV180703	REG0702	0	IN WESTERN RIVERSIDE COUNTY FOR RTA: PREVENTIVE MAINTENANCE AND CAPITAL COST OF CONTRACTING. (FY18 5307) (UZA: RS - $8,000, MT - $4,700)	$15,875
RIVERSIDE	TRANSIT	RIV180704	3120031	0	IN WESTERN RIVERSIDE COUNTY FOR RTA: PURCHASE OF ELEVEN (11) REPLACEMENT CNG REVENUE VEHICLES FOR USE ON CONTRACT OPERATED FIXED ROUTE SERVICE (FY 18 5307: UZA HEMET $1,838).	$2,162
RIVERSIDE	TRANSIT	RIV180705	3160050	0	IN WESTERN RIVERSIDE COUNTY FOR RTA: PURCHASE OF 5 REPLACEMENT UNLEADED REVENUE VEHICLES FOR USE ON DEMAND RESPONSE SERVICE (FY 18 5307: UZA HEMET).	$467
RIVERSIDE	TRANSIT	RIV180706	3160052	0	IN WESTERN RIVERSIDE COUNTY FOR RTA: PURCHASE OF 2 REPLACEMENT NON-REVENUE UNLEADED TRUCKS AND 2 REPLACEMENT TRAILERS; 1 EXPANSION NON-REVENUE UNLEADED RELIEF CAR AND 1 EXPANSION TRUCK (FY18 5307: UZA: HEMET)	$316
RIVERSIDE	TRANSIT	RIV180707	3TC0702	0	IN WESTERN RIVERSIDE COUNTY FOR RTA: ASSOCIATED TRANSIT IMPROVEMENTS, INCLUDING BUT NOT LIMITED TO BUS SHELTERS AND BENCHES, KIOSKS, SIGNAGE, AND LIGHTING TO ENHANCE SECURITY AND SAFETY AND ADA ACCESS (FY 18 5307 UZA: RIV-SB $10 AND MT $30)	$50
RIVERSIDE	TRANSIT	RIV180708	REG0702	0	IN WESTERN RIVERSIDE COUNTY FOR RTA - CAPITALIZED TIRE LEASE: CAPITAL COST OF LEASING BUS TIRES (FY 18 5307 UZA: RS $80 AND MT $200).	$350
RIVERSIDE	TRANSIT	RIV180709	REG0702	0	IN WESTERN RIVERSIDE COUNTY FOR RTA: SUPPORT EQUIPMENT INCLUDING BUT NOT LIMITED TO OFFICE EQUIPMENT, SHOP AIR COMPRESSORS, SCISSORS LIFT, PORTABLE CRANE, HAND JACKS, DRILL BREAKER AND PRESSURE WASHERS. (FY18 5307) (UZA: RS)	$4

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
RIVERSIDE	TRANSIT	RIV180710	REG0702	0	IN WESTERN RIVERSIDE COUNTY FOR RTA: FACILITY MAINTENANCE IN RIVERSIDE, HEMET, AND CORONA INCLUDING BUT NOT LIMITED TO FURNITURE, FLOORING, PAINT, PLUMBING, ELECTRICAL, LIGHTING, HVAC, ROOF, PARKING LOT, CONCRETE REPAIRS AND CNG COMPRESSORS (FY 18 5307 UZA: RS $1,306 AND HT $325).	$2,039
RIVERSIDE	TRANSIT	RIV180711	REG0702	0	IN WESTERN RIVERSIDE COUNT Y FOR RTA: INFORMATION SYSTEMS INCLUDING BUT NOT LIMITED TO THE PURCHASE OF COMPUTERS, PRINTERS, SERVERS, AUDIO-VISUAL EQUIPMENT, COPIERS, SOFTWARE, AND MOBILE DATA TERMINALS (FY 18 5307 UZA: HEMET).	$1,100
RIVERSIDE	TRANSIT	RIV180712	REG0702	0	IN THE COACHELLA VALLEY FOR SUNLINE TRANSIT: OPERATING ASSISTANCE FOR FIXED ROUTE AND PARATRANSIT SERVICE FOR FY17/18. (UZA: INCCPS)	$32,961
RIVERSIDE	TRANSIT	RIV180713	3160062	0	IN COACHELLA VALLEY FOR SUNLINE TRANSIT: PHASE 2 COMPLETE DEMOLITION OF THE THOUSAND PALMS SITE AND REDEVELOPMENT OF A NEW ADMINISTRATIVE OFFICE.	$2,116
RIVERSIDE	TRANSIT	RIV180714	3TL507	0	IN THE COACHELLA VALLEY FOR SUNLINE TRANSIT: PURCHASE OF 3 REPLACEMENT CNG FIXED ROUTE VEHICLES. (FY18 5307 AND FY18 5339 - UZA: INCCPS)	$2,041
RIVERSIDE	TRANSIT	RIV180715	3ITS0701	0	IN COACHELLA VALLEY FOR SUNLINE TRANSIT: PURCHASE OF INFORMATION TECHNOLOGY (IT) EQUIPMENT INCLUDING VARIOUS SOFTWARE AND HARDWARE (FY18 5307) (UZA: ICCPS).	$450
RIVERSIDE	TRANSIT	RIV180716	REG0702	0	IN THE COACHELLA VALLEY FOR SUNLINE TRANSIT: BUS REHABILITATION PROGRAM TO ACHIEVE FTA'S USEFUL LIFE CYCLE FOR SERVICE FLEET. (FY18 - 5307) (UZA: INCCPS)	$250
RIVERSIDE	TRANSIT	RIV180717	REG0702	0	IN COACHELLA VALLEY FOR SUNLINE TRANSIT: FACILITY IMPROVEMENTS TO IMPROVE THE THOUSAND PALMS AND INDIO FACILITIES, INCLUDING BUT NOT LIMITED TO ROOF REPAIR AND REPLACEMENT, NEW CARPETING AND BLINDS, AND REPAIR OF PARKING FACILITIES FOR STAFF USE (FY18 - 5307) (UZA: INCCPS).	$100
RIVERSIDE	TRANSIT	RIV180718	3TL1307	0	IN THE COACHELLA VALLEY FOR SUNLINE TRANSIT: PURCHASE OF 4 CNG AND/OR ELECTRIC REPLACEMENT NON-REVENUE VEHICLES TO REPLACE CNG VEHICLES. (FY18 5307) (UZA: ICCPS).	$240
RIVERSIDE	TRANSIT	RIV180719	REG0702	0	IN WESTERN RIVERSIDE COUNTY FOR CARE A VAN: PURCHASE OF 2 PARATRANSIT VEHICLES, SMALL BUS AND MINIVAN TO REPLACE EXISTING PARATRANSIT UNLEADED VEHICLES. (SECTION 5310: FFY 2015-2017) (TDC UTILIZATION: $22K IN FY 2018)	$112
RIVERSIDE	TRANSIT	RIV181013	REG0702	0	GROUPED PROJECTS FOR PURCHASE OF NEW BUSES AND RAIL CARS TO REPLACE EXISTING VEHICLES OR FOR MINOR EXPANSIONS OF THE FLEET: PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - PURCHASE OF NEW BUSES AND RAIL CARS TO REPLACE EXISTING VEHICLES OR FOR MINOR EXPANSIONS OF THE FLEET. (FTA 5310: FFY 15-17) (TDC: $234.6K IN FY18).	$1,173
RIVERSIDE	TRANSIT	RIV181014	REG0702	0	GROUPED PROJECTS FOR OPERATING ASSISTANCE TO TRANSIT AGENCIES: PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - OPERATING ASSISTANCE TO TRANSIT AGENCIES. (FTA 5310: FFY 2015-2017) (TDC: $367.6K IN FY 18).	$735
RIVERSIDE	TRANSIT	RIV181015	REG0702	0	IN WESTERN RIVERSIDE COUNTY FOR RTA: FOR CONTINUATION OF TRAVEL TRAINING PROGRAM (FTA 5310 - FFY 14/15, FFY 15/16 AND FFY 16/17) (TDC: $153K IN FY18)	$766
RIVERSIDE	TRANSIT	RIV181016	REG0702	0	IN RIVERSIDE COUNTY FOR INDEPENDENT LIVING PARTNERSHIP - CONTINUATION OF TRIP PROGRAM (FTA 5310 - FFY 14/15, FFY 15/16 AND FFY 16/17) (TDC: $427K IN FY18).	$1,115
RIVERSIDE	TRANSIT	RIV181017	REG0702	0	IN WESTERN RIVERSIDE FOR THE CITY OF CORONA: PURCHASE OR REPAIR OF TRANSIT ENHANCEMENTS/BUS STOP AMENITIES (E.G. BENCHES, TRASH CONTAINERS, KIOSK LEXANS & SCHEDULES, SHELTERS, SUPPLIES, ETC.) FOR VARIOUS STOPS (FY 17 5339 - $61) (TDC: $15 MATCH FOR FTA 5339).	$61
RIVERSIDE	TRANSIT	RIV190601	REG0702	0	IN WESTERN RIVERSIDE COUNTY FOR THE CITY OF CORONA (CORONA CRUISER): CAPITAL COST OF OPERATING FOR FIXED ROUTE & PARATRANSIT SERVICE FOR FY19 (FY18 5307).	$792

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
RIVERSIDE	TRANSIT	RIV190603	REG0702	0	IN WESTERN RIVERSIDE COUNTY FOR THE CITY OF CORONA (CORONA CRUISER): PURCHASE AND INSTALL ITS THAT WILL SUPPORT THE FOLLOWING GPS BASED COMPONENTS: 1) AUTOMATIC VEHICLE LOCATOR; 2) AUTOMATED VEHICLE ANNUNICATOR SYSTEM; 3) COMPUTER AIDED DISPATCHING; 4) AUTOMATED PASSENGER COUNTERS (FY18 5307).	$500
RIVERSIDE	TRANSIT	RIV190604	REG0702	0	IN WESTERN RIVERSIDE COUNTY FOR THE CITY OF CORONA (CORONA CRUISER): PURCHASE OF 2 EXPANSION CNG BUSES FOR FIXED ROUTE SERVICE TO BE ADA ACCESSIBLE, 2 BIKE RACKS, AND 20+ SEATS (FY18 5307).	$950
RIVERSIDE	TRANSIT	RIV190605	REG0702	0	IN THE COACHELLA VALLEY FOR SUNLINE TRANSIT - OPERATING ASSISTANCE FOR FY19 (FY18 5307).	$36,262
RIVERSIDE	TRANSIT	RIV190606	7120007	0	IN THE COACHELLA VALLEY FOR SUNLINE TRANSIT AGENCY - NEW OPERATING SERVICE FOR QUICK BUS (LINE 111) LIMITED STOP SERVICE THAT WILL OPERATE EVERY 60-MIN IN TWO MAJOR SEGMENTS: B/W PALM CANYON AT STEVENS IN PALM SPRINGS AND THE SUNLINE TRANSIT HUB AT TOWN CTR IN PALM DESERT; AND B/W THE TOWN CTR IN PALM DESERT & THE TRANSIT CTR AT 5TH & VINE STREETS IN COACHELLA.	$2,125
RIVERSIDE	TRANSIT	RIV190607	REG0702	0	IN THE COACHELLA VALLEY FOR SUNLINE TRANSIT AGENCY - NEW 'SUNRIDE' RIDESHARE PROGRAM TO INCLUDE PURCHASE OF 4 VANS AND OPERATING ASSISTANCE TO PROVIDE FIRST AND LAST MILE CONNECTIONS.	$1,250
RIVERSIDE	TRANSIT	RIV190608	3TL507	0	IN THE COAHELLA VALLEY FOR SUNLINE TRANSIT AGENCY - PURCHASE OF 3 REPLACEMENT FIXED ROUTE CNG BUSES (FY18 5307).	$2,100
RIVERSIDE	TRANSIT	RIV190609	3TL607	0	IN THE COACHELLA VALLEY FOR SUNLINE TRANSIT AGENCY - TRANSIT ENHANCEMENTS INCLUDING THE MODERNIZATION OF BUS SHELTERS, BENCHES, KIOSKS, SIGNAGE, AND LIGHTING TO ENHANCE SECURITY AND SAFETY (FY18 5307).	$200
RIVERSIDE	TRANSIT	RIV190610	3ITS0701	0	IN THE COACHELLA VALLEY FOR SUNLINE TRANSIT AGENCY - PURCHASE OF IT EQUIPMENT FOR SOFTWARE, NETWORK INFRASTRUCTURE, COMPUTING RESOURCES, AND BUSINESS ANALYTICS (FY18 5307).	$350
RIVERSIDE	TRANSIT	RIV190611	3160059	0	IN WESTERN RIVERSIDE COUNTY FOR THE CITY OF RIVERSIDE (RIVERSIDE SPECIAL SERVICES) - CAPITALIZED PREVENTATIVE MAINTENANCE (FY18 5307).	$400
RIVERSIDE	TRANSIT	RIV190612	REG0702	0	IN WESTERN RIVERSIDE COUNTY FOR RTA: OPERATING ASSISTANCE FOR FIXED ROUTE AND PARATRANSIT - FY 2018/19. (FY19 5311)	$956
RIVERSIDE	TRANSIT	RIV190613	REG0702	0	IN WESTERN RIVERSIDE COUNTY FOR RTA: OPERATING ASSISTANCE FOR FIXED ROUTE AND PARATRANSIT - FY 2018/19 (FY18 5307) (FY18 5311).	$62,606
RIVERSIDE	TRANSIT	RIV190614	REG0702	0	IN EASTERN RIVERSIDE COUNTY FOR PALO VERDE VALLEY TRANSIT AGENCY: OPERATING ASSISTANCE FOR BLYTHE WELLNESS EXPRESS - FY 2019/20. (FY19 5311)	$382
RIVERSIDE	TRANSIT	RIV190615	REG0702	0	IN WESTERN RIVERSIDE COUNTY FOR RTA: PREVENTIVE MAINTENANCE AND CAPITAL COST OF CONTRACTING (FY18 5307).	$16,500
RIVERSIDE	TRANSIT	RIV190616	3120031	0	IN WESTERN RIVERSIDE COUNTY FOR RTA: PURCHASE OF THIRTY THREE (33) REPLACEMENT CNG REVENUE VEHICLES FOR USE ON CONTRACT OPERATED FIXED ROUTE SERVICE (FY18 5307).	$7,240
RIVERSIDE	TRANSIT	RIV190617	3160050	0	IN WESTERN RIVERSIDE COUNTY FOR RTA: PURCHASE OF 29 REPLACEMENT UNLEADED REVENUE VEHICLES FOR USE ON DEMAND RESPONSE SERVICE (FY 18 5307).	$3,029
RIVERSIDE	TRANSIT	RIV190618	3160052	0	IN WESTERN RIVERSIDE COUNTY FOR RTA: REPLACEMENT OF 8 NON-REVENUE UNLEADED RELIEF CARS; REPLACEMENT OF 1 NON-REVENUE UNLEADED TRUCK (FY18 5307).	$266
RIVERSIDE	TRANSIT	RIV190619	REG0702	0	IN WESTERN RIVERSIDE COUNTY FOR RTA - CAPITALIZED TIRE LEASE: CAPITAL COST OF LEASING BUS TIRES (FY18 5307).	$350
RIVERSIDE	TRANSIT	RIV190620	3TC0702	0	IN WESTERN RIVERSIDE COUNTY FOR RTA: ASSOCIATED TRANSIT IMPROVEMENTS, INCLUDING BUT NOT LIMITED TO BUS SHELTERS AND BENCHES, KIOSKS, SIGNAGE, AND LIGHTING TO ENHANCE SECURITY AND SAFETY AND ADA ACCESS (FY18 5307).	$200

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
RIVERSIDE	TRANSIT	RIV190621	REG0702	0	IN WESTERN RIVERSIDE COUNTY FOR RTA: FACILITY MAINTENANCE IN RIVERSIDE, HEMET, AND CORONA INCLUDING BUT NOT LIMITED TO FURNITURE, FLOORING, PAINT, PLUMBING, ELECTRICAL, LIGHTING, HVAC, ROOF, PARKING LOT, CONCRETE REPAIRS AND CNG COMPRESSORS (FY18 5307).	$897
RIVERSIDE	TRANSIT	RIV190622	REG0702	0	WESTERN RIVERSIDE COUNT Y FOR RTA: INFORMATION SYSTEMS INCLUDING BUT NOT LIMITED TO THE PURCHASE OF COMPUTERS, PRINTERS, SERVERS, AUDIO-VISUAL EQUIPMENT, COPIERS, SOFTWARE, AND MOBILE DATA TERMINALS (FY18 5307).	$1,846
SAN BERNARDINO	LOCAL HIGHWAY	200019	200019	0	BRIDGE NO. 54C0035 (PREVIOUSLY SHOWN AS 00L0028), BASE LINE, OVER CITY CREEK. REPLACE 4 LANE BRIDGE WITH 4 LANE BRIDGE.	$22,810
SAN BERNARDINO	LOCAL HIGHWAY	200035	200035	0	WABASH AV FROM 5TH ST TO I-10 - CONSTRUCT NEW 2 LANE STREET TO I-10 TO MATCH ON AND OFF RAMPS-CONSTRUCT MISSING LINK (2 LANE IN EACH DIRECTION)-1 MILE	$950
SAN BERNARDINO	LOCAL HIGHWAY	200201	200201	0	IN ADELANTO, EL MIRAGE RD. FROM SR. 395 TO 1 MILE EAST TO ADELANTO RD. AND ON ADELANTO RD. FROM EL MIRAGE RD. TO 1 MILE SOUTH-AUBURN AVE. PAVE EXISTING 2 LANE RD.	$560
SAN BERNARDINO	LOCAL HIGHWAY	200202	200202	0	IN CHINO - ON CHINO AVENUE FROM MONTE VISTA TO SIXTH STREET-WIDEN EXISTING 2 LANES TO 4 LANES AND INSTALL SIGNAL AT INTERSECTION OF CHINO AVE. AND MONTE VISTA	$584
SAN BERNARDINO	LOCAL HIGHWAY	200207	200207	0	PINE AVE EXTENSION (0-4 LANES) FROM ROUTE 71 TO EUCLID AVENUE IN THE CITY OF CHINO, CA	$24,940
SAN BERNARDINO	LOCAL HIGHWAY	200401	200401	0	FAIRFIELD RANCH RD: CONSTRUCT BOX CULVERT (APPROX. 0.40 MILES SOUTH OF STANFIELD CT.) TO RE-OPEN 0.76 MILES OF FAIRFIELD RANCH RD AT CURRENT CLOSURE SOUTH TO PINE AVE. CONSTRUCT RD IMPROVEMENTS AND ADD MARKED BIKE LANES IN BOTH DIRECTIONS.	$4,530
SAN BERNARDINO	LOCAL HIGHWAY	200405	200405	0	S. MILLIKEN AVE. GRADE SEPARATION - ON MILLIKEN FROM UPR TO NORTH OF MISSION BLVD. RR GRADE SEP-CONSTRUCT O/C/U/C AT RR-REALIGNMENT OF STS TO MEET O/CROSSING & INTERSTN IMPROVMTS	$81,986
SAN BERNARDINO	LOCAL HIGHWAY	200419	200419	0	ALABAMA STREET WIDENING - WIDEN FROM 2-4 LANES FROM NORTH CITY LIMITS TO 3,000 FT. NORTH PALMETTO	$7,200
SAN BERNARDINO	LOCAL HIGHWAY	200603	200603	0	RIVERSIDE AVE. OVER UPRR MAINTRACKS & COLTON YARD, 0.1 MI S OF I-10 REMOVE AND REPLACE EXISTING 5 LANE BRIDGE WITH 7 LANE BRIDGE SCOPING FOR PROJECT. HIGH COST PROJECT AGREEMENT REQUIRED PRIOR TO PE AUTHORIZATION.(#54C0062)(NON-CAPACITY PROJECT: THROUGH LANES WILL REMAIN 5. 2 TURN LANES ARE BEING EXTENDED.)	$435
SAN BERNARDINO	LOCAL HIGHWAY	200609	200609	0	MT.VIEW WIDENING/EXTENSION PROJECT- WIDEN S/B FROM 2-4LNS- FROM COULSTON TO RIVERVIEW (SOUTH OF SANTA ANA RIVER) (PROJECT IS SPLIT INTO 2 SEPARATE PROJECTS AS OF THE 2011 ENTRY)	$7,500
SAN BERNARDINO	LOCAL HIGHWAY	200619	200619	0	GLEN HELEN PARKWAY - FROM 0.2 MILES WEST OF CAJON CREEK TO 0.2 MILES EAST OF CAJON CREEK-REPLACE 36 FT WIDE 48 FT LONG 2 LN BRIDGE OVER CAJON CREEK W/ 102 FT, 526 FT LONG 4 LN BRIDGE (54C0025)	$29,200
SAN BERNARDINO	LOCAL HIGHWAY	200622	200622	0	LENWOOD GRADE SEPARATION - NORTH OF WEST MAIN ST; APPROX.400 FT. N/O TO 600 FT. S/O BNSF AND SANTA FE RR RIGHT-OF-WAY-4 TRAVEL LANE GRADE SEPARATION (CA627)	$31,590
SAN BERNARDINO	LOCAL HIGHWAY	200805	4GL04	0	NORTH VINEYARD AVE. GRADE SEPARATION - BETWEEN HOLT BLVD AND AIRPORT DR. BUILDING RR BRIDGE FLYOVER-NO LANES ADDED TO ARTERIALS. THE GRADE SEP. IS AT THE UP RR ALHAMBRA LINE	$55,195
SAN BERNARDINO	LOCAL HIGHWAY	200810	200810	0	BAKER BLVD. BRIDGE - OVER MOJAVE RIVER, 0.2 MI SW OF DEATH VALLEY RD REPLACE 2 LANE BRIDGE W 4 LANE BRIDGE (BRIDGE NO 54C0127)	$13,300
SAN BERNARDINO	LOCAL HIGHWAY	200816	200816	0	ROCK SPRINGS RD.: 0.9 MILES EAST OF ARROWHEAD LAKE RD.; REPLACE 2 LANE BRIDGE WITH 2 LANE BRIDGE.	$32,876

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
SAN BERNARDINO	LOCAL HIGHWAY	200835	200835	0	SAN BERNARDINO AVE. FROM CHERRY AVE. TO FONTANA CITY LIMITS (ELM AVE.) (1.27 MILES)-WIDEN 2-4 LANES (NORTH SIDE ONLY)	$3,866
SAN BERNARDINO	LOCAL HIGHWAY	200843	200843	0	RECHE CANYON RD. FROM 1.20 MILES OF S. BARTON ROAD TO 0.42 MILES SOUTH OF BARTON RD (0.78 MILES)-WIDEN FROM 2-4 LANES	$5,650
SAN BERNARDINO	LOCAL HIGHWAY	200856	200856	0	MT. VERNON BRIDGE OVER UPRR(54C0101) -ON MT. VERNON AVE. FROM "M" ST. TO I-10 ON RAMP. WIDENING BRIDGE FROM 2-4 LANES (CA338)	$9,038
SAN BERNARDINO	LOCAL HIGHWAY	200866	REG0701	0	BRIDGE NO. 54C0547, BEAR VALLEY ROAD, OVER BNSF RY, AMTRAK, & UP RR, 3.8 MI E OF ROUTE I-15. WIDEN 6 LANE BRIDGE TO 7 LANES (MEDIAN TURN LANE) AND SEISMICALLY RETROFITTING EXISTING BRIDGE.	$8,540
SAN BERNARDINO	LOCAL HIGHWAY	201101	200630	0	ARROW ROUTE WIDENING FROM 2 TO 4 LANES. BRIDGE AND STREET WIDENING FOR ARROW ROUTE, FROM MONTE VISTA AVENUE TO CENTRAL AVENUE	$2,200
SAN BERNARDINO	LOCAL HIGHWAY	201103	4OM0701	0	FOOTHILL BOULEVARD BOTTLENECK AND SAFETY IMPROVEMENTS- FROM CENTRAL TO GROVE AVE.INSTALL RIGHT TURN LANES AT MAJOR INTERSECTIONS, ELONGATE LEFT TURNS FOR SAFE TURNING, CURB, GUTTER DRAINAGE, ROADWAY REHAB.	$5,300
SAN BERNARDINO	LOCAL HIGHWAY	201105	4A07268	0	MICHIGAN AVENUE WIDENING (2-4 LANES) FROM COMMERCE WAY TO MAIN STREET	$1,800
SAN BERNARDINO	LOCAL HIGHWAY	201106	4A01008	0	COMMERCE WAY FROM MICHIGAN AVENUE TO BARTON ROAD AT VIVIENDA AVENUE. NEW ROAD - 4 LANE ROAD EXTENSION	$3,500
SAN BERNARDINO	LOCAL HIGHWAY	201113	4GL04	0	ORANGE STREET FROM LUGONIA TO SAN BERNARDINO AVE. -WIDEN THE EAST SIDE OF THE STREET TO REMOVE A RESTRICTION IN THE ROADWAY TRAVEL AREA. PROJECT INCLUDES ROAD PAVING, CURB AND GUTTER, SIDEWALK, STREET LIGHTING, STRIPING AND MARKING, AND LANDSCAPE IMPROVEMENTS. THE PROJECT WILL IMPROVE PEDESTRIAN AND VEHICULAR SAFE TRAVEL AND CIRCULATION.	$540
SAN BERNARDINO	LOCAL HIGHWAY	201147	4A01132	0	SLOVER AVENUE FROM ETIWANDA AVENUE TO 800 FEET EAST OF ETIWANDA AVENUE WIDEN FROM 2-4 LANES	$6,551
SAN BERNARDINO	LOCAL HIGHWAY	201156	20061014	0	GREENSPOT RD. FROM SANTA PAULA ST. TO SOUTH CITY LIMIT - WIDEN FROM 2-4 LANES WITH MEDIAN (2.2 MILES)	$22,530
SAN BERNARDINO	LOCAL HIGHWAY	201158	4A07226	0	AGUA MANSA FROM RIALTO CHANNEL TO RANCHO AVE. 2-4 LANE WIDENING	$6,652
SAN BERNARDINO	LOCAL HIGHWAY	201169	4A07263	0	H STREET FROM KENDALL DRIVE TO 40TH STREET WIDENING FROM 2-4 LANES	$1,060
SAN BERNARDINO	LOCAL HIGHWAY	201170	4A07119	0	5TH STREET FROM STERLING AVE TO VICTORIA AVE WIDEN FROM 2-4 LANES.	$5,800
SAN BERNARDINO	LOCAL HIGHWAY	201180	200852	0	DEL ROSA DRIVE FROM 5TH STREET TO 6TH STREET-WIDEN FROM 2 TO 4 LANES (0.2 MILES)FORMERLY PART OF PROJECT ID 200852	$673
SAN BERNARDINO	LOCAL HIGHWAY	201181	4OM0701	0	3RD STREET FROM TIPPECANOE AVENUE TO LELAND/NORTON WAY AND FROM LELAND/NORTON WAY TO VICTORIA AVENUE SHOULDER WIDENING AND MEDIANS- 1.25 MILES)(NO THROUGH LANE WIDENING)TOTAL LENGTH 1.95 MILESFORMERLY PART OF PROJECT ID 200852	$3,200

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
SAN BERNARDINO	LOCAL HIGHWAY	201182	4A07142	0	TIPPECANOE AVENUE FROM 3RD STREET TO 5TH STREET - WIDEN FROM 2-4 LANES (0.3 MILES)FORMERLY PART OF PROJECT ID 200852	$798
SAN BERNARDINO	LOCAL HIGHWAY	201183	4A01368	0	5TH ST FROM TIPPECANOE AVENUE TO DEL ROSA DR.-WIDEN FROM 2-4 LANES	$5,255
SAN BERNARDINO	LOCAL HIGHWAY	201191	4OM0701	0	BASE LINE FROM SEINE AVENUE TO STONEY CREEK DRIVE - WIDEN FROM 4-6 LANES (0.2 MILES)	$683
SAN BERNARDINO	LOCAL HIGHWAY	2011104	4OM0701	0	IN HIGHLAND: VICTORIA AVE FROM 3RD ST TO 6TH ST INCLUDING RECONSTRUCTION OF THE 5TH ST/VICTORIA AVE INTERSECTION, ADDITIONAL TURN LANES, SHOULDER IMPROVEMENTS, TRAFFIC SIGNAL MOD, NO ADD'L THRU LANES; STORM DRAIN IMPROVEMENTS FROM 3RD ST TO 9TH ST W/ CONNECTION TO THE EXISTING DRAINAGE CHANNEL ON THE SOUTH SIDE OF 3RD ST.	$8,325
SAN BERNARDINO	LOCAL HIGHWAY	2011150	4RL04	0	SOUTH COAST AIR BASIN RIDESHARE PROGRAM (ONGOING)(TOLL CREDITS ARE BEING USED AS MATCH FOR CMAQ IN FY16/17 $310)	$13,021
SAN BERNARDINO	LOCAL HIGHWAY	2011151	4RL04	0	MOJAVE DESERT AIR BASIN RIDESHARE PROGRAM (TOLL CREDITS TO MATCH: CMAQ)(ONGOING)	$5,896
SAN BERNARDINO	LOCAL HIGHWAY	20010135	RRC0702	0	MONTE VISTA AVENUE @ UNION PACIFIC RAILROAD CROSSING - GRADE SEPARATION PART OF ALAMEDA CORRIDOR GRADE SEPARATION PROJECTS FUNDED WITH TCRP #55.1(CA552)(TOLL CREDITS: DEMO FY14/15, PNRS FY15/16)	$31,325
SAN BERNARDINO	LOCAL HIGHWAY	20082402	4A07308	0	WIDEN BASE LINE BETWEEN CHURCH AVE AND BUCKEYE ST FROM 4-6 LANES	$20,958
SAN BERNARDINO	LOCAL HIGHWAY	20084104	20084104	0	JOSHUA STREET PARK & RIDE EXPANSION - ON JOSHUA STREET WEST OF US 395,C ITY OF HESPERIA, EXISTING PNR HAS 188 SPACES AND NEEDS TO ADD 200 SPACES, TO INCLUDE LANDSCAPING, LIGHTING AND VARIOUS NON-CAPACITY STREET IMPROVEMENTS TO FACILITATE ADDITIONAL SPACES (M003). TOLL CREDITS TO MATCH CMAQ.	$743
SAN BERNARDINO	LOCAL HIGHWAY	20112007	4A0801	0	I-40 NEEDLES CONNECTOR: RDWAY/SIDEWALK IMPRVMTS ALONG 6,300FT: J ST FROM I-40 OFF/RMPS TO W BROADWAY; W BROADWAY FROM J ST TO NEEDLES HWY; NEEDLES HWY FROM W BROADWAY TO N K ST; N K ST TO S/ABUTMENT OF CO RIVR BRDGE INTRSCT IMPRVMTS AT J ST/W BROADWAY, W BROADWAY/NEEDLES HWY, NEEDLES HWY/N K ST W/ INCL TRAFFIC SIGS, TURN LNS, STRIPING/SIGNAGE/SIDEWALK(TOLL CREDITS; STPL14/15 $277, CBIP14/15 $190)	$5,521
SAN BERNARDINO	LOCAL HIGHWAY	20130306	REG0704	0	CITY CREEK LEVEE TRAILS - CONSTRUCT NON-MOTORIZED TRAILS ALONG THE EASTERLY AND WESTERLY CITY CREEK FLOOD CONTROL LEVEES BETWEEN HIGHLAND AVE AND BASE LINE	$42
SAN BERNARDINO	LOCAL HIGHWAY	20130401	20130401	0	BRIDGE NO. 54C0592, ORANGE ST OVER PLUNGE CREEK OVERFLOW, 1.5 MI N OF PIONEER AVE. REPLACE EXISTING TWO LANE BRIDGE STRUCTURE WITH FOUR LANE BRIDGE STRUCTURE. (NON-CAPACITY: BRIDGE WILL REMAIN STRIPED FOR TWO LANES)	$4,814
SAN BERNARDINO	LOCAL HIGHWAY	20130402	20130402	0	RESTRIPE EXISTING STRUCTURAL SECTION OF BAKER BLVD BETWEEN I-15 RAMPS AND SH 127 FROM 2 - 4 LANE CONFIGURATION IN CONJUNCTION WITH PROJECT TO REPLACE EXISTING 2 LANE BRIDGE 54CO127 WITH 4 LANE BRIDGE	$25
SAN BERNARDINO	LOCAL HIGHWAY	20131101	REG0704	0	IN THE CITY OF VICTORVILLE - MOJAVE RIVERWALK: CONSTRUCT A 9.5 MILE (CLASS I, II, III) BIKE AND PED PATH CONNECTING THE VICTOR VALLEY TRANSPORTATION CENTER (6TH ST), MOJAVE NARROWS REGIONAL PARK (YATES RD) AND VICTOR VALLEY COLLEGE (BEAR VALLEY RD).	$5,783
SAN BERNARDINO	LOCAL HIGHWAY	20131103	REG0704	0	GROUPED PROJECTS FOR BICYCLE AND PEDESTRIAN FACILITIES FUNDED BY RECREATIONAL TRAILS PROGRAM: PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - BICYCLE AND PEDESTRIAN FACILITIES (BOTH MOTORIZED AND NON-MOTORIZED)	$953
SAN BERNARDINO	LOCAL HIGHWAY	20131501	200018	0	IN HIGHLAND: ON BOULDER AVE FROM SAN MANUEL VILLAGE ENTRANCE TO GREENSPOT ROAD; STREET AND LANDSCAPING IMPROVEMENTS (NON-CAPACITY ENHANCEMENTS)	$2,730

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
SAN BERNARDINO	LOCAL HIGHWAY	20131502	4A01387	0	IN HIGHLAND: ALONG NORTH SIDE OF 5TH STREET FROM VICTORIA AVE TO PALM AVE; SHOULDER IMPROVEMENTS (NO ADDITIONAL LANES)	$2,000
SAN BERNARDINO	LOCAL HIGHWAY	20131503	0A6410	0	IN HIGHLAND: PALM AVE HISTORIC DISTRICT IMPROVEMENTS; PALM AVE (BASE LINE TO HIGHLAND AVE) & PACIFIC ST (CHURCH AVE TO 350FT WEST OF PALM) SHOULDER IMPROVEMENTS (CURB, GUTTER AND SIDEWALK IMPROVEMENTS), NEW ROUNDABOUT AT PALM/PACIFIC INT., BIKE LANES (INTERSECTION IMPROVEMENTS - NO NEW LANES)	$2,733
SAN BERNARDINO	LOCAL HIGHWAY	20131506	0A6410	0	IN FONTANA: SAN SEVAINE TRAIL (PHASE 1, SEG 2) NORTH/SOUTH 1.25 MILE LONG, 12 FT WIDE PAVED MULTI-USE TRAIL FROM BANYAN ST. TO THE PACIFIC ELECTRIC TRAIL IN FONTANA	$3,966
SAN BERNARDINO	LOCAL HIGHWAY	20150001	4G07421	0	BRIDGE NO. 54C0112, CENTRAL AVE OVER UP RR AMTRAK METROLINK, 0.2 MI S HOLT AVENUE. BRIDGE REHABILITATE. REHABILITATE EXISTING FOUR LANE BRIDGE WITH SIX LANE BRIDGE WITH SIDEWALKS. TOLL CREDITS TO MATCH EARREPU.	$14,585
SAN BERNARDINO	LOCAL HIGHWAY	20150004	20010133	0	IMPROVE FOOTHILL BOULEVARD (OLD STATE ROUTE 66) BETWEEN GROVE AVENUE AND SAN BERNARDINO RD: INCLUDES BIKE LANES, SIDEWALKS, STREET LIGHTS, TRAFFIC SIGNAL, PAVEMENT REHABILITATION, AND STRIPING.	$2,110
SAN BERNARDINO	LOCAL HIGHWAY	20150005	200006	0	CITRUS AVENUE FROM JURUPA TO SLOVER - WIDEN FROM 2-4 LANES W/LEFT TURN LANES AT INTERSECTIONS (SLOVER, SANTA ANA AVE & JURUPA-3 INTERSECTIONS)	$6,365
SAN BERNARDINO	LOCAL HIGHWAY	20150008	SBD55025	0	IN HESPERIA: MAIN ST FROM I-15 TO MAPLE (PHASE 1) / MAPLE TO 11TH (PHASE 2) / I-15 TO SR 395 (PHASE 3); WIDEN AND RECONSTRUCT FROM 4-6 LANES, INCLUDING WIDENING OF BRIDGE OVER CALIFORNIA AQUEDUCT (2.75 MILES)	$30,136
SAN BERNARDINO	LOCAL HIGHWAY	20150009	4G0167	0	SHADOW MT RD FROM HELENDALE RD EAST TO NTH; CONSTRUCT AND EXTEND FROM 2-4 LNS - INCLUDING 4 LANE BRIDGE OVER MOJAVE RIVER & GRADE SEP OVER RAIL TRACKS WITH ADDITIONAL CONNECT TO VISTA RD ON W SIDE OF TRACKS (PA&ED ONLY)	$3,145
SAN BERNARDINO	LOCAL HIGHWAY	20150012	SBD31903	0	FOOTHILL BOULEVARD (STATE ROUTE 66) AT FOURTH MODIFY SIGNALS, CHANNELIZE TRAFFIC SIGNAL, INTERSECTION IMPROVEMENTS/REALIGN INTERSECTION (0.11 MILE)	$1,137
SAN BERNARDINO	LOCAL HIGHWAY	20150102	7120004	0	PAVEMENT PRESERVATION/REHABILITATION MORONGO BASIN-JOSHUA TREE AREA ROADS: YUCCA TRAIL, ALTA LOMA DR, QUAIL SPRINGS RD, ABERDEEN DR (PROJECT WILL USE TOLL CREDITS FOR STPL FUNDS).	$1,834
SAN BERNARDINO	LOCAL HIGHWAY	20150108	7120004	0	BICYLE AND PEDESTRIAN ACCESSIBILITY IMPROVEMENTS ALONG SIX METROLINK TRANSIT STATIONS (MONTCLAIR, UPLAND, RANCHO CUCAMONGA, FONTANA, RIALTO, AND SAN BERNARDINO) PHASE I. (TOLL CREDIT TO MATCH ATP IN ALL PHASES)	$4,679
SAN BERNARDINO	LOCAL HIGHWAY	20150109	7120004	0	PEDESTRIAN & BICYCLE ACCESS IMPROVEMENTS WITHIN 1/2 MILE OF RAPID TRANSIT STATIONS, INCLUDING SIDEWALK AND CURB RAMP REPLACEMENT & BIKE PARKING AT STATIONS (TERMINI AT POMONA DOWNTOWN METROLINK STATION & KAISER MEDICAL CENTER FONTANA, FOLLOWING HOLT AVE/ BLVD, ARCHIBALD AVE, MILLIKEN AVE, FOOTHILL BLVD, & SIERRA AVE).	$8,603
SAN BERNARDINO	LOCAL HIGHWAY	20150201	2002160	0	GROVE AVE CORRIDOR: WIDEN GROVE BETWEEN FOURTH ST AND STATE ST / AIRPORT DR (4-6 LNS); AND IMPROVEMENTS TO GROVE AVE / HOLT BLVD INTERSECTION. TOLL CREDIT TO MATCH EARREPU.	$6,933
SAN BERNARDINO	LOCAL HIGHWAY	20150401	REG0703	0	HIGHLAND: DEL ROSA DR SHOULDER IMPROVEMENTS; FROM 3RD ST TO 5TH ST (CURB, GUTTER & SIDEWALK IMPROVEMENTS) (NON-CAPACITY)	$680
SAN BERNARDINO	LOCAL HIGHWAY	20150701	SBD031426	0	SEGMENT 1A: NEEDLES HIGHWAY FROM 600 FT NORTH OF BALBOA PLACE, TO 500 FT SOUTH OF PARK ROAD; REALIGN AND REPROFILING ROADWAY. (REMAINS 1 LANE EACH DIRECTION)(SEGMENT OF PROJECT SBD031426)	$4,651
SAN BERNARDINO	LOCAL HIGHWAY	20150901	REG0701	0	IN THE CITY OF CHINO: MONTE VISTA AVE & UPRR INTERSECTION - ELIMINATE SAFETY HAZARDS; CONSTRUCT RAISED MEDIAN, INSTALLATION OF PEDESTRIAN SIDEWALK BARRICADE, CONCRETE PANEL SURFACING, FLASHING LIGHT SIGNAL WITH AUTOMATIC GATES.	$886

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
SAN BERNARDINO	LOCAL HIGHWAY	20151302	4AL04	0	REPLACE OR REHABILITATE MULTIPLE BRIDGES ALONG NATIONAL TRAILS HIGHWAY BETWEEN DAGGETT TO THE WEST AND INTERSTATE 40 TO THE EAST.	$39,001
SAN BERNARDINO	LOCAL HIGHWAY	20151501	7120004	0	GROUPED PROJECTS FOR BICYCLE AND PEDESTRIAN FACILITIES FUNDED WITH ATP CYCLE 2 FUNDS (STATE - NON SRTS): PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - BICYCLE AND PEDESTRIAN FACILITIES (BOTH MOTORIZED AND NON-MOTORIZED). TOLL CREDITS TO MATCH ATP.	$850
SAN BERNARDINO	LOCAL HIGHWAY	20151502	7120004	0	GROUPED PROJECTS FOR SAFETY IMPRVMNTS - (STATE - SRTS): PROJECTS CONSISTENT W/ 40 CFR PART 93.126 EXEMPT TABLES 2&3 CATEGORIES - RAILROAD/HIGHWAY CROSSING, SAFER NON-FED-AID SYSTEM ROADS, SHOULDER IMPRVMNTS, TRAFFIC CONTROL DEVICES AND OPERATING ASSISTANCE OTHER THAN SIGNALIZATION PROJECTS, INTERSECTION SIGNALIZATION PROJECTS AT INDIVIDUAL INTERSECTIONS, PVMNT MARKING. TOLL CREDITS TO MATCH ATP	$11,508
SAN BERNARDINO	LOCAL HIGHWAY	20151503	7120004	0	GROUPED PROJECTS FOR BICYCLE AND PEDESTRIAN FACILITIES FUNDED WITH ATP CYCLE 2 FUNDS (MPO - NON SRTS): PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - BICYCLE AND PEDESTRIAN FACILITIES (BOTH MOTORIZED AND NON-MOTORIZED). TOLL CREDITS TO MATCH ATP.	$376
SAN BERNARDINO	LOCAL HIGHWAY	20151504	7120004	0	GROUPED PRJCTS FOR SFTY IMPRVMNTS (MPO - SRTS): PROJECTS CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2/3 CATEGORIES - RAILROAD/ HIGHWAY CROSSING, SAFER NON-FED-AID SYSTEM RDS, SHLDER IMPRVMNTS, TRAFFIC CONTROL DEVICES AND OP. ASSISTANCE OTHER THAN SIGNALIZATION PROJECTS, INTERSECTION SIGNALIZATION PROJECTS AT INDIVIDUAL INTERSECTIONS, PAVEMENT MARKING DEMO. TOLLS CREDIT TO MATCH ATP.	$4,980
SAN BERNARDINO	LOCAL HIGHWAY	20151505	4A07248	0	AVENUE E IMPROVEMENTS: WIDEN AVENUE E, 2-4 LANES, FROM 5TH ST TO 4TH ST. INSTALL ROUNDABOUTS ALONG AVE E AT 5TH, 4TH, 3RD, 2ND, AND BYRANT ST. INSTALL ROUNDABOUT AT YUCAIPA BLVD & BRYANT ST. (PHASED PROJECT)	$2,338
SAN BERNARDINO	LOCAL HIGHWAY	20152202	SBD031426	0	SEGMENT 1B: NEEDLES HIGHWAY FROM 500 FT SOUTH OF PARK ROAD NORTH TO DAVID DRIVE; OVERLAY EXISTING ROADWAY, L-5373' (1.01 MI)(PARENT PROJECT SBD031426).	$1,782
SAN BERNARDINO	LOCAL HIGHWAY	20159907	4M01025	0	I-10 @ ALABAMA ST IC: INTERSECTION IMPROVEMENTS W/ RAMP WIDENING (NO CAPACITY ENHANCEMENTS)	$10,968
SAN BERNARDINO	LOCAL HIGHWAY	20170101	REG0704	0	GROUPED PROJECTS FOR PURCHASE OF OFFICE, SHOP, AND OPERATING EQUIPMENT FOR EXISTING FACILITIES FUNDED BY THE RECREATIONAL TRAILS PROGRAM: PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - PURCHASE OF OFFICE, SHOP, AND OPERATING EQUIPMENT FOR EXISTING FACILITIES (BOTH MOTORIZED AND NON-MOTORIZED)	$876
SAN BERNARDINO	LOCAL HIGHWAY	20170201	4A01069	0	IN COLTON: LA CADENA DRIVE OVER SANTA ANA RIVER, 1.5 MI SOUTH OF I-10; REPLACE EXISTING 4 LANE BRIDGE WITH 4 LANE BRIDGE (54C0077)	$27,535
SAN BERNARDINO	LOCAL HIGHWAY	20170502	0A6410	0	YUCCA VALLEY: LITTLE LEAGUE DRIVE PEDESTRIAN IMPROVEMENTS (ATP CYCLE 3 - STATEWIDE COMPONENT)	$779
SAN BERNARDINO	LOCAL HIGHWAY	20170802	SBDLS08	0	IN BARSTOW: N. 1ST AVENUE OVER BNSF RAILWAY UP RR AMTRAK 0.2 MI N. MAIN STREET (BRIDGE NO 54C0088) REPLACE EXISTING 2 LANE BRIDGE WITH 2 LANE BRIDGE. EXISTING BRIDGE TO BE REMOVED. TOLL CREDITS TO MATCH EARREPU FUNDS.	$2,591
SAN BERNARDINO	LOCAL HIGHWAY	20170804	4120193	0	CITY OF FONTANA TO INSTALL FIBER OPTIC CABLE TO BRING BACK VIDEO AND COMMUNICATIONS TO THE TRANSPORTATION MANAGEMENT CENTER. TOLL CREDIT TO MATCH EARREPU.	$1,198
SAN BERNARDINO	LOCAL HIGHWAY	20170805	4120116	0	REALIGN RECHE CANYON ROAD TO HUNTS LANE/WASHINGTON STREET. CONSTRUCT NEW FOUR (4) LANE ROAD WITH TOTAL LENGTH OF 0.30 MILE. TOLL CREDITS TO MATCH EARREPU. (PA&ED ONLY)	$450
SAN BERNARDINO	LOCAL HIGHWAY	20171101	4A07275	0	PACIFIC ST. RECONFIGURATION FROM 2 LANES TO 2 LANES WITH CONTINUOUS CENTER 2-WAY LEFT-TURN LANE AND BIKE LANES (VICTORIA AVE TO APPROXIMATELY 350' WEST OF PALM AVENUE). 1 CENTERLINE MILE OF BIKE LANE.	$1,316

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
SAN BERNARDINO	LOCAL HIGHWAY	20171402	4TL104	0	GROUPED PROJECTS FOR BICYCLE AND PEDESTRIAN FACILITIES - NON - MOTORIZED (ATP CYCLE 3 STATE/MPO): PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - BICYCLE AND PEDESTRIAN FACILITIES (NON-MOTORIZED)	$23,006
SAN BERNARDINO	LOCAL HIGHWAY	20190001	4M01003	0	SR-210/5TH ST IC IMPROVEMENTS: WIDEN & RESTRIPE 5TH ST (4-6 LANES) FROM EAST EDGE OF CITY CREEK BRDG TO THE EB SR-210 RAMPS W/ADD'L TURN POCKETS PLUS 2 TRUCK ACCESS LANES; WIDEN & RESTRIPE 5TH ST (6-8 LANES) UNDER SR-210 B/W EB & WB RAMPS, INCL. ADD'L THRU & TURN LANES; WIDEN THE EB & WB ON-RAMPS 2-3 LANES, WIDEN THE EB & WB OFF-RAMPS 1-2 LANES, ALL RAMPS REMAIN 1 LN AT THE MAINLINE. (COMBINES PRIOR PROJS 2011153 & 2011154)	$9,661
SAN BERNARDINO	LOCAL HIGHWAY	20190003	2016A319	0	IN HIGHLAND: 3RD & 5TH ST CORRIDOR IMPROVEMENTS: WIDEN 0.4 MILES OF 3RD ST B/W PALM AVE & 5TH ST 2-4 LNS; EXTEND 3RD ST NE TO CONNECT TO/AT 5TH ST/CHURCH AVE INTERSECTION; RESTRIPE 0.1 MILE OF 5TH ST B/W CHURCH AVE & EAST EDGE OF CITY CREEK BRDG 4-6 LNS; SHOULDER IMPROVEMENTS ALONG 5TH ST, CENTRAL AVE & PALM AVE; ADD'L TURN LANES AT 3RD/PALM & 5TH/PALM INTERSECTIONS. (COMB 2017 FTIP ID 2011105)	$7,058
SAN BERNARDINO	LOCAL HIGHWAY	20190004	2016A319	0	IN RANCHO CUCAMONGA: ETIWANDA AVE & SCRRA GRADE SEPARATION; PROJECT REPLACES AN AT GRADE RAILROAD CROSSING WITH AN OVERHEAD ROADWAY AT THE SCRRA/BNSF RAILROAD CORRIDOR.	$60,000
SAN BERNARDINO	LOCAL HIGHWAY	20190006	2016A319	0	FOOTHILL BOULEVARD: OLEANDER AVE TO CYPRESS AVE; WIDEN 4-6 LANES	$2,858
SAN BERNARDINO	LOCAL HIGHWAY	20190007	2016A319	0	FOOTHILL BOULEVARD: SIERRA AVE TO MANGO AVE; WIDEN 4-6 LANES	$1,620
SAN BERNARDINO	LOCAL HIGHWAY	20190012	2016A319	0	RIALTO: WIDEN RIVERSIDE AVE; FROM SOUTH CITY LIMITS TO SLOVER AVE 4-6 LANES.	$13,206
SAN BERNARDINO	LOCAL HIGHWAY	20190013	2016A319	0	RIALTO: RECONFIGURE/WIDEN ALDER AVE OVER SR-210, AND WIDEN LOCUST AVE FROM RENAISSANCE PKWY TO CASMALIA ST. ALDER AVE BRIDGE WIDENING WILL ACCOMMODATE ADDITIONAL LEFT AND RIGHT TURN LANES FOR ON AND OFF RAMPS FROM N&S BOUND ALDER, PROVIDE FOR FULL STANDARD LANES. LOCUST AVE WIDENING WILL ACCOMMODATE CLASS II BIKE LANES, AND ADA COMPLIANT SIDEWALKS. (NON-CAPACITY)	$11,643
SAN BERNARDINO	LOCAL HIGHWAY	20190014	200815	0	SAN BERNARDINO COUNTY: WIDEN RANCHERO ST. 2-4 LANES - FROM 0.3 M E/O MARIPOSA TO HESPERIA CL (3 MILES)	$12,450
SAN BERNARDINO	LOCAL HIGHWAY	20190103	4120181	0	IN RIALTO: WIDEN ALDER AVE 2-4 LNS FROM BASELINE RD TO RENAISSANCE PKWY; IMPROVEMENTS ALONG RANDALL AVE (NON-CAPACITY) FROM RIVERSIDE AVE TO CACTUS AVE; PROJECT INCLUDES VARIOUS IMPROVEMENTS SUCH AS, ADDED TURN LANES, BIKE LANES, ELIMINATE BOTTLENECKS, NEW LANDSCAPED MEDIANS, AND IMPROVED TRAFFIC SIGNAL OPERATIONS. (RTP IDS 4120181 & 4120231 RESPECTFULLY)	$4,582
SAN BERNARDINO	LOCAL HIGHWAY	20190104	4A04102	0	IN FONTANA: WIDEN FOOTHILL BLVD (4-6 LANES) FROM HEMLOCK AVE TO ALMERIA AVE; INCLUDES CLASS II BIKE LANES, RAISED MEDIAN, AND REPLACEMENT OF HISTORIC MALAGA BRIDGE TO ACCOMMODATE STREET WIDENING. EXISTING MALAGA BRIDGE TO BE RELOCATED. (PA&ED ONLY)	$1,501
SAN BERNARDINO	LOCAL HIGHWAY	20199902	4200L002	0	IN FONTANA: IMPROVE VICTORIA/WALNUT AVE (REMAINS 2 LNS) FROM WEST OF THE I-15 TO REALIGNMENT OF INTERSECTION TO CHERRY AVE AND FROM CHERRY STREET NAME CHANGE TO WALNUT AVE FROM CHERRY AVE TO SAN SEVAINE RD; WIDEN & IMPROVE CHERRY AVE (4-6 LNS) FROM I-210 TO BASELINE AVE; IMPROVE S. HIGHLAND AVE (REMAINS 2 LNS) FROM CHERRY AVE TO SAN SEVAINE RD; IMPROVE SAN SEVAINE RD (REMAINS 2 LNS) FROM S. HIGHLAND AVE TO WALNUT ST; SEGMENTS WILL INCLUDE CENTER MEDIANS & CLASS I AND CLASS II BIKE LANES.	$20,234
SAN BERNARDINO	LOCAL HIGHWAY	SBD031118	SBD031118	0	EDISON AVENUE RAMONA TO CENTRAL WIDEN FROM 4 LANES TO 6 LANES & REHABILITATION (SPOT WIDENING)	$2,000
SAN BERNARDINO	LOCAL HIGHWAY	SBD031152	SBD031152	0	RIVERSIDE DRIVE AT SAN ANTONIO FLOOD CONTROL CHANNEL WIDEN BRIDGE FROM 4 LANES TO 6 LANES (PA&ED ONLY)	$20,000

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
SAN BERNARDINO	LOCAL HIGHWAY	SBD031217	SBD031217	0	BEECH AVENUE FOOTHILL TO MILLER AVE WIDEN FROM 2 LANES TO 4 LANES	$5,055
SAN BERNARDINO	LOCAL HIGHWAY	SBD031266	SBD031266	0	SIERRA AVENUE FOOTHILL BOULEVARD TO BASELINE AVENUE- WIDEN FROM 4 TO 6 LANES	$8,129
SAN BERNARDINO	LOCAL HIGHWAY	SBD031294	SBD031294	0	REDLANDS BOULEVARD AT CALIFORNIA STREET WIDEN INTERSECTION AND INSTALL TRAFFIC SIGNALS AND DRAINAGE AND CURB AND GUTTERS	$6,000
SAN BERNARDINO	LOCAL HIGHWAY	SBD31876	SBD31876	0	CALIFORNIA STREET BARTON ROAD TO REDLANDS BOULEVARD WIDEN FROM 2 TO 4 LANES	$1,090
SAN BERNARDINO	LOCAL HIGHWAY	SBD31905	SBD31905	0	MT. VERNON AVENUE BRIDGE (OVERHEAD) AT BNSF REPLACE GRADE SEPARATION, REPLACE 4 LANE BRIDGE WITH 4 LANE BRIDGE FROM RIALTO AVE TO 5TH STREETS (0.2 MILES SOUTH OF RTE. 66)(BRIDGE NO 54C0066)	$145,393
SAN BERNARDINO	LOCAL HIGHWAY	SBD41316	SBD41316	0	MT. VIEW AVE. RAILWAY GRADE CROSSING, 1500 FT. NORTH OF I-10 WIDEN RAILWAY GRADE CROSSING FROM 1 LANE NORTH & SOUTH TO 2 LANES NORTH & SOUTH & UPGRADE GATES (0.75 MILES)	$2,288
SAN BERNARDINO	LOCAL HIGHWAY	SBD41317	SBD41317	0	MT. VIEW AVE. BRIDGE AT MISSION CREEK CHANNEL WIDEN ROADWAY & SHOULDER WORK AND EXISTING BRIDGE AT MT. VIEW -1 LN. NO. & SO. TO 2 LNS N/S & LFT_TURNS TO MAKE A TOTAL OF 4 LANES (2 IN EACH DIRECTION)	$1,655
SAN BERNARDINO	LOCAL HIGHWAY	SBD55011	SBD55011	0	YUCCA LOMA RD.: FROM APPLE VALLEY RD. TO RINCON RD. (WESTERLY SEGMENT) - WIDEN EXISTING 2 LANE RD. TO 4 LANE RD. (2 LANES IN EACH DIRECTION) (1 MILE)	$5,500
SAN BERNARDINO	LOCAL HIGHWAY	SBD55030	SBD55030	0	RANCHERO RD. FROM TOPAZ AVE TO 7TH ST. - WIDEN FROM 2 TO 5 LANES (6 MILES)(INCLUDES BRIDGE OVER CALIFORNIA AQUEDUCT)	$25,100
SAN BERNARDINO	LOCAL HIGHWAY	SBD55031	SBD55031	0	ALABAMA STREET FROM 3RD STREET TO SOUTH CITY LIMITS - WIDEN FROM 2 TO 3 NB LANES (0.25 MILES)	$1,078
SAN BERNARDINO	LOCAL HIGHWAY	SBD55033	SBD55033	0	BOULDER AVE. FROM GREENSPOT TO SOUTH CITY LIMITS - WIDEN FROM 2-4 LANES (0.70 MILES)	$2,350
SAN BERNARDINO	LOCAL HIGHWAY	SBD59019	SBD59019	0	40TH ST. FROM JOHNSON LANE TO ELECTRIC AVENUE; ACQUIRE ROW AND WIDEN ROAD FROM 2TO 4 LANES (1,200 FT.)	$3,264
SAN BERNARDINO	LOCAL HIGHWAY	SBD59021	SBD59021	0	STATE STREET FROM HANFORD ST TO FOOTHILL BLVD.; EXTEND AND CONSTRUCT (4) LANES OF ROADWAY (1.5 MILES) TO CONNECT STATE STREET TO RANCHO AVENUE (NEW ROAD)4 PHASES TOTAL IN PROJECT	$17,628
SAN BERNARDINO	LOCAL HIGHWAY	SBD88086	SBD88086	0	EUCLID AVENUE FROM D ST TO FOOTHILL BOULEVARD - STORM DRAIN EXTENSION	$4,250
SAN BERNARDINO	LOCAL HIGHWAY	SBD97147	SBD97147	0	GREEN TREE BLVD AT AT&SF RAILROAD CONSTRUCT 4-LANE BR & CONNECT TO HESPERIA & RIDGECREST RD (TOLL CREDITS USED TO MATCH EARREPU)	$41,478
SAN BERNARDINO	LOCAL HIGHWAY	SBDLS08	SBDLS08	0	GROUPED PROJECTS FOR BRIDGE REHABILITATION AND RECONSTRUCTION - HBP PROGRAM -PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126, 127, 128 EXEMPT TABLES 2 & 3	$252,228
SAN BERNARDINO	STATE HIGHWAY	1830	1830	10	I-10 AT CEDAR AVE. BETWEEN SLOVER AND BLOOMINGTON - FROM BLOOMINGTON TO ORANGE, RECONSTRUCT IC - WIDEN 4-6 LANES WITH LEFT AND RIGHT TURN LANES; ADD 1 LANE TO THE EB OFF RAMP WHICH GOES BEYOND THE GORE AREA; ADD 2 LANES ON THE WB OFF RAMP WITHIN THE GORE AREA; PAVEMENT REHAB FROM ORANGE TO SLOVER (REMAINS 4 LANES).	$79,209

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
SAN BERNARDINO	STATE HIGHWAY	34011	34011	138	NEAR WRIGHTWOOD FROM PHELAN RD TO I-15 WIDEN FROM 2 TO 4 LANES WITH MEDIAN(EA3401U)	$87,181
SAN BERNARDINO	STATE HIGHWAY	34040	34040	395	CONSTRUCT A 4-LANE EXPRESSWAY FROM 1.8 MILES SOUTH OF DESERT FLOWER ROAD (PM19.3) TO 0.5 MILES SOUTH OF FARMINGTON ROAD (PM 48.0) (PPNO 0260B)(PA&ED ONLY)	$4,000
SAN BERNARDINO	STATE HIGHWAY	34770	34770	58	0.4 MILES WEST OF KERN CO LINE TO 7.5 MI EAST OF JCT RTE 395 - CONSTRUCT 4 LANE EXPRESS WAY ON NEW ALIGNMENT, NEW INTERCHANGE AT US 395 AND SR 58 (PPNO: 0215C)	$244,936
SAN BERNARDINO	STATE HIGHWAY	44812	44810	10	I-10 TIPPECANOE RECONFIGURE INTERCHANGE & LOCAL RD IMP/MOD (HP 1366)(WESTBOUND - PHASE II)(FORMERLY PART OF RTP ID 44810)	$57,358
SAN BERNARDINO	STATE HIGHWAY	200432	200432	10	AT I-10 AND FORD ST. ON RAMP TO THE FREEWAY - SIGNAL AND INTERSECTIONS IMPROVEMENTS	$700
SAN BERNARDINO	STATE HIGHWAY	200451	4M0802	395	US-395 (HESPERIA, VICTORVILLE, & ADELANTO) FROM SR18 TO CHAMBERLAINE WAY -INTERIM WIDENING-WIDEN FROM 2-4 LANES AND ADD LEFT TURN CHANNELIZATION AT INTERSECTIONS(EA OF631)(TOLL CREDITS: FY17/18 $2,217 FOR STP, TC TO MATCH EARREPU)(PPNO 0260J)	$55,054
SAN BERNARDINO	STATE HIGHWAY	200602	200602	60	SR 60 AND VINEYARD AVE. INTERCHANGE RECONSTRUCTION-LENGTHEN BRIDGE TO ACOMMODATE VINEYARD AVE WIDENING AND RAMP WIDENING 4-6 LANES	$7,621
SAN BERNARDINO	STATE HIGHWAY	200604	200604	60	SR60 AT GROVE AVENUE INTERCHANGE RECONSTRUCTION AND GROVE AVE. +/-300 FT. N/S OF SR 60-WIDEN FROM 4-6 LANES	$7,621
SAN BERNARDINO	STATE HIGHWAY	200614	200614	215	I-215 BI-COUNTY HOV LANE GAP CLOSURE PROJECT- ADD 1 HOV LANE IN EACH DIRECTION FROM SPRUCE ST. ON RIV 91 TO ORANGE SHOW RD;(ALSO INCLUDES RTP 4M0803 (STIP 2010 $24881 RCTC AND $45089 SANBAG)(M003)	$186,472
SAN BERNARDINO	STATE HIGHWAY	200803	200803	10	I-10 AT VINEYARD AVE INTERCHANGE, INTERCHANGE WIDENING FROM 4-6 LANES AND WIDEN ON AND OFF RAMPS TO TWO LANES AND OTHER IMPROVEMENTS, INTERSECTION IMPROVEMENTS, AND ENHANCE EXISTING LANDSCAPING.	$3,008
SAN BERNARDINO	STATE HIGHWAY	201114	4M04050	60	WIDENING OF CENTRAL AVENUE BRIDGE CROSSING SR-60 TO ACCOMODATE WIDENING OF RAMPS AND THE DESIGNATED FREEWAY LANES.	$24,226
SAN BERNARDINO	STATE HIGHWAY	201132	4M07017	60	SR-60 AT ARCHIBALD AVENUE; WIDEN WB AND EB ENTRY RAMPS (ADD 1 LANE), WIDEN WB AND EB EXIT RAMPS (ADD LEFT TURN LANE), ADD ADDITIONAL LEFT TURN LANE FROM ARCHIBALD AVE TO SR-60 ENTRY RAMPS. (NON-CAPACITY ENHANCING ALONG ARCHIBALD).	$14,563
SAN BERNARDINO	STATE HIGHWAY	201186	REG0701	210	AT SR-210/BASE LINE IC: RECONSTRUCT/WIDEN BASE LINE BETWEEN CHURCH AVE AND BOULDER AVE FROM 4 TO 6 THROUGH LANES AND EXTEND LEFT TURN LANES, WIDEN RAMPS – WB EXIT 1 TO 3 LANES, WB AND EB ENTRANCES 1 TO 3 LANES INCLUDING HOV PREFERENTIAL LANES (EA 1C970)	$31,216
SAN BERNARDINO	STATE HIGHWAY	2002160	2002160	10	I-10 AT GROVE AVE AND 4TH ST: CONSTRUCT NEW INTERCHANGE AT I-10 AND GROVE AVE; CLOSE EXISTING I-10/FOURTH ST INTERCHANGE; AND LOCAL STREET IMPROVEMENTS ALONG GROVE AVE (CHILD PROJECT IS 20171102).	$199,423
SAN BERNARDINO	STATE HIGHWAY	20084106	4OM0701	210	ON SR 210 LANDSCAPING SEGMENTS 8-11 - PROVIDE PLANTING, IRRIGATION AND INERT GROUNDCOVER ALONG SR210 FROM WEST OF SIERRA AVE IN THE CITY OF FONTANA TO SR210/I-215 I.C IN SAN BERNARDINO	$8,499
SAN BERNARDINO	STATE HIGHWAY	20110110	4M1007	210	CONSTRUCT NEW FULL-SERVICE INTERCHANGE WITH DIAMOND CONFIGURATION AT SR-210 AND PEPPER AVENUE IN THE CITY OF RIALTO. ADD WB AND EB ACCEL AND DECEL LANES AND WIDEN PEPPER FROM 2-4 LANES FROM HIGHLAND AVE. TO EXISTING 4 LANE SECTION S/O INTERCHANGE (TOLL CREDIT: FY15/16 STPL $1,780)	$25,970
SAN BERNARDINO	STATE HIGHWAY	20110602	4AL04	18	SR18 AT APPLE VALLEY ROAD INTERSECTION REALIGNMENT WITH TURN AND APPROACH LANES	$8,500

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
SAN BERNARDINO	STATE HIGHWAY	20111625	4M01005	210	SR210 LANE ADDITION - ADD 1 MIXED FLOW LANE IN EACH DIRECTION FROM HIGHLAND AVE. TO SAN BERNARDINO AVE (REDLANDS) INCLUDES AUX. LANES BETWEEN BASE LINE AND 5TH STS AND AN ACCELERATION LANE AT 5TH ST. E/B ON RAMP AND DECELRATION LANE AT HIGHLAND AVE E/B OFF RAMP EXTENDING TO STERLING AVENUE, AND INCLUDES ROAD REHAB. (UNDER 1/4 MILES LENGTH)	$187,050
SAN BERNARDINO	STATE HIGHWAY	20130102	SBD41339	10	REPLACE PEPPER AVENUE BRIDGE STRUCTURE OVER I-10 WIDEN FROM 3-5 LANES TO PROVIDE FOR ONE ADDITIONAL THROUGH LANE, ONE ADDITIONAL SOUTHBOUND TURN LANE AND CONSTRUCT MINOR RAMP IMPROVEMENTS, MINOR ARTERIAL STREET IMPROVEMENTS, AND ANCILLARY IMPROVEMENTS. (TOLL CREDITS: FY14/15 CON; DEMO & IMD)	$10,111
SAN BERNARDINO	STATE HIGHWAY	20131504	4M07003	10	I-10 @ UNIVERSITY ST INTERCHANGE: INTERSECTION IMPROVEMENTS WITH ON/OFF RAMP WIDENING. (NO CAPACITY ENHANCEMENTS)	$5,100
SAN BERNARDINO	STATE HIGHWAY	20150305	713	215	I-215 LANDSCAPING (SEGMENTS 1-3 & 5) IN THE CITY OF SAN BERNARDINO (TOLL CREDITS: PNRS CON)	$13,519
SAN BERNARDINO	STATE HIGHWAY	20159901	4122006	15	I-15 EXPRESS LANES: CONST 2 NEW EX LNS IN EACH DIRECTION B/W SR-60 & SR-210, CONST 1 EX LN IN EACH DIRECTION B/W CANTU-GALLEANO RANCH RD & SR-60 AND 1 EXP LN IN EACH DIRECTION B/W SR-210 AND DUNCAN CANYON RD. ADDITIONAL IMPROVEMENTS TO AUX LN WIDENING, UNDERCROSSINGS, AND RECONSTRUCTION OF RAMPS AND LANE TRANSITIONS WHERE NEEDED.	$476,590
SAN BERNARDINO	STATE HIGHWAY	20159902	4122004	10	I-10 CORRIDOR EXPRESS LANE WIDENING (CONTRACT 1): FROM SAN ANTONIO AVE TO I-10/I-15 IC; IMPLEMENT 2 EXPRESS LNS IN EACH DIRECTION FOR A TOTAL OF 4 GENERAL PURPOSE AND 2 EXPRESS LNS IN EACH DIRECTION AND AUX LANE WIDENING, UNDERCROSSINGS, OVERCROSSINGS, AND RECONSTRUCTION OF RAMPS AND LANE TRANSITIONS WHERE NEEDED. (TOLL CREDITS TO MATCH STP, CMAQ) (TOLL SYSTEM PROVIDER (TSP) SPLIT AS 20159902A)	$690,623
SAN BERNARDINO	STATE HIGHWAY	20159903	4122005	10	I-10 CORRIDOR EXPRESS LANE WIDENING (CONTRACT 2): IMPLEMENT 2 EXPRESS LANES IN EACH DIRECTION FROM I-10/I-15 INTERCHANGE TO CALIFORNIA ST; IMPLEMENT 1 EXPRESS LANE IN EACH DIRECTION FROM CALIFORNIA ST TO FORD STREET IN REDLANDS FOR A TOTAL OF 10-12 LANES, AND AUX LANES, UNDERCROSSINGS, OVERCROSSINGS, RAMP RECONSTRUCTION AND LANE TRANSITIONS WHERE NEEDED. (PPNO 0314K)(TC USED TO MATCH CMAQ & STPL IN FYS 20/21 & 21/22)	$1,214,607
SAN BERNARDINO	STATE HIGHWAY	20159906	4M07002	10	I-10/MONTE VISTA AVE IMPROVEMENTS: UNDERCROSSING RECONSTRUCTION AND WIDENING 4-6 LNS AND RAMP IMPROVEMENTS.	$33,145
SAN BERNARDINO	STATE HIGHWAY	20171102	2002160	10	I-10 AT 4TH STREET BRIDGE REPLACEMENT: WIDEN 4TH ST FROM 2-4 LANES UNDER THE BRIDGE. (CHILD PROJECT OF FTIP ID 2002160).	$22,336
SAN BERNARDINO	STATE HIGHWAY	20171104	4160003	10	I-10 EUCLID INTERCHANGE IMPROVEMENT PROJECT.	$8,974
SAN BERNARDINO	STATE HIGHWAY	20179701	4M07008	60	IN ONTARIO, ON SR-60: FROM HAVEN AVE TO MILLIKEN AVENUE; CONSTRUCT AUXILIARY LANE AND WIDEN CONNECTOR RAMPS.	$35,662
SAN BERNARDINO	STATE HIGHWAY	20179901	4122003	10	I-10 EB TRUCK CLIMBING LANE: CONTINUE THE EXISTING EASTBOUND TRUCK CLIMBING LANE ON I-10 FROM THE 16TH ST BRIDGE IN THE CITY OF YUCAIPA FOR ABOUT 3 MILES TO JUST EAST OF THE COUNTY LINE ROAD UNDERCROSSING. THE PROJECT INCLUDES A TRANSITION LANE TO ALLOW TRUCKS TO MERGE WITH GENERAL TRAFFIC AND MAY INCLUDE MINOR STRUCTURAL IMPROVEMENTS TO ACCOMMODATE FOR LANE WIDENING (PPNO 3009Q)	$34,596
SAN BERNARDINO	STATE HIGHWAY	20190008	200614	215	I-215 LANDSCAPING (BI-COUNTY HOV GAP CLOSURE): NON-CAPACITY PROJECT TO ABSORB ONLY THE LANDSCAPE PORTION OF PROJECT 200614.	$7,894

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
SAN BERNARDINO	STATE HIGHWAY	20190009	2016A319	138	FROM CONE PINE INTERSECTION TO JUNCTION I-15: WIDEN TWO BNSF BRIDGE STRUCTURES FROM 2-4 LANES. CONSTRUCT RETAINING WALLS.	$16,734
SAN BERNARDINO	STATE HIGHWAY	20190010	4120198	10	COLTON: MT. VERNON AVE BRIDGE WIDENING OVER I-10: WIDEN MT. VERNON BRIDGE STRUCTURE (3-4 LANES; 1 NEW SB LANE) TO ACCOMMODATE NEW DEDICATED TURN AND BIKE LANES, WIDEN MT. VERNON AVE (2-4 LANES) FROM I-10 EB OFF/ON-RAMPS TO APPROX. 300 FT SOUTH ALONG MT. VERNON; REALIGN MT. VERNON & E VALLEY BLVD INTERSECTION; RELOCATE WB ON-RAMP (REMAINS 1 LANE AT THE MAINLINE).	$53,869
SAN BERNARDINO	STATE HIGHWAY	20159902A	4122004	10	I-10 CORRIDOR (CONTRACT 1) EXPRESS LANE - TOLL SYSTEM PROVIDER (TSP): FROM SAN ANTONIO AVE TO I-10/I-15 IC; DESIGN CONSTRUCT AND IMPLEMENTATION OF EXPRESS LANE TOLL SYSTEM (NON-CAPACITY SPLIT PROJECT FROM 20159902)(TOLL CREDITS TO MATCH STP)	$33,440
SAN BERNARDINO	STATE HIGHWAY	SBD31850	SBD31850	215	IN GRAND TERRACE @ I-215 BARTON RD INTERCHANGE RECONSTRUCT OVERCROSSING & RAMPS W/ ROUNDABOUT WEST OF I-215. LOCAL ST WORK TO INCLUDE REMOVAL OF LA CROSSE AVE BETWEEN VIVENDA AVE & BARTON RD, REPLACE W/ NEW LOCAL RD; IMPROVEMENTS TO BARTON RD & MICHIGAN WAY ST/VIVENDA AVE INTERSEC & EXTENSION OF COMMERCE WY (TOLL CREDITS USED TO MATCH DEMO: ENG & ROW)	$101,507
SAN BERNARDINO	STATE HIGHWAY	SBD59204	SBD59204	215	I-215 AT UNIVERSITY PARKWAY INTERCHANGE - RECONSTRUCT INTERCHANGE (DIVERGENT DIAMOND)(TOLL CREDITS TO MATCH STP FY16/17, HIP FY19/20)	$5,682
SAN BERNARDINO	STATE HIGHWAY	SBD59303	SBD59303	999	SET ASIDES/RESERVATIONS FOR FUTURE SB45 -PLANNING, PROGRAMMING, & MONITORING (PPNO 9811)	$7,560
SAN BERNARDINO	STATE HIGHWAY	SBDLS01	REG0701	999	GROUPED PROJECTS FOR SAFETY IMPROVMNTS - SHOPP COLLISION REDUCTION PROGRAM-PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 & 3 CATEGORIES -RAILROAD/HIWAY XING, SAFER NON-FED AID SYSTEM ROADS, SHOULDER IMPROVMTS, TRAFFIC CONTRL DEVICES & OPER ASSIST OTHER THAN SIGNALIZATION PROJECTS @ INDIVIDUAL INTERSECTIONS, PAVEMT MARKING DEMOS, TRUCK CLIMBING LNS O/S THE URBANIZED AREA	$220,804
SAN BERNARDINO	STATE HIGHWAY	SBDLS011	REG0701	999	GROUPED PROJECTS FOR SAFETY IMPROVEMENTS - SHOPP MANDATES PROGRAM-PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND 3 CATEGORIES-RAILROAD/HIGHWAY CROSSING, SAFER NON-FEDERAL AID SYSTEM ROADS. SHOULDER IMPROVEMENTS, TRAFFIC CONTROL DEVICES AND OPERATING ASSISTANCE OTHER THAN SIGNALIZATION PROJECTS. INTERSECTION SIGNALIZATION PROJECTS AT INDIVIDUAL INTERSECTIONS, PAVEMENT MARKING	$4,140
SAN BERNARDINO	STATE HIGHWAY	SBDLS02	REG0701	999	GROUPED PROJECTS FOR PAVEMENT RESURFACING AND/OR REHABILITATION - SHOPP ROADWAY PRESERVATION PROGRAM-PROJECTS ARE CONSISTENT W/40 CFR PART 93.126 EXEMPT TABLES 2-PAVEMENT RESURFACING AND/OR REHAB. EMERGENCY RELIEF (23 U.S.C.125) WIDENING NARROW PAVEMENTS OR RECONSTRUCTING BRIDGES (NO ADDL TRAVEL LANES)	$329,285
SAN BERNARDINO	STATE HIGHWAY	SBDLS03	REG0701	999	GROUPED PROJECTS FOR SHOULDER IMPROVEMENTS - SHOPP ROADSIDE PRESERVATION PROGRAM-PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 CATEGORY -PAVEMENT RESURFACING AND OR REJABILITATION. EMMERGENCY RELIEF (23U.S.C. 125) WIDENING NARROW PAVEMENTS OR RECONSTRUCTING BRIDGES (NO ADDLT TRAVEL LANES	$11,506
SAN BERNARDINO	STATE HIGHWAY	SBDLS04	REG0701	999	GROUPED PROJECTS FOR SAFETY IMPROVEMENTS - SHOPP MOBILITY PROGRAM-PROJECTS ARE CONSISTENT W/40 CFR PART 93.126 EXEMPT TABLES 2 & 3-RAILROAD/HIWAY XING, SAFER NON-FED AID SYSTEM ROADS, SHOULDER IMPRVMTS,TRAFFIC CONTROL DEV., &OPERATING ASSIST OTHER THAN SIGNALIZATION PROJECTS, INTERSECT SIGNALIZATION PROJS AT INDIVIDUAL INTERSECTS, PAVEMENT MARKING DEMOS,TRUCK CLIMBING LNS OUTSIDE URBAN AREA, LIGHT	$43,635
SAN BERNARDINO	STATE HIGHWAY	SBDLS05	REG0701	999	GROUPED PROJECTS FOR SAFETY IMPROVEMENTS, SHOULDER IMPROVEMENTS, PAVEMENT RESURF AND/OR OTHER REHAB - (PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 & 3) R/R/HIWAY XING, SAFER NON FED-AD SYSTEM ROADS, SHOULDER IMPROVMENTS, TRAFFIC CONTROL DEVICES&OPERATING ASSIST OTHER THAN SIGNALIZATION PROJECTS OR PROJECTS AT INDIVIDUAL SIGNALS, PAVEMT. MARK DEMOS, TRUCK CLIMBING LNS OUTSIDE UR	$9,819

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
SAN BERNARDINO	STATE HIGHWAY	SBDLS07	REG0702	999	GROUPED PROJECTS FOR BRIDGE REHABILITATION AND RECONSTRUCTION - SHOPP PROGRAM-PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.123 EXEMPT TABLES 2 CATEGORY WIDENING NARROW PAVEMENTS OR RECONSTRUCTING BRIDGES (NO ADDITIONAL TRAVEL LANES)	$165,325
SAN BERNARDINO	STATE HIGHWAY	SBDLS09	REG0701	999	GROUPED PROJECTS FOR EMERGENCY RESPONSE PROJECTS AT VARIOUS LOCATIONS IN SAN BERNARDINO COUNTY (PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126,127,128 EXEMPT)	$29,444
SAN BERNARDINO	STATE HIGHWAY	SBDLS14	REG0701	999	GROUPED PROJECTS FOR PAVEMENT RESURFACING AND/OR REHABILITATION ON THE STATE HIGHWAY SYSTEM - HIGHWAY MAINTENANCE-PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 TABLES 2 AND 3 CATEGORIES -PAVEMENT RESURFACING OR REHABILITATION	$45,000
SAN BERNARDINO	TRANSIT	200086	200086	0	BUS SYSTEM - PASSENGER FACILITIES. FY16 - 10 SHELTERS/BENCHES/AMENITIES; FY17 - 12 SHELTERS/BENCHES; FY19 - 9 SHELTERS/BENCHES AND AMENITIES	$1,368
SAN BERNARDINO	TRANSIT	200423	200423	0	PARATRANSIT VEHICLES - REPLACEMENT - GAS/DIESEL 2013 - 3, FY14 - 3, FY16 - 4 (TRANSPORTATION DEVELOPMENT CREDITS (TDC) TO MATCH: FY16/17 $79, FY17/18 $30, FY19/20 $221)	$5,776
SAN BERNARDINO	TRANSIT	981111	981111	0	TRANSIT - ENHANCEMENTS: 1% TRANSIT ENHANCEMENTS TO INCREASE ACCESSIBILITY TO BUS STOPS (ONGOING)	$7,516
SAN BERNARDINO	TRANSIT	981114	981114	0	TRANSIT - SECURITY CAPITALIZATION OF SECURITY COSTS	$2,069
SAN BERNARDINO	TRANSIT	981122	981122	0	CAPITALIZATION OF PREVENTIVE MAINTENANCE (TDC TO MATCH: 5307 FY17/18 $593, FY18/19 $593)	$133,795
SAN BERNARDINO	TRANSIT	990602	990602	0	METROLINK CAPITAL MAINTENANCE (REHAB/RENNOVATION OF METROLINK TRACK, SIGNALS, COMMUNICATIONS, STRUCTURES, FACILITIES, SYSTEMS &ROLLING STOCK INCLUDING PURCHASE OF REPLACEMENT LOCOMOTIVES WITH TIER-4 TECHNOLOGY). (TDC USED TO MATCH: 5309A, 5337LA/RS FY14/15 $1,741; 5337LA/RS FY15/16 $856; 5337LA/RS FY16/17 $1,316; FY 17/18 $1,881; FY 18/19 $2,170; FY 19/20 $2,000; FY 20/21 $2,000; FY 21/22 $2,000)	$92,213
SAN BERNARDINO	TRANSIT	20010120	20010120	0	TRANSIT SERVICE/REHAB. EQUIPMENT - PURCHASE OF VARIOUS MAINTENANCE EQUIPMENT (ON-GOING PROJECT)	$128
SAN BERNARDINO	TRANSIT	20020806	4TL104	0	TRANSIT - FACILITIES - IMPROVEMENT/UPKEEP OF EXISTING FACILITIES ($373 TDC TO MATCH 5307 IN FY17/18 FOR CON).	$20,105
SAN BERNARDINO	TRANSIT	20040211	20040211	0	REPLACEMENT PARATRANSIT VEHICLES REPLACING PARATRANSIT VEHICLES ON OMNITRANS ACCESS FLEET;08-50;2011-50;2013-15;2014-15 VEHICLES	$16,801
SAN BERNARDINO	TRANSIT	20060601	4OM0701	0	CAPITALIZATION OF LEASES - FOR CONTRACTORS, RADIO SITES, APC, TIRE LEASES	$8,006
SAN BERNARDINO	TRANSIT	20061009	4OM0701	0	METROLINK-SEALED CORRIDOR-SAN GABRIEL SUB-THIS PROJECTS CONSISTS OF A COMPREHENSIVE CORRIDOR SAFETY ENHANCEMENT PROGRAM ALONG SANBAG OWNED ROW (TOLL CREDITS TO MATCH: FY14/15: $250)	$4,573
SAN BERNARDINO	TRANSIT	20061012	4TR0101	0	DOWNTOWN S.B. PASSENGER RAIL – FROM SAN BERNARDINO METROLINK STATION TO APPROX. 1 MILE EAST TO A NEW TRANSIT STATION AT RIALTO AVE AND E ST. IN DOWNTOWN SAN BERNARDINO	$83,713
SAN BERNARDINO	TRANSIT	20110104	4TL104	0	DISPATCH & MAINTENANCE. OFFICE EQUIPMENT	$145
SAN BERNARDINO	TRANSIT	20110105	4TL104	0	REPLACE CUMMINS ENGINES AT MIDLIFE TO ENSURE THEY ARE KEPT IN TOP PERFORMING ORDER. THE ENGINE OVERHAULS ARE FOR 28-33 PASSENGER VEHICLES ONLY.	$280

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
SAN BERNARDINO	TRANSIT	20110301	4TL104	0	TRANSIT OPERATING EQUIPMENT - ITS SOFTWARE/HARDWARE: FY13/14 PASS.VENDING MACHINE(2); FY14/15 UPGRADE AND UPDATE ITS SYSTEMS. FY 15/16 BARSTOW FAREBOXES AND VARIOUS ITS. FY 16/17 ITS MOBILE TICKETING AND SMART CARDS.	$2,455
SAN BERNARDINO	TRANSIT	20110302	4TL104	0	CAPITAL - BUS FACILITY - CAPITAL LEASE PAYMENTS	$37,178
SAN BERNARDINO	TRANSIT	20111201	4TL104	0	OPERATIONS OF THE ACCESS SERVICE. (OMNITRANS WILL UTILIZE PART OF ITS ALLOCATED FTA5307 FORMULA FUNDS TO HELP PAY FOR THESE OPERATIONS)	$19,599
SAN BERNARDINO	TRANSIT	20111301	4TL104	0	BUS SYSTEM-OPERATING ASSISTANCE-LIFELINE CONNECTIVITY BUS SERVICE BETWEEN VICTOR VALLEY AND SAN BERNARDINO VALLEY	$1,250
SAN BERNARDINO	TRANSIT	20111805	4TL104	0	BUSES - REHABILITATION/IMPROVEMENTS - SPARE PARTS/ASSOCIATED CAPITAL MAINTENANCE ITEMS	$672
SAN BERNARDINO	TRANSIT	20111806	4TL104	0	TRANSIT BUS STOP ACCESS IMPROVEMENTS - PATH OF TRAVEL FOR EXISTING BUS STOPS	$260
SAN BERNARDINO	TRANSIT	20111815	SBD31581	0	OPERATING ASSISTANCE	$42,688
SAN BERNARDINO	TRANSIT	20130302	20040817	0	BUS REHABILITATION: FY17 MIDLIFE REBUILDS (8), FY19 MIDLIFE REBUILDS (5)	$3,579
SAN BERNARDINO	TRANSIT	20130601	4TL104	0	FY14/15 - REPLACEMENT BUSES TYPE 3 CLASS E. 18 PASSENGER CNG VEHICLES; FY15/16 REPLACE – 2 CLASS E, 2 CLASS C VEHICLES; FY16/17 REPLACE - 4 CLASS E, 1 CLASS H VEHICLES. & 1 CLASS E FROM 5339. (TRANSIT DEVELOPMENT CREDIT (TDC): CMAQ FY17/18 $88)	$6,075
SAN BERNARDINO	TRANSIT	20131102	4TL104	0	COMMUTER BUS REPLACEMENT: FY19 COMMUTER BUS REPLACE ALT FUEL (8), FY20 COMMUTER BUS REPLACE (8).	$14,030
SAN BERNARDINO	TRANSIT	20150013	4TL104	0	REHAB./REPAIR/RETROFIT TRANSIT FACILITIES	$1,229
SAN BERNARDINO	TRANSIT	20150101	SBD44003	0	PARATRANSIT VEHICLE EXPANSION: FY14/15(2), FY17/18 (4)	$745
SAN BERNARDINO	TRANSIT	20150307	4TL104	0	COUNTY-WIDE VANPOOL PROJECT (ONGOING)(TDC: FY16/17 CMAQ CON $460K)	$4,000
SAN BERNARDINO	TRANSIT	20150602	4TL104	0	GROUPED PROJECTS FOR TRANSIT 5310 GRANT PROGRAM (SCAB & MDAB): PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES (TOLL CREDITS: 5310 FY14/15 CON $422, FY16/17 CON $727)	$4,895
SAN BERNARDINO	TRANSIT	20151301	4TR0101	0	REDLANDS PASSENGER RAIL PROJECT (RPRP): NEW PASSENGER RAIL SERVICE FROM RIALTO / E ST IN SAN BERNARDINO TO REDLANDS. (SBCTA IS SUB RECIPIENT OF FTA FUNDS & IS ACTUAL PROJECT LEAD AGENCY)(TD CREDITS: CMAQ FY17/18 $2,044; FY18/19 $1,954) (THE PROJECT MANAGEMENT COST OF APPROX $20.7M IN LOCAL FUNDS IS NOT INCLUDED IN FTIP TOTAL COST.)(INCLUDES LOCOMOTIVE PURCHASE FROM STUDY PROJECT 20151303)	$291,920
SAN BERNARDINO	TRANSIT	20152201	4TR0101	0	REPLACE EXISTING TICKET VENDING MACHINES AND RELATED SUPPORT EQUIPMENT WITH A MODERNIZED FARE COLLECTION SYSTEM. THE UPGRADE WILL IMPROVE THE FARE COLLECTION SYSTEM PERFORMANCE, RELIABILITY AND CUSTOMER INTERFACE. (TRANSPORTATION DEVELOPMENT CREDITS (TDC) TO MATCH: 16/17 $1,006). (ONGOING PROJECT)	$4,024
SAN BERNARDINO	TRANSIT	20170801	4TL104	0	IN VICTORVILLE: TRANSFER CENTER – FY18 CONSTRUCT VICTORVILLE SHELTERS, BENCHES, SIGNAGE, REAL-TIME INFORMATION, RESTROOMS, SPACE FOR SECURITY PERSONNEL, FARE MEDIA VENDING MACHINES, BIKE RACKS, KIOSK FOR BICYCLE REPAIRS AND LIMITED PARKING FOR BUS SUPERVISORS AND DRIVER RELIEF VEHICLES, ACCOMMODATING 10 TO 14 BUS ROUTES.	$3,297

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
SAN BERNARDINO	TRANSIT	20170803	SBD41109	0	METROLINK PREVENTATIVE MAINTENANCE OPERATING ASSISTANCE SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY (METROLINK), TOLL DEVELOPMENT CREDITS TO MATCH 5337: FY 2018 $2,250; FY 2019 $872; FY 2020 $231; FY 2021 $232.	$15,210
SAN BERNARDINO	TRANSIT	20171401	4TL104	0	IN VICTORVILLE: PURCHASE OF GARAGE AND SHOP EQUIPMENT - TOOLS AND EQUIPMENT USED IN FLEET MAINTENANCE.	$114
SAN BERNARDINO	TRANSIT	20190005	200450	0	RIALTO METROLINK STATION (PHASE 2): INCREASE PARKING SPACES FROM 297 TO 397 (ADDITIONAL 100 SPACES) AND OTHER STATION IMPROVEMENTS.	$3,453
SAN BERNARDINO	TRANSIT	20190011	2016A319	0	VVTA REGIONAL EXPANSION BUSES: ROUTE 59 (1 BUS) & ROUTE 65 (2 BUSES)	$1,145
SAN BERNARDINO	TRANSIT	20190015	4120213	0	WEST VALLEY CONNECTOR (WVC - PHASE 1/MILLIKEN ALIGNMENT): A 19 MILE BUS RAPID TRANSIT (BRT) SERVICE FROM THE DOWNTOWN POMONA METROLINK STATION TO ONTARIO INTERNATIONAL AIRPORT AND THE RANCHO CUCAMONGA METROLINK STATION.	$221,525
SAN BERNARDINO	TRANSIT	20190101	4TL104	0	VVTA: REPLACE/UPGRADE AGED BUS SURVEILLANCE CAMERAS.	$172
SAN BERNARDINO	TRANSIT	20190102	4TL104	0	BATTERY ELECTRIC BUSES (BEB) PROJECT MANAGEMENT & TECHNICAL ASSISTANCE	$468
SAN BERNARDINO	TRANSIT	SBD31037	SBD31037	0	BUS SYSTEM - OPERATING ASSISTANCE	$33,095
SAN BERNARDINO	TRANSIT	SBD31055	SBD31055	0	TRANSIT ADMINISTRATION EQUIPMENT PURCHASE COMPUTER HARDWARE & SOFTWARE FOR MIS. (TDC: 5307; FY16/17 $780 CON, FY18/19 $384 CON)	$47,372
SAN BERNARDINO	TRANSIT	SBD31084	SBD31084	0	BUS SYSTEM-SERVICE VEHICLES, PURCHASE SEVERAL REPLACEMENT SERVICE VEHICLES FY15 - 45 (TDC: 5307; FY18/19 $101 CON)	$5,256
SAN BERNARDINO	TRANSIT	SBD31581	SBD31581	0	BUS SYSTEM - OPERATING ASSISTANCE (ONGOING)	$138,043
SAN BERNARDINO	TRANSIT	SBD31612	SBD31612	0	BUS SYSTEM - OPERATING ASSISTANCE	$5,220
SAN BERNARDINO	TRANSIT	SBD41055	SBD41055	0	BUS SYSTEM - OPERATING ASSISTANCE	$30,840
SAN BERNARDINO	TRANSIT	SBD41084	4TL104	0	BUS SYSTEM BUS REPLACEMENT - ALT FUEL: FY18/19 REGIONAL BUS REPLACEMENT CLASS H (7) BATTERY ELECTRIC BUSES.	$30,300
SAN BERNARDINO	TRANSIT	SBD41109	SBD41109	0	METROLINK OPERATING ASSISTANCE SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY (METROLINK)	$92,187
SAN BERNARDINO	TRANSIT	SBD41114	SBD41114	0	PARATRANSIT - FY18 PT BUS RPLC ALT FUEL (6); FY19 PT BUS RPLC ALT FUEL (2), PARATRANSIT BUS REPLACEMENT ALT FUEL (10); FY20 PT BUS RPLC ALT FUEL (5)	$7,705
SAN BERNARDINO	TRANSIT	SBD41117	4TL104	0	BUS SYSTEM: FY17 - SERVICE VEHICLES (2), FY19 SERVICE VEHICLE (2: 1 HESPERIA, 1 BARSTOW)	$1,171

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
SAN BERNARDINO	TRANSIT	SBD44003	SBD44003	0	PARATRANSIT VEHICLE REPLACEMENT (10/11-1-18 PAX AND 11/12 1-18 PAX	$626
SAN BERNARDINO	TRANSIT	SBD90105	SBD90105	0	BUS SYSTEM-BUSES BUS REPLACEMENTS ALT. FUEL, 2010-15 AND 15 COACHES PER YEAR AFTER 2010 (TDC: TO MATCH; CMAQ FY18/19 $384 FOR CON,FY19/20 $875 FOR CON; 5307 FY 16/17 $175 FOR CON: 5307LA FY17/18 $175 FOR CON, $175 FY18/19 FOR CON)	$126,710
VARIOUS	LOCAL HIGHWAY	SCAG015	REG0701	0	GROUPED PROJECTS FOR SAFETY IMPROVEMENTS - HSIP PROGRAM PROJECTS CONSISTENT WITH 40 CFR PART 93.126.TABLES 2 & 3 CATEGORIES - RAILROAD/HIGHWAY CROSSING, SAFER NON-FEDERAL-AID SYSTEM ROADS, SHOULDER IMPROVEMENTS, TRAFFIC CONTROL DEVICES & OPERATING ASSISTANCE OTHER THAN SIGNALIZATION PROJECTS, INTERSECTION SIGNALIZATION PROJECTS AT INDIVIDUAL INTERSECTIONS, PAVEMENT MARKING DEMO. USING TOLL CREDIT	$231,367
VARIOUS	LOCAL HIGHWAY	SCAG016	REG0701	0	GROUPED PROJECTS FOR SAFETY IMPROVEMENTS - SAFE ROUTES TO SCHOOL PROGRAM (SRTS) PROJECTS CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEOGRIES - RAILROAD/HWY CROSSING, SAFER NON-FEDERAL-AID SYSTEM RDS, SHOULDER IMP, TRAFFIC CONTROL DEVICES , INTERSECTIPN SIGNALIZATION & INDIVIDUAL INTERSECTIONS, PAVEMT MARKING DEMO.	$10,804
VARIOUS	LOCAL HIGHWAY	SCAGATP_RP1	REG0704	0	GROUPED PROJECTS FOR PLANNING ACTIVITIES: PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - PLANNING ACTIVITIES CONDUCTED PURSUANT TO TITLES 23 AND 49 U.S.C. GROUPED LISTING OF CYCLE 1 AND CYCLE 2 AND CYCLE 3 OF THE ACTIVE TRANSPORTATION PROGRAM PLANNING GRANTS. ACTIVE TRANSPORTATION PLANS FOR FIVE CITIES AND GREENWAY FEASIBILITY STUDY, SAN GABRIEL VALLEY	$6,752
VARIOUS	LOCAL HIGHWAY	SCAGATP1	REG0704	0	REGIONAL ACTIVE TRANSPORTATION SAFETY AND ENCOURAGEMENT CAMPAIGN DESIGNED TO REDUCE BICYCLE AND PEDESTRIAN COLLISIONS. INCLUDES A MEDIA CAMPAIGN, TACTICAL URBANISM CAMPAIGN AND TRAININGS. SRTS IMPLEMENTATION, IMPERIAL AND SAN BERNARDINO COUNTIES; ACTIVE TRANSPORTATION EDUCATION/ENCOURAGEMENT EVENTS, SANTA ANA, EL MONTE AND SOUTH EL MONTE.	$5,019
VARIOUS	LOCAL HIGHWAY	SCAGATP17-01	7120004	0	SCAG ACTIVE TRANSPORTATION LOCAL PLANNING INITIATIVE: GROUPED PROJECTS FOR PLANNING ACTIVITIES - SCOPE: PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - PLANNING ACTIVITIES CONDUCTED PURSUANT TO TITLES 23 AND 49 U.S.C.	$1,313
VARIOUS	LOCAL HIGHWAY	SCAGATP17-02	7120004	0	DEVELOP SIX (6) ACTIVE TRANSPORTATION PLANS IN DISADVANTAGED COMMUNITIES AND “PILOT” AN INNOVATIVE PLANNING METHODOLOGY TO DELIVER LOW-COST, LOCAL PLANS ACROSS THE REGION BY LEVERAGING REGIONAL PLANNING TOOLS (HEALTH/ACTIVE TRANSPORTATION MODELS AND ACTIVE TRANSPORTATION DATABASE) AND GO HUMAN ENGAGEMENT RESOURCES (POP-UP EVENTS TEMPLATE AND TRAINING TOOLKITS).	$1,150
VARIOUS	LOCAL HIGHWAY	SCAGATP17-03	7120004	0	SCAG SAFETY/ENCOURAGEMENT CAMPAIGN PHASE 2: GROUPED PROJECTS FOR PLANNING ACTIVITIES: SCOPE: PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - PLANNING ACTIVITIES CONDUCTED PURSUANT TO TITLES 23 AND 49 U.S.C.	$549
VENTURA	LOCAL HIGHWAY	VEN011202	VEN011202	0	HUENEME RD FROM OXNARD CITY LIMITS TO RICE RD - WIDEN FROM 2 TO 4 LANES (PHASE I)	$6,953
VENTURA	LOCAL HIGHWAY	VEN031230	5TDL04	0	ROUTE 126 BIKE PATH PHASE III BIKE PATH (CLASS I) PARALLEL AND SOUTH OF ROUTE 126 0.3 MILES FROM PARRISH TO BACH (ADJACENT TO IMPERIAL MOBILE HOME PARK) - TOLL CREDITS OF $104 FOR CON IN 19/20.	$1,066
VENTURA	LOCAL HIGHWAY	VEN051211	VEN051211	0	LAS POSAS ROAD FROM VENTURA BLVD TO PLEASANT VALLEY ROAD WIDEN FROM 2 TO 6 LANES	$4,417
VENTURA	LOCAL HIGHWAY	VEN051401	VEN051401	0	ROUTE 126 AND SANTA PAULA BRANCH RAILROAD AT POLE CREEK - CLASS I BIKE PATH UNDERCROSSING 0.2 MILES IN LENGTH (CMAQ INCLUDES $8 TOLL CREDITS FOR PE.)	$1,395
VENTURA	LOCAL HIGHWAY	VEN110304	5TDL04	0	CONSTRUCT 600-FOOT CLASS I BIKE PATH FROM SHERIDAN WAY TO VENTURA RIVER BIKE TRAIL (PROJECT INCLUDES TOLL CREDITS OF $29)	$221
VENTURA	LOCAL HIGHWAY	VEN111102	5N011	0	SANTA PAULA BIKE TRAIL IMPROVEMENTS INCLUDING BIKE/PEDESTRIAN IMPROVEMENTS AT 16 ADJACENT INTERSECTIONS AND CONSTRUCTION OF ONE REST AREA SHADE STRUCTURE, $266 IN TOLL CREDITS FOR CONSTRUCTION	$2,317

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
VENTURA	LOCAL HIGHWAY	VEN120402	5AL07	0	ROSE AVE IN OXNARD, FROM AUTO CENTER DRIVE TO EAST COLLINS ST (0.2 MILES). INSTALL NEW SIDEWALK, CURB, AND GUTTER ON WEST SIDE OF STREET.	$490
VENTURA	LOCAL HIGHWAY	VEN120403	5AL07	0	VENTURA BLVD, ON 0.5 MILES BETWEEN BALBOA ST AND ROSE AVE IN THE CITY OF OXNARD. INSTALL NEW SIDEWALK, CURB, AND GUTTER ON NORTH SIDE OF STREET, PAVE EXISTING SHOULDER, ADD STRIPING FOR BIKE LANES.	$1,032
VENTURA	LOCAL HIGHWAY	VEN120417	5AL04	0	WEST LOS ANGELES AVE. IN SIMI VALLEY, WIDEN 10 FT TO ADD BIKE LANES AND SIDEWALK FROM THE PUBLIC SERVICES CENTER TO WEST CITY LIMIT (1.0 MILES). (CMAQ INCLUDES TOLL CREDITS OF $15 IN PRIOR FOR PE AND $406 IN PRIOR FOR CON. ADD $1 IN FY 16-17 FOR CON AND $143 FOR 18/19)	$4,930
VENTURA	LOCAL HIGHWAY	VEN130101	5O0703	0	IN THE NORTHEAST COMMUNITY OF THE CITY OF OXNARD, NORTHEAST OF OXNARD TRANSPORTATION CENTER. INSTALL 1.9 MI CLASS II BIKE LANES, 6.3 MI CLASS III BIKE LANES AND IMPROVEMENTS TO 3.69 MI OF EXISTING BIKE LANES.	$728
VENTURA	LOCAL HIGHWAY	VEN130102	5O0703	0	ON C STREET FROM VINEYARD AVE TO CHANNEL ISLANDS BLVD, CONSTRUCT 4.9 MI OF CLASS II BIKE LANES. CONSTRUCT CLASS III BIKE LANES ON GUAVA ST/HEMLOCK AVE AND ALONG HILL ST.	$346
VENTURA	LOCAL HIGHWAY	VEN130104	2016A319	0	PLEASANT VALLEY AT FIFTH ST, SIGNALIZATION OF INTERSECTION AND CONSTRUCT SECOND NORTHBOUND AND SECOND SOUTHBOUND THROUGH LANES ON PLEASANT VALLEY RD. ($25 IN PRIOR YEARS TOLL CREDITS, $73 IN 16/17 AND $33 IN 18/19 TOLL CREDITS).	$2,960
VENTURA	LOCAL HIGHWAY	VEN130601	5TDL04	0	OVER FOX CANYON BARRANCA IN OJAI CONSTRUCT BIKE BRIDGE. LESS THAN 1 MILE IN LENGTH. CMAQ IN FY 18/19 INCLUDES $12 TOLL CREDITS FOR CONSTRUCTION.	$103
VENTURA	LOCAL HIGHWAY	VEN131203	5O0701	0	SANTA CLARA RIVER RIPARIAN MITIGATION FOR ROUTE 101 SANTA CLARA BRIDGE PROJECT. (EA 31480, PPNO 4740)	$1,864
VENTURA	LOCAL HIGHWAY	VEN131204	5AL07	0	ON LEWIS ROAD FROM VENTURA BLVD TO CITY LIMITS (NORTH). WIDEN FROM 2 TO 4 LANES, 13,000 FT LENGTH.	$3,000
VENTURA	LOCAL HIGHWAY	VEN131205	5A0721	0	LAS POSAS RD AND PLEASANT VALLEY RD INTERSECTION WIDENING. WIDEN LAS POSAS RD FROM 4 TO 6 LANES AND PLEASANT VALLEY FROM 2 TO 4 LANES.	$1,500
VENTURA	LOCAL HIGHWAY	VEN131207	5A0725	0	CENTRAL AVE FROM US-101 TO CITY LIMITS (1700 FEET), WIDEN FROM 2 TO FOUR LANES AND ADD BIKE LANE.	$2,000
VENTURA	LOCAL HIGHWAY	VEN140804	5O0703	0	IN SAN BUENAVENTURA, CONSTRUCT SIDEWALK AND CLASS II AND III BIKE LANES ON CEDAR ST BETWEEN PROSPECT AND POL ST (0.3 MI). VARIOUS SIDEWALK, CURB IMPROVEMENTS ON VENTURA AVE BETWEEN KELLOGG ST AND SHOSHONE ST (0.9 MI). FLASHING BEACONS TO BE INSTALLED ON VENTURA AVE. EXISTING BEACONS TO BE UPDATED. TOLL CREDITS OF $149 ADDED IN FY 16/17.	$1,500
VENTURA	LOCAL HIGHWAY	VEN150614	5A0703	0	IN CAMARILLO, WIDEN LAS POSAS RD TO EXTEND CLASS 2 BIKE LANES 500FT (0.90 MILES) NORTH FROM PLEASANT VALLEY ROAD TO PLEASANT VALLEY ROAD (CLOSE REMAINING GAP ON WEST SIDE OF RD)	$741
VENTURA	LOCAL HIGHWAY	VEN150616	5TDL04	0	IN THOUSAND OAKS, ON RANCHO RD BETWEEN THOUSAND OAKS BLVD AND HAALAND DR, INSTALL NEW SIDEWALKS, NEW AND RETROFIT EXISTING CURB RAMPS, SLOPE PAVING AT US-101 UNDERCROSSING,NEW SIGNAL AT US-101 S/B RAMPS, STRIPE NEW CLASS 2 (APPROXIMATELY 3,000 FT), CLASS 3 SHARROWS (APPROXIMATELY 1,050 FT), MODIFY VEHICLE STRIPING, AND MODIFY SIGNAL AT US-101 N/B RAMPS, ADD 3,900 FEET OF NEW CLASS IV BIKE LANES. (TOLL CREDITS IN THE AMOUNT OF $33 IN FY 18/19)	$1,970
VENTURA	LOCAL HIGHWAY	VEN150618	5AL04	0	IN VENTURA, FIVE POINTS INTERSECTION IMPROVEMENTS AT THOMPSON BLVD, MAIN ST, AND TELEGRAPH RD, ADD: 2 SIGNALIZED PED CROSSINGS ON MAIN ST; 2 FLASHING BEACON CROSSINGS ON THOMPSON BLVD; BICYCLE LANES (LESS THAN 1 MILE); "GREEN" BICYCLE BOXES; AND SIDEWALK/MEDIAN MODIFICATIONS ON THOMPSON BLVD	$450
VENTURA	LOCAL HIGHWAY	VEN150621	5TDL04	0	NEAR CAMARILLO, PEDESTRIAN IMPROVEMENTS AT CAMARILLO HEIGHTS ELEMENTARY SCHOOL. CONSTRUCT 0.25 MILES OF SIDEWALK, CURB AND GUTTER ALONG EASTERLY SIDE OF MISSION DR BETWEEN CATALINA DR AND CAMARILLO DR.	$641

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
VENTURA	LOCAL HIGHWAY	VEN150622	5TDL04	0	IN THOUSAND OAKS, WIDEN AND RESTRIPE MOORPARK ROAD BETWEEN OLSEN RD AND CROSSRIDGE RD TO: ACCOMMODATE NEW CLASS 2 BICYCLE LANES (APPROXIMATELY 3,200 FT) IN EACH DIRECTION; CONSTRUCT NEW AND MODIFY EXISTING ADA CURP RAMPS; CONSTRUCT NEW DRAINAGE IMPROVEMENTS; INSTALL PLANTING AND IRRIGATION	$1,225
VENTURA	LOCAL HIGHWAY	VEN150901	5TDL04	0	INSTALL FLASHING PEDESTRIAN CROSSING BEACONS AT 14 LOCATIONS.	$334
VENTURA	LOCAL HIGHWAY	VEN150907	5TDL04	0	OXNARD BLVD. BICYCLE & PEDESTRIAN FACILITIES FROM 101 FREEWAY TO GONZALES ROAD APPROXIMATELY 14,800 FEET. ADD TOLL CREDITS OF $158 IN FY 16/17)	$1,550
VENTURA	LOCAL HIGHWAY	VEN160103	5O0703	0	PLEASANT VALLEY ROAD CLASS 2 BIKE LANES PROJECT FROM 5TH STREET TO LAS POSAS ROAD (APPROXIMATELY 8,700 FEET)	$2,924
VENTURA	LOCAL HIGHWAY	VEN160105	5O0703	0	RIO REAL ELEMENTAY SCHOOL - PEDESTRIAN AND STREET IMPROVEMENT PROJECT	$603
VENTURA	LOCAL HIGHWAY	VEN160106	5O0703	0	IN OXNARD - ROSE AVE. AND GARY DRIVE PEDESTRIAN INTERSECTION IMPROVEMENTS INCLUDING NEW ACCESSIBLE ACCESS RAMPS, NEW SIGNAL WITH PEDESTRIAN COUNTDOWN SIGNALS AND CROSSWALKS.	$567
VENTURA	LOCAL HIGHWAY	VEN160401	1O0705	0	PORT OF HUENEME INTERMODAL IMPROVEMENT PROJECT TO MODERNIZE THE PORT'S WHARF AND PIER AND CARGO FACILITIES INCLUDING DEEPENING THE WATER DEPTH FROM THE CHANNEL TO VESSEL BERTHS AND EXTENDING RAIL FOR ON-TERMINAL ACCESS.	$30,800
VENTURA	LOCAL HIGHWAY	VEN170105	5A0708	0	HARBOR BOULEVARD AT GONZALES ROAD - ADD 2ND SOUTHBOUND THROUGH LANE AND 2ND NORTHBOUND THROUGH LANE.	$2,560
VENTURA	LOCAL HIGHWAY	VEN170109	9999	0	HUENEME ROAD FROM RICE ROAD TO LAS POSAS ROAD - WIDEN 3.66 ROAD MILES TO FOUR LANES (PE ONLY)	$3,400
VENTURA	LOCAL HIGHWAY	VEN170110	5A0720	0	HARBOR BOULEVARD - WIDEN APPROXIMATELY 1.99 MILES OF ROADWAY FROM TWO TO FOUR LANES FROM OXNARD CL TO VENTURA CL (MILEAGE INCLUDES 545.6 FOOT BRIDGE OVER SANTA CLARA RIVER)	$58,700
VENTURA	LOCAL HIGHWAY	VEN170113	5O0703	0	PEDESTRIAN AND BIKE SAFETY IMPROVEMENTS; OJAI AVENUE AND MARICOPA HWY. (PROJECT WILL USE $325 IN TOLL CREDITS).	$2,833
VENTURA	LOCAL HIGHWAY	VEN170414	5O0703	0	IN OXNARD - ETTING ROAD SIDEWALK (2,300 FT.) AND BIKELANE (3,525 FT.) PROJECT, FROM PLEASANT VALLEY ROAD TO EASTERLY CITY LIMITS, PROJECT WILL INSTALL SIDEWALK, CURB AND GUTTER, ACCESS RAMPS, WIDEN THE ROAD TO ACCOMMODATE BIKE LANES, CROSSWALK, CROSSWALK FLASHING BEACONS, AND STREET LIGHTS AND FOUR WAY STOP AT OLDS ROAD.	$1,239
VENTURA	LOCAL HIGHWAY	VEN170415	5O0703	0	IN VENTURA, MONTALVO/CYPRESS POINT GAP CLOSURE AND COMPLETE STREETS PROJECT, PROJECT WILL PROVIDE CLASS 1 PATH GAP CLOSURE AT CYPRESS POINT CLASS I TRAIL & TELEPHONE RD; ADD SAFETY FEATURES FOR SIDEWALK AND BICYCLE INFRASTRUCTURE AND CONNECTING COMPLETE STREETS SRTS CORRIDOR. PROJECT INCLUDES CON FUNDS IN FY-20/21.	$1,560
VENTURA	LOCAL HIGHWAY	VEN171005	5O0703	0	IN THOUSAND OAKS ON CONEJO SCHOOL ROAD AND WILLOW LANE CONSTRUCT APPROXIMATELY 3,400 FEET OF SIDEWALKS AND APPROXIMATELY 2,000 FEET OF BIKE LANE BETWEEN THOUSAND OAKS BLVD. AND HILLCREST.	$3,924
VENTURA	LOCAL HIGHWAY	VEN171007	5O0703	0	IN VENTURA COUNTY AND THE CITY OF THOUSAND OAKS ON POTRERO ROAD CONSTRUCT 2.8 MILES OF CLASS II BIKE LANES IN THE COUNTY AND 500 FEET IN THE CITY OF THOUSAND OAKS FROM BRIDGE #231 TO .11 MILES EAST OF TRENTWOOD DRIVE.	$2,530
VENTURA	LOCAL HIGHWAY	VEN171008	5O0703	0	IN COUNTY, ON CENTRAL AVENUE, CONSTRUCT 2,200 FEET OF SIDEWALK FROM JOAN WAY TO RIO MESA HIGH SCHOOL.	$1,241
VENTURA	LOCAL HIGHWAY	VEN171009	5O0703	0	IN VENTURA HARMON BARRANCA BIKE PATH AT TELEPHONE; RALSTON, AND ANTELOPE, ANTELOPE AVENUE FROM HARMON BARRANCDA TO BRISTOL; BRISTOL FROM ANTELOPE TO HARMON BARRANCA INSTALL ACTIVE TRANSPORTATION IMPROVEMENTS INCLUDING 600 LINEAR FEET OF CLASS IV CYCLE TRACK AND APPROXIMATELY 1,700 LINEAR CLASS III BIKE BOULEVARD 175 LINEAR FEET OF CLASS ONE PATH , SAFETY FEATURES, RRFBS, PEDESTRIAN SIGNALS, ADA TOLL CREDITS OF $7 IN FY 19/20 AND $50 IN TOLL CREDITS IN FY 20/21.	$507
VENTURA	LOCAL HIGHWAY	VEN190111	5O0703	0	SESPE STREET BIKE LANES, CONSTRUCT 0.8 MILES OF CLASS II BIKE LANES ALONG THE WEST SIDE SESPE STREET FROM SOUTH MOUNTAIN ROAD TO PASADENA AVENUE.	$492
VENTURA	LOCAL HIGHWAY	VEN190112	5O0703	0	CASITAS VISTA ROAD FROM VENTURA AVENUE TO SANTA ANA ROAD CLASS II BIKE LANES; 1.42 MILES IN LENGTH	$552

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
VENTURA	LOCAL HIGHWAY	VEN190114	5O0703	0	IN CAMARILLO, SPRINGVILLE DRIVE BIKE TRAIL - EXTENS CLASS I BIKE TRAIL FROM LAS POSAS ROAD TO CENTRAL AVENUE APPROXIMATELY 2.2 MILES	$2,250
VENTURA	LOCAL HIGHWAY	VEN190115	5AL07	0	LAS POSAS ROAD AT DAILY DRIVE INTERSECTION IMPROVEMENTS, WIDEN NORTHBOUND LAS POSAS ROAD TO WESTBOUND DAILY DRIVE TO PROVIDE DUAL LEFT TURN LANES. IMPROVE TRAFFIC FLOW ON LAS POSAS ROAD.	$1,600
VENTURA	LOCAL HIGHWAY	VEN34095	VEN34095	0	IN OXNARD COLONIA RD/CAMINO DEL SOL OXNARD BOULEVARD (RT 1) TO ENTRADA DR CONSTRUCT 4 LANES	$10,269
VENTURA	LOCAL HIGHWAY	VEN54019	VEN54019	0	IN CAMARILLO ADOLFO RD EXTENSION FROM CONEJO CREEK TO CAMARILLO SPRINGS RD/US 101 (TWO-LANE UNDIVIDED ROAD)	$11,358
VENTURA	LOCAL HIGHWAY	VEN54032	VEN54032	0	GROUPED PROJECTS FOR PAVEMENT RESURFACING AND/OR REHABILITATION - LOCAL STREETS & ROADS SCOPE: PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 CATEGORIES - PAVEMENT RESURFACING AND/OR REHABILITATION, EMERGENCY RELIEF (23 U.S.C. 125), WIDENING NARROW PAVEMENTS OR RECONSTRUCTING BRIDGES (NO ADD TRAVEL LANES) TOLL CREDITS WILL BE USED FOR STPL.	$14,328
VENTURA	LOCAL HIGHWAY	VEN93017	VEN93017	0	REGIONAL RIDESHARE PROGRAM FOR 18/19, 19/20, 20/21 AND 21/22. TOLL CREDITS IN THE AMOUNT OF $51 PER YEAR FOR 18/19, 19/20, 20/21, AND 21/22.	$2,215
VENTURA	LOCAL HIGHWAY	VEN990319	7120004	0	CALIFORNIA ST BRIDGE OVER RT 101 PEDESTRIAN ENHANCEMENTS	$2,400
VENTURA	LOCAL HIGHWAY	VENLS07	VENLS07	0	GROUPED PROJECTS FOR BRIDGE REHABILITATION AND RECONSTRUCTION - HBP PROGRAM SCOPE: PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 CATEGORIES - WIDENING NARROW PAVEMENTS OR RECONSTRUCTING BRIDGES (NO ADDITIONAL TRAVEL LANES)	$19,342
VENTURA	STATE HIGHWAY	VEN010202	VEN010202	101	RECONFIGURE N/B CALIFORNIA ST OFFRAMP (RECONFIGURE RAMP TO TERMINATE AT OAKS ST INSTEAD OF THE CURRENT CALIFORNIA ST LOCATION)	$10,580
VENTURA	STATE HIGHWAY	VEN011205	VEN011205	101	IN T.O. IMPROVEMENTS AT VAR LOCATIONS LA CNTY LINE-MOORPARK RD: CONV AUX LANES TO MF LANES, ADD 1 LANE EACH DIRECTION BY SHIFTING CL NORTHWARDS & WIDENING ON NB SIDE, REALIGN & WIDEN RAMPS, CONSTR SOUNDWALLS (EA 195211, 19522), WIDEN 3 BRIDGES ON NORTHSIDE (HAMPSHIRE UC, CONEJO SCHOOL UC, & MOORPARK UC); IMPROVE 101/23 CONNECTORS.(STP=FY 2010 APPROPS EARMARK)(INCL RT 23 PM 3.3/3.8) STPL-R FY15/16 I	$47,110
VENTURA	STATE HIGHWAY	VEN031226	VEN031226	101	IN CAMARILLO ROUTE 101 AT PLEASANT VALLEY ROAD IMPROVE INTERSECTION WITH SOUTHBOUND RAMPS - WIDEN ONRAMP ENTRANCE FROM 1 TO 2 LANES	$1,053
VENTURA	STATE HIGHWAY	VEN040401	VEN040401	34	IN OXNARD AT RICE AVE. RAILROAD GRADE SEPARATION - INCLUDES WIDENING OF RICE FROM STURGIS ROAD TO 1350' SOUTH OF FIFTH STREET	$79,192
VENTURA	STATE HIGHWAY	VEN051210	VEN051210	101	IN CAMARILLO RECONFIGURE CENTRAL AVENUE / ROUTE 101 INTERCHANGE (INCLUDES CENTRAL AVE BRIDGE WIDENING FROM 1 TO 2 LANES EACH DIRECTION)	$37,861
VENTURA	STATE HIGHWAY	VEN051213	VEN051213	23	IN MOORPARK RTE 23 MOORPARK AVE FROM THIRD ST TO CASEY RD WIDEN FROM 1 LANE IN EACH DIRECTION TO 1 LANE NB AND 2 LANES SB. REALIGN FIRST ST/POINDEXTER INTERSECTION AND UPGRADE RAIL CROSSING.	$2,411
VENTURA	STATE HIGHWAY	VEN131201	7120003	101	ROUTE 101 WIDENING PAED ONLY. STUDY WIDENING ALTERNATIVES SUCH AS ONE OR TWO HOT OR HOV LANES OR OPERATIONAL IMPROVEMENTS. TOLL CREDITS OF $1,950.	$17,497
VENTURA	STATE HIGHWAY	VEN131202	5120001	118	IN VENTURA COUNTY ON SR-118. ADD ONE LANE IN EACH DIRECTION FROM ROUTE 23 (NEW LA AVE) TO 0.4 MI W OF TAPO CANYON RD, ADD A SECOND LANE IN EACH DIRECTION FROM COLLINS TO MADERA , AND ADD ONE LANE EACH DIRECTION ON ROUTE 23 FROM 0.8 MIILES NORTH OF TIERRA REJADA TO LA AVENUE. (TOLL CREDITS WILL BE USED AS LOCAL MATCH) (EA31610, PPNO4741)	$3,010
VENTURA	STATE HIGHWAY	VEN131206	7120003	101	ROUTE 101 FROM SANTA ROSA RD TO CENTRAL AVENUE--ADD 7 MILES OF AUXILLARY LANES BETWEEN INTERCHANGES AND RAMP METERING (OPERATIONAL IMPROVEMENTS ONLY)	$3,000
VENTURA	STATE HIGHWAY	VEN190116	7120003	101	IN CAMARILLO ON PLEASANT VALLEY ROAD-IMPROVE NORTHBOUND PLEASANT VALLEY ROAD ON-RAMP TO SOUTHBOUND 101 FREEWAY ON THE SHOUTHEAST PORTION OF THE INTERCHANGE AT PM 12	$1,200
VENTURA	STATE HIGHWAY	VEN190117	2016A319	101	IN CAMARILLO WIDEN THE SOUTHBOUND 101 FREEWAY OFF RAMP TO PLEASANT VALLEY ROAD FROM SINGLE LANE TO TWO LANES.	$1,100

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
VENTURA	STATE HIGHWAY	VEN34089	VEN34089	118	IN MOORPARK L.A. AVE FROM ROUTE 23 (MOORPARK AVE) TO E/O SPRING (0.6 MI) RECONSTRUCT SIDEWALKS, REALIGN ROADWAY AND WIDEN FROM 4 TO 6 LANES	$1,158
VENTURA	STATE HIGHWAY	VEN54187	VEN54187	999	5% FOR PLANNING, PROGRAMMING, & MONITORING	$2,080
VENTURA	STATE HIGHWAY	VENLS01	REG0701	999	GROUPED PROJ FOR SAFETY IMPROV - SHOPP COLLISION REDUCT PROJ CONSISTENT W/ 40 CFR PART 93.126 EXEMPT TABLES 2 & TABLE 3 CAT - RR/HWY XING, SAFER NON-FED-AID SYS RDS, SHOULDER IMPROV, TRAFF CONTROL DEV & OPER ASSIST OTH THAN SIGNALIZATION PROJ, INTRSCTION SIGNALIZATION PROJ @ INDIVI INTERSECTIONS, PAVEMNT MARKING DEMO, TRUCK CLIMB LANES OUTSIDE URB AREAS, LIGHTNG IMPROV, EMERGENCY TRUCK PULLOVERS	$52,652
VENTURA	STATE HIGHWAY	VENLS02	REG0701	999	GROUPED PROJECTS LISTING FOR PAVEMENT RESURFACING AND/OR REHABILITATION ON THE STATE HIGHWAY SYSTEM - ROADWAY PRESERVATION PROJECTS (PROJECTS CONSISTENT W/40CFR PART 93.126 EXEMPT TABLES 2 & 3 CATEGORIES - PAVEMENT RESURFACING AND/OR REHABILITATON)	$202,238
VENTURA	STATE HIGHWAY	VENLS03	REG0701	999	GROUPED PROJECTS FOR BRIDGE REHABILITATION AND RECONSTRUCTION - SHOPP PROGRAM COPE: PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 CATEGORIES - WIDENING NARROW PAVEMENTS OR RECONSTRUCTING BRIDGES (NO ADDITIONAL TRAVEL LANES).	$32,448
VENTURA	STATE HIGHWAY	VENLS05	REG0701	999	GROUPED PROJ FOR SAFETY IMPROV-SHOPP MOBILITY PROG PROJ CONSISTENT W/ 40 CFR PT 93.126 EXEMPT TABLES 2 AND TABLE 3 CAT - RR/HWY XING, SAFER NON-FED-AID SYS RDS, SHOULDER IMPROV, TRAFF CONTRL DEVS & OPERATING ASSIST OTHER THAN SIGNALIZATION PROJ, INTERSECTION SIGNALIZATION PROJ @ INDIV INTERSECTIONS, PAVEMENT MARKING DEMO, TRUCK CLIMBING LANES OUTSIDE URB AREA, LIGHTING IMPROV, EMER TRUCK PULLOVERS	$7,144
VENTURA	STATE HIGHWAY	VENLS08	REG0703	999	GROUPED PROJECTS FOR SAFETY IMPROVEMENTS - SHOPP MANDATES PROGRAM (SCOPE: PROJ CONSISTENT W/ 40 CFR PART 93.126 EXEMPT TABLES 2 &3 CAT - RR/HWY XING, SAFER NON-FED-AID SYSTEM RDS, SHOULDER IMPR, TRAFFIC CONTROL DEVICES & OPER ASSISTANCE OTH THAN SIGNALIZATION PROJ, INTERSECTION SIGNALIZATION PROJ AT INDIVID INTERSECTIONS, PAVEMENT MARKING DEMO, TRUCK CLIMBING LANES OUTSIDE URBANIZED AREA, LIGHTING	$100,276
VENTURA	STATE HIGHWAY	VENLS10	REG0701	999	GROUPED PROJECTS FOR EMERGENCY REPAIR - SHOPP EMERGENCY RESPONSE PROGRAM SCOPE: PROJ CONSISTENT W/ 40 CFR PART 93.126 EXEMPT TABLES 2 CATEGORIES - REPAIR DAMAGE CAUSED BY NATURAL DISASTERS, CIVIL UNREST, OR TERRORIST ACTS. THIS APPLIES TO DAMAGES THAT DON'T QUALIFY FOR FED EMER RELIEF FUNDS OR TO DAMAGES THAT QUALIFY FOR FED EMER RELIEF FUNDS BUT EXTEND BEYOND THE FED-DECLARED DISASTER PERIOD.	$98,674
VENTURA	STATE HIGHWAY	VENLS11	REG0701	999	GROUPED PROJ FOR PAVEMENT RESURFACING AND/OR REHAB ON THE STATE HIGHWAY SYSTEM - HIGHWAY MAINTENANCE. PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - PAVEMENT RESURFACING AND/OR REHABILITATION.	$10,898
VENTURA	STATE HIGHWAY	VENLS13	5OM0702	999	GROUPED PROJECTS FOR SAFETY IMPROVEMENTS, SHOULDER IMPROVEMENTS, PAVEMENT RESURFACING AND/OR REHAB-MINOR PROGRAM. PROJECTS CONSISTENT WITH 40CFR PART93.126 EXEMPT TABLES 2 AND 3 CATEGORIES – RAILROAD/HIGHWAY CROSSING, SAFER NONFEDERALAID SYSTEM ROADS, SHOULDER IMPROVEMENTS, TRAFFIC CONTROL DEVICES & OPERATING ASSIST OTHER THAN SIGNALIZATION, INTERSECTION SIGNALIZATION AT INDIVIDUAL INTERSECTIONS,	$3,332
VENTURA	TRANSIT	VEN030608	VEN030608	0	CAPITAL MAINTENANCE FOR MOORPARK TRANSIT - BUSES AND TRANSIT CENTER (MOORPARK RAIL STATION)	$1,637
VENTURA	TRANSIT	VEN030611	VEN030611	0	PREVENTIVE MAINTENANCE - THOUSAND OAKS TRANSIT FIXED-ROUTE AND DIAL-A-RIDE VEHICLES AND FACILITIES INCLUDING TRANSIT CENTER AND BUS STOPS	$3,352
VENTURA	TRANSIT	VEN030612	VEN030612	0	DIAL-A-RIDE SERVICE - CAPITAL LEASE	$788
VENTURA	TRANSIT	VEN031218	VEN031218	0	REALIGN MOORPARK RAIL STATION SOUTH PARKING LOT ENTRANCE	$983
VENTURA	TRANSIT	VEN040405	VEN040405	0	AUTOMATIC VEHICLE LOCATOR SYSTEM UPGRADE, PASSENGER COUNTING, AND FAREBOX SYSTEM (TDC CREDITS OF $229 IN FY 18/19 FOR CMAQ.	$3,046
VENTURA	TRANSIT	VEN050401	VEN050401	0	OPERATING ASSISTANCE - CAMARILLO AREA TRANSIT	$4,552

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
VENTURA	TRANSIT	VEN051005	VEN051005	0	GROUPED PROJECTS FOR OPER ASST, PLNG, PUR OF REPL VEH OR MIN EXP - ELDERLY & DISABLED NEW FREEDOMS INITIATIVE (PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126, 127,128,EXEMPT TABLES 2&3- PURCHASE OF NEW BUSES TO REPLACE EXIST VEH OR MINOR EXP; OPER ASST TO TRANSIT AGENCIES; PLNG ACT PURS TITLS 23&49 USC). 5310 TDC = $70 IN 18/19, $35 EACH IN 19/20 - 21/22.	$1,749
VENTURA	TRANSIT	VEN057404	VEN057404	0	PURCHASE OF OFFICE, SHOP, AND OPERATING EQUIPMENT FOR EXISTING FACILITIES - REPLACE MAINTENANCE EQUIPMENT	$760
VENTURA	TRANSIT	VEN061000	VEN061000	0	CAMARILLO RAIL STATION AND BUS MAINTENANCE	$3,750
VENTURA	TRANSIT	VEN070202	5TL04	0	GROUPED PROJECTS FOR OPER ASST, PLNG, PUR OF REPL VEH OR MIN EXP - JOBS ACCESS REVERSE COMMUTE PROJECTS (PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126, 127,128,EXEMPT TABLES 2&3- PURCHASE OF NEW BUSES TO REPLACE EXIST VEH OR MINOR EXP; OPER ASST TO TRANSIT AGENCIES; PLNG ACT PURS TITLS 23&49 USC) 18/19 TDC = $27, 19/20 TDC = $18 AND FY 20/21 = $12, AND FY 21/22 TDC = $12.	$378
VENTURA	TRANSIT	VEN081001	REG0702	0	ELDERLY/DISABLED PLANNING INCLUDING PATRON DISABILITY EVALUATION	$1,452
VENTURA	TRANSIT	VEN090117	REG0702	0	POSITIVE TRAIN CONTROL SYSTEM - VENTURA COUNTY FUNDING SHARE OF FIVE-COUNTY PROJECT ALSO IN L.A., ORANGE, RIVERSIDE AND SAN BERNARDINO COUNTIES	$2,480
VENTURA	TRANSIT	VEN090501	5TL0706	0	CONSTRUCT NEW TRANSIT MAINTENANCE AND OPERATIONS FACILITY (5309 INCLUDES EARMARK NUMBER E2009-BUS091 AND FY10/11 STATE OF GOOD REPAIR DISCRETIONARY FUNDS)	$52,100
VENTURA	TRANSIT	VEN101101	5TL0706	0	BUS STOP ENHANCEMENTS FOR THOUSAND OAKS TRANSIT.	$130
VENTURA	TRANSIT	VEN101104	REG0702	0	DIAL-A-RIDE VEHICLE CAPITAL LEASE AND MAINTENANCE	$857
VENTURA	TRANSIT	VEN110602	5TL0702	0	TRANSIT PLANNING AND OUTREACH EDUCATION FOR THOUSAND OAKS TRANSIT	$1,249
VENTURA	TRANSIT	VEN110605	REG0702	0	MOORPARK RAIL STATION UPGRADES INCLUDING PLANTING/IRRIGATION UPGRADE, TICKET MACHINES RELOCATION, STRIPING AND PAINTING, LIGHTING IMPROVEMENTS	$59
VENTURA	TRANSIT	VEN120105	REG0702	0	REPLACE SERVICE, SUPERVISORY AND MAINTENANCE SUPPORT VEHICLES	$349
VENTURA	TRANSIT	VEN120420	5TL0706	0	TRANSPORTATION CENTER FACILITY IMPROVEMENTS. EXPAND BUS BOARDING AREA, CONSTRUCT ADA ACCESSIBLE SIDEWALK AND PEDESTRIAN PATHWAY IMPROVEMENTS.	$1,875
VENTURA	TRANSIT	VEN120603	5TL0706	0	CAMARILLO METROLINK STATION PEDESTRIAN UNDERCROSSING. TRANSPORTATION DEVELOPMENT CREDIT MATCH OF $200 IN FY 18/19.	$1,916
VENTURA	TRANSIT	VEN121001	VEN010406	0	FARE COLLECTION PASSENGER COUNTING, AUTOMATIC VEHICLE LOCATOR DATA MANAGEMENT	$1,278
VENTURA	TRANSIT	VEN121002	VEN059401	0	FARE COLLECTION AND RIDERSHIP MONITORING AND AUTOMOTIC VEHICLE LOCATOR EQUIPMENT AND MAINTENANCE (TDC CREDITS IN FY 16/17 IN THE AMOUNT OF $189 AND FY 18/19 IN THE AMOUNTY OF $29.)	$2,191
VENTURA	TRANSIT	VEN121003	REG0702	0	OPERATING ASSISTANCE FOR MOORPARK BUSES FIXED ROUTE AND PARATRANSIT	$2,225
VENTURA	TRANSIT	VEN121004	5TL0707	0	BUS SHELTER LIGHTING	$50
VENTURA	TRANSIT	VEN130803	REG0702	0	OPERATING ASSISTANCE FOR HERITAGE VALLEY EXPRESS TRANSIT SERVICE	$6,760
VENTURA	TRANSIT	VEN130806	5TL0702	0	TRANSIT PLANNING	$950
VENTURA	TRANSIT	VEN131103	5TL0702	0	BUSINESS SYSTEMS UPGRADE INCLUDING SOFTWARE AND HARDWARE.	$1,000
VENTURA	TRANSIT	VEN131104	REG0702	0	OPERATING ASSISTANCE	$10,500
VENTURA	TRANSIT	VEN140801	REG0702	0	ADA PARATRANSIT SERVICE IN CAMARILLO	$850

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
VENTURA	TRANSIT	VEN141202	5CR104	0	VENTURA COUNTY SEACLIFF SIDING UPGRADE AND EXTENSION (PPNO 2089)(EA RA04CA)	$23,520
VENTURA	TRANSIT	VEN150601	5TL0706	0	BUS STOP ENHANCEMENTS FOR GOLD COAST TRANSIT STOPS	$50
VENTURA	TRANSIT	VEN150602	REG0702	0	OPERATING ASSISTANCE - VCTC	$16,690
VENTURA	TRANSIT	VEN150603	REG0702	0	ADA SERVICE - PARATRANSIT CAPITAL	$500
VENTURA	TRANSIT	VEN150604	REG0702	0	TWO REPLACEMENT PARATRANSIT VEHICLE FOR CAMARILLO DIAL-A-RIDE	$181
VENTURA	TRANSIT	VEN150605	5TL0703	0	TWO EXPANSION PARATRANSIT VEHICLES	$250
VENTURA	TRANSIT	VEN150608	5TL04	0	THREE YEAR DEMONSTRATION EXPRESS BUS SERVICE - EAST/WEST COUNTY CONNECTOR SERVING SIMI VALLEY, MOORPARK, CAMARILLO, AND VENTURA (TDC IN FY 16/17 IN THE AMOUNT OF $550)	$1,100
VENTURA	TRANSIT	VEN150609	5TL04	0	THREE-YEAR DEMONSTRATION SERVICE BUS ROUTE FROM NYLAND ACRES IN OXNARD TO WELLS CENTER IN VENTURA	$2,317
VENTURA	TRANSIT	VEN150610	5TL0706	0	BUS STOP IMPROVEMENTS AT VALLEY EXPRESS STOPS IN SANTA PAULA, FILLMORE, AND COUNTY UNINCORPORATED AREA, INCLUDING SIGNAGE, BENCHES AND SHELTERS	$110
VENTURA	TRANSIT	VEN150611	5TL0706	0	IN CITY OF OJAI, IMPROVE VARIOUS BUS STOPS WITH IMPROVEMENTS INCLUDING SHELTERS, BENCHES, LIGHTING, TRASH CANS	$224
VENTURA	TRANSIT	VEN150612	5TL0702	0	INTEGRATED TRANSIT MANAGEMENT SYSTEM	$425
VENTURA	TRANSIT	VEN150613	5TL04	0	PURCHASE TWO TROLLEY-LIKE BUSES FOR LOCAL CIRCULATOR SERVICE	$400
VENTURA	TRANSIT	VEN151101	5TL0703	0	PURCHASE 5 BUSES FOR EXPANSION AND OPERATING ASSISTANCE DEMONSTRATION FOR VENTURA ROAD BUS LINE INCLUDING PUBLIC OUTREACH.	$6,428
VENTURA	TRANSIT	VEN151102	5TL0703	0	PURCHASE 4 CNG BUSES FOR EXPANSION	$2,468
VENTURA	TRANSIT	VEN160101	5TL0703	0	PURCHASE 3 NEW TROLLEY BUSES.	$600
VENTURA	TRANSIT	VEN170104	REG0702	0	MIDLIFE BUS REBUILD AND RESTORATION	$4,696
VENTURA	TRANSIT	VEN170108	REG0702	0	PAYMENTS FOR CERTIFICATES OF PARTICIPATION FOR NEW OPERATIONS & MAINTENANCE FACILITY	$4,600
VENTURA	TRANSIT	VEN170111	5TL0706	0	NEW TRANSIT TECHNOLOGIES INCLUDING NEW ELECTRONIC DISPATCH, AUTOMATED STOP ANNUNCIATORS, TRANSIT REPORTING SOFTWARE, AND PROJECTS TO BE DETERMINED.	$251
VENTURA	TRANSIT	VEN170112	5TL0706	0	CITY WIDE REPLACEMENT OF BUS SHELTER AND BUS STOP AMENITIES.	$63
VENTURA	TRANSIT	VEN170602	REG0702	0	IN CITY OF MOORPARK METROLINK STATION IMPROVEMENTS INCLUDING SOUTH ENTRANCE IMPROVEMENTS AND OTHER UPGRADES	$128
VENTURA	TRANSIT	VEN170603	REG0702	0	RAILROAD SEALED CORRIDOR AND QUITE ZONE - INSTALL A FOUR-QUADRANT GATE SYSTEM FOR THE RAILROAD CROSSINGS AT UPLAND ROAD AND AT ADOLOFO ROAD TDC IN 18/19 = $80.	$4,000
VENTURA	TRANSIT	VEN170702	REG0702	0	PURCHASE 1 REPLACEMENT CNG BUS	$593
VENTURA	TRANSIT	VEN170703	VEN030611	0	NEW BUS WASHER FOR THOUSAND OAKS TRANSIT	$94
VENTURA	TRANSIT	VEN170704	5TL0703	0	PURCHASE TWO EXPANSION CUT-AWAY PARATRANSIT VEHICLES FOR CAMARILLO TRANSIT-GAS	$136
VENTURA	TRANSIT	VEN170705	REG0702	0	PURCHASE ONE REPLACEMENT CUT-AWAY BUS FOR CAMARILLO TRANSIT - GAS	$90

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost ($1,000's)
VENTURA	TRANSIT	VEN170706	REG0702	0	PURCHASE ONE REPLACEMENT PARATRANSIT VEHICLE FOR CAMARILLO TRANSIT-GAS	$48
VENTURA	TRANSIT	VEN170707	5TL0703	0	TWO EXPANSION PARATRANSIT VEHICLES FOR CAMARILLO TRANSIT - GAS	$135
VENTURA	TRANSIT	VEN170708	REG0702	0	PURCHASE ONE (1) REPLACEMENT CUT-AWAY BUS FOR CAMARILLO TRANSIT - GAS	$108
VENTURA	TRANSIT	VEN170709	REG0702	0	PURCHASE ONE REPLACEMENT PARATRANSIT VEHICLE FOR CAMARILLO TRANSIT - GAS	$60
VENTURA	TRANSIT	VEN171001	REG0702	0	SYSTEMWIDE PREVENTIVE MAINTENANCE FOR METROLINK COMMUTER RAIL. SYSTEM-WIDE PREVENTIVE MAINTENANCE FOR METROLINK COMMUTER RAIL INCLUDING ROLLING STOCK FACILITIES, GUIDEWAYS ETC... (TDC CREDITS OF $2,612 IN 18/19, $1,457 IN EACH OF YEARS 19/20, 20/21 & 21/22.	$34,911
VENTURA	TRANSIT	VEN171002	REG0702	0	PURCHASE TWO (2) BUSES FOR REPLACEMENT FOR VCTC INTERCITY BUS SERVICE	$1,425
VENTURA	TRANSIT	VEN171003	REG0702	0	PURCHASE ONE (1) BUS FOR EXPANSION FOR VCTC INTERCITY BUS SERVICE, TO INCREASE THE SPARE RATIO	$713
VENTURA	TRANSIT	VEN171004	REG0702	0	REBUILD 14 CNG BUSES INCLUDING ENGINE REPLACEMENT	$2,057
VENTURA	TRANSIT	VEN171006	REG0702	0	IN VENTURA ON WELLS ROAD FROM CARLOS TO CITRUS - WELLS CENTER BUS STOP IMRPOVEMENTS INCLUDING NEW SIDEWALK WITH RETAINING WALL, ACCESS RAMPS, ADDITIONAL BUS SHELTER, AND LANDSCAPING	$350
VENTURA	TRANSIT	VEN180301	5TL0706	0	IN OXNARD ON VENTURA ROAD TRANSIT LINE CONSTRUCT BUS STOP IMPROVEMENTS	$500
VENTURA	TRANSIT	VEN181001	5200T002	0	IN MOORPARK, EXPAND NORTH RAIL STATION PARKING BY 30 SPACES	$1,227
VENTURA	TRANSIT	VEN34206	VEN34206	0	OPERATING ASSISTANCE - FIXED ROUTE	$23,130
VENTURA	TRANSIT	VEN34253	VEN34253	0	OPERATING ASSISTANCE - FIXED ROUTE	$4,119
VENTURA	TRANSIT	VEN34348	VEN34348	0	TRANSIT PROGRAMMING & PLANNING	$4,325
VENTURA	TRANSIT	VEN54036	VEN54036	0	IN VENTURA COUNTY VCTC INTERCITY CAPITAL LEASE/MAINTENANCE CONTRACT - TDC OF $311 IN 18/19, $155 IN EACH OF19/20, 20/21 & 21/22	$3,885
VENTURA	TRANSIT	VEN54057	VEN54057	0	MARKETING & PASSENGER AWARENESS ACTIVITIES (PLANNING: PROGRAM SUPPORT & ADM)	$625
VENTURA	TRANSIT	VEN54069	VEN54069	0	TRANSIT MOBILITY MANAGEMENT INFORMATION CENTER	$994
VENTURA	TRANSIT	VEN54070	VEN54070	0	TRANSIT OUTREACH ACTIVITIES (TRANSP DEVEL CREDITS OF $69 IN FY 18/19, 19/20, 20/21 & 21/22)	$2,400
VENTURA	TRANSIT	VEN54095	VEN54095	0	OPERATING ASSISTANCE - ADA PARATRANSIT CAPITAL	$8,090
VENTURA	TRANSIT	VEN54115	VEN54115	0	VCTC BUS SYSTEM PLANNING	$2,097
VENTURA	TRANSIT	VEN64003	VEN64003	0	PREVENTIVE MAINTENANCE - FIXED ROUTE & ADA	$9,595
VENTURA	TRANSIT	VEN981107	VEN981107	0	ADA SERVICE - PARATRANSIT CAPITAL	$1,685
VENTURA	TRANSIT	VEN981118	VEN981118	0	PREVENTIVE MAINTENANCE	$1,275
VENTURA	TRANSIT	VEN990602	VEN990602	0	TRANSIT PLANNING & PROGRAMMING (PLANNING: PROGRAM SUPPORT & ADM)	$625
VENTURA	TRANSIT	VEN990609	VEN990609	0	SYSTEMWIDE REHABILITATION AND RENOVATION INCLUDING THE PURCHASE OF REPLACEMENT LOCOMOTIVES WITH TIER-4 TECHNOLOGY, TRACK, SIGNALS, PLATFORMS, POWER SYSTEMS, FACILITIES, ROLLING STOCK, EQUIPMENT, SIGNAGE (TOLL CREDITS OF $1,974 IN 18/19, $700 IN EACH OF YEARS 9/20, 20/21 & 21/22)	$20,367

FINANCIALLY-CONSTRAINED RTP/SCS PROJECTS

TABLE 2 Financially-Constrained RTP/SCS Projects

System	Lead Agency	RTP ID	Route #	Route Name	FROM	TO	DESCRIPTION	Completion Year	PROJECT COST ($1,000's)
County: Imperial									
LOCAL HIGHWAY	VARIOUS AGENCIES	6120001	0	FORRESTER ROAD	I-8	SR-78	WIDEN AND IMPROVE TO FOUR-LANE STATE HIGHWAY. PHASE 1 OPERATIONAL IMPROVEMENTS. PHASE 2 TO INCLUDE A FOUR (4) LANE ROAD WIDENING AND WESTMORLAND BYPASS.	2030	$307,168
LOCAL HIGHWAY	IMPERIAL COUNTY	1161L002	0	MENVIELLE ROAD	CARR ROAD	SR-98	MENVIELLE ROAD WIDENING, FROM 2 TO 4 LANES BETWEEN CARR ROAD TO SR-98	2027	$4,432
OTHER	VARIOUS AGENCIES	6160002	0	SR-7	N/A	N/A	EXPANSION OF THE CALEXICO EAST PORT OF ENTRY – PHASE 1: WIDEN BRIDGE OVER THE ALL AMERICAN CANAL. PHASE 2: INCREASE THE NUMBER OF COMMERCIAL VEHICLE LANES FROM EXISTING 3 TO 6 LANES; ADD 6 NEW NORTHBOUND PRIVATELY OWNED VEHICLE (POV) LANES; PEDESTRIAN PATHWAY IMPROVEMENTS INCLUDING SHADED SIDEWALKS AND TRANSIT LOT (PICK-UP AND DROP-OFF AREA).	2025	$90,000
STATE HIGHWAY	CALTRANS	6120004	98	SR-98	ALL AMERICAN CANAL	VV WILLIAMS	PHASE 1C - FROM 30.9 TO 32.2 WIDEN FROM 2 TO 4 LANES	2024	$58,850
STATE HIGHWAY	CALTRANS	6120005	98	SR-98	DOGWOOD	ALL AMERICAN CANAL	PHASE 2 - FROM 30.0 TO 30.9 WIDEN FROM 2 TO 4 LANES	2023	$79,652
STATE HIGHWAY	CALTRANS	6120007	115	SR-115	I-8/SR-7 INTERCHANGE	EVAN HEWES HIGHWAY/SR-115 JUNCTION	CONSTRUCT 4-LANE EXPRESSWAY	2035	$232,157
STATE HIGHWAY	CALTRANS	6120008	0	TBD, STATE ROUTE 98	SR-111	SR-7	FROM SR-111 TO SR-7. WIDEN AND IMPROVE TO 4/6 LANES. ON EITHER JASPER ROAD OR SR-98	2025	$29,844
STATE HIGHWAY	CALTRANS	6120009	8	I-8	SR-186	SR-186	AT I-8/SR-186, IMPROVE INTERCHANGE - WIDEN AND IMPROVE RAMPS	2024	$44,240
STATE HIGHWAY	CALTRANS	6120010	111	SR-111	SR-98	I-8	WIDEN AND IMPROVE TO 6 LANE FREEWAY WITH INTERCHANGES AT HEBER, MCCABE, AND JASPER AND OVERPASS AT CHICK RD.	2030	$999,136
STATE HIGHWAY	CALTRANS	IMP0042A	98	SR-98	.6 KM WEST OF SR 111	ALAMO RIVER BRIDGE	IN AND NEAR CALEXICO FROM 0.6 KM WEST OF SR 111 EASTERLY TO ALAMO RIVER BRIDGE WIDEN TO 4 LANE HWY (ENV. WORK & DOC. FOR SR98) ENVIRONMENTAL WORK AND DOCUMENTATION FOR SR 98	2024	$11,621
TRANSIT	VARIOUS AGENCIES	6120006	0	CALEXICO INTERMODAL TRANSPORTATION CENTER			CONSTRUCT CALEXICO INTERMODAL TRANSPORTATION CENTER	2023	$9,467

TABLE 1 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	FROM	TO	DESCRIPTION	Completion Year	PROJECT COST ($1,000's)
County: Imperial									
TRANSIT	VARIOUS AGENCIES	6160001	0	SR-7	N/A	N/A	CALEXICO EAST PORT OF ENTRY INTERMODAL TRANSPORTATION CENTER	2025	$7,000

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Los Angeles									
LOCAL HIGHWAY	SAN GABRIEL VALLEY COUNCIL OF GOVERNMENTS (SGVCOG)	1120014	0	FULLERTON RD (INDUSTY/LA COUNTY)			ALAMEDA CORRIDOR-EAST GRADE SEPARATION	2021	$152,400
LOCAL HIGHWAY	SAN GABRIEL VALLEY COUNCIL OF GOVERNMENTS (SGVCOG)	1120015	0	MONTEBELLO BLVD (MONTEBELLO)			ALAMEDA CORRIDOR-EAST GRADE SEPARATION	2023	$160,000
LOCAL HIGHWAY	SAN GABRIEL VALLEY COUNCIL OF GOVERNMENTS (SGVCOG)	1120018	0	TURNBULL CYN RD (INDUSTRY/LA COUNTY)			ALAMEDA CORRIDOR-EAST GRADE SEPARATION	2022	$86,200
LOCAL HIGHWAY	SAN GABRIEL VALLEY COUNCIL OF GOVERNMENTS (SGVCOG)	1120021	0	DURFEE AVE (PICO RIVERA)			ALAMEDA CORRIDOR-EAST GRADE SEPARATION	2021	$91,100
LOCAL HIGHWAY	PORT OF LOS ANGELES	1160004	0				HARBOR BLVD. & 7TH STREET INTERSECTION- THE PROJECT INCLUDES A RECONFIGURED INTERSECTION AT THE JUNCTION OF HARBOR BLVD, SAMPSON WAY, AND 7TH STREET. WORK INCLUDES RETAINING WALL, STREET WORK, GRADING, PAVING, LIGHTING, RESTRIPING AND A NEW SIGNALIZED INTERSECTION.	2018	$15,905
LOCAL HIGHWAY	PORT OF LOS ANGELES	1160005	0	0	0	0	SAMPSON WAY TO 22ND STREET & MINER STREET - SAMPSON WAY WOULD BE REALIGNED AND EXPANDED TO TWO LANES IN EACH DIRECTION AND WOULD CURVE NEAR THE MUNICIPAL FISH MARKETS TO MEET WITH 22ND STREET IN ITS WESTWARD ALIGNMENT EAST OF MINER STREET.	2024	$34,614
LOCAL HIGHWAY	PORT OF LOS ANGELES	1160006	0	HARBOR BLVD	WB SR47 ON-RAMP	7TH STREET	HARBOR BLVD IMPROVEMENTS - AS PART OF THE SAN PEDRO WATERFRONT DEVELOPMENT PROJECT, HARBOR BLVD WILL BE RESTRIPED, AND THE MEDIAN IS REMOVED/RECONSTRUCTED AS NEEDED TO PROVIDE THREE NBT AND SBT LANES BETWEEN THE RECONSTRUCTED HARBOR BLVD./7TH ST. INTERSECTION AND THE WB ON RAMP/FRONT STREET INTERSECTION. THIS WILL RESULT IN THE REMOVAL OF PARKING AND THE BIKE LANE ON THE NORTHBOUND SIDE. THE PARKING AND 5' BIKE LANE ON THE SOUTHBOUND SIDE, SOUTH OF O'FARRELL STREET WILL BE PRESERVED. NORTH OF O'FARRELL STREET, THE PARKING AND THE PARKING LANE ON THE SOUTHBOUND SIDE WOULD NEED TO BE REMOVED TO ACCOMMODATE THE NORTHBOUND DUAL LEFT-TURN LANE.	2027	$5,000
LOCAL HIGHWAY	PORT OF LOS ANGELES	1160007	0				ALAMEDA CORRIDOR SOUTH TERMINUS/HENRY FORD AVE. RAIL CROSSING ADVANCED WARNING SYSTEM.	2022	$15,000

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Los Angeles									
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1160008	0				PARKING GARAGE RECONSTRUCTION: THREE PARKING GARAGES WITHIN THE CTA, P2A, P2B AND P5, WOULD BE DEMOLISHED AND RECONSTRUCTED. UP TO 1,100 SPACES WOULD BE ADDED.	2023	$19,600
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1160009	0	NEW "A" STREET	CENTURY BLVD	WESTCHESTER PARKWAY	NEW 'A' STREET: CONSTRUCT TWO NORTH-SOUTH STREET SEGMENTS BETWEEN CENTURY BOULEVARD AND WESTCHESTER PARKWAY. THE FIRST SEGMENT WOULD BE A 1,200-FOOT, SIX-LANE SEGMENT BETWEEN CENTURY BOULEVARD AND W. 96TH STREET, INCLUDING A COMBINATION OF AT-GRADE AND VIADUCT LANES TO CONNECT TO CENTURY BOULEVARD. THE SECOND SEGMENT WOULD BE A 1,600-FOOT, FOUR-LANE, STREET SEGMENT BETWEEN W. 96TH STREET AND WESTCHESTER PARKWAY, INCLUDING MEDIAN, PARKWAY AND SIDEWALKS.	2024	$12,053
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1160010	0	NEW "B" STREET	NEW "A"STREET	AIRPORT BOULEVARD	NEW 'B' STREET: CONSTRUCT A 1,700-FOOT, FOUR-LANE, EAST-WEST STREET SEGMENT BETWEEN NEW 'A' STREET AND AIRPORT BOULEVARD, INCLUDING MEDIAN, PARKWAY AND SIDEWALKS.	2024	$9,511
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1160011	0	NEW "C" STREET	IMPERIAL HIGHWAY	WEST 111TH STREET	NEW 'C' STREET: CONSTRUCT A 1,200-FOOT, FOUR-LANE, NORTH-SOUTH STREET SEGMENT BETWEEN IMPERIAL HIGHWAY AND WEST 111TH STREET, INCLUDING PARKWAY AND SIDEWALKS.	2030	$6,760
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1160012	0	NEW 98TH STREET		I-405 ON-AND-OFF RAMPS	NEW 98TH STREET: CONSTRUCT TWO EAST-WEST STREET SEGMENTS TO EXTEND THE EXISTING 98TH STREET TO THE I-405 ON-AND-OFF RAMPS. THE FIRST SEGMENT WOULD BE A 400-FOOT, FOUR-LANE STREET SEGMENT BETWEEN BELLANCA AVENUE AND AVIATION BOULEVARD. THE SECOND SEGMENT WOULD BE A 3,000-FOOT, FOUR-LANE STREET SEGMENT BETWEEN AVIATION BOULEVARD AND LA CIENEGA BOULEVARD. CONSTRUCTION WOULD ALSO INCLUDE A MEDIAN, PARKWAY, AND SIDEWALKS.	2024	$9,420
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1160013	0	NEW "CONCOURSE WAY"	NEW 98TH STREET	CENTURY BOULEVARD	NEW 'CONCOURSE WAY': CONSTRUCT A 500-FOOT, FOUR-LANE, NORTH-SOUTH STREET SEGMENT BETWEEN NEW 98TH STREET AND CENTURY BOULEVARD, WHICH WILL ALIGN WITH THE ROADWAY ENTRANCE INTO THE ITF EAST/CONRAC AT THE INTERSECTION WITH NEW 98TH STREET.	2023	$8,148
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1160014	0	SEPULVEDA BOULEVARD	SEPULVEDA TUNNEL	96TH STREET	SEPULVEDA BOULEVARD (SEPULVEDA TUNNEL TO W. 96TH STREET): WIDEN THE EXISTING 3,700-FOOT STREET SEGMENT BY UP TO 40 FEET TO PROVIDE UP TO FOUR LANES IN EACH DIRECTION. IMPROVEMENTS WOULD ALSO INCLUDE NEW RAMPS TO SKY WAY, TO/FROM WORLD WAY, TO/FROM CENTURY BOULEVARD, AND TO/FROM NEW 'A' STREET.	2030	$137,700
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1160015	0	AIRPORT BOULEVARD	98TH STREET	WEST ARBOR VITAE STREET	AIRPORT BOULEVARD (98TH STREET TO WEST ARBOR VITAE STREET): WIDEN THE EXISTING 1,800-FOOT STREET SEGMENT BY 25 FEET TO PROVIDE UP TO THREE LANES IN EACH DIRECTION.	2024	$13,491

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000'S)
County: Los Angeles									
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1160016	0	WEST ARBOR VITAE STREET	AIRPORT BOULEVARD	LA CIENEGA BOULEVARD	WEST ARBOR VITAE STREET (AIRPORT BOULEVARD TO LA CIENEGA BOULEVARD): WIDEN THE EXISTING 2,000-FOOT STREET SEGMENT TO THE SOUTH BY BETWEEN 5-33 FEET TO PROVIDE UP TO THREE LANES IN EACH DIRECTION. CONSTRUCTION WOULD INCLUDE A MEDIAN, PARKWAY AND SIDEWALKS.	2030	$27,633
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1160017	0				WEST ARBOR VITAE STREET OVERCROSSING BRIDGE: WIDEN THE EXISTING 450-FOOT STREET SEGMENT BY 6 FEET ON EACH SIDE TO ACCOMMODATE THREE LANES IN THE EAST DIRECTION AND TWO LANES IN THE WEST DIRECTION.	2030	$19,190
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1160018	0				96TH STREET (AIRPORT BOULEVARD TO BELLANCA AVENUE): WIDEN AN EXISTING 350-FOOT STREET SEGMENT TO THE SOUTH BY 15 FEET. THE STREET WILL MAINTAIN ONE LANE IN EACH DIRECTION BUT WILL PROVIDE FOR STREET PARKING ON THE SOUTH SIDE OF THE STREET.	2024	$5,973
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1160019	0				98TH STREET (NEW 'A' STREET TO BELLANCA AVENUE): WIDEN THE 1,800-FOOT STREET SEGMENT BETWEEN NEW 'A' STREET AND AIRPORT BOULEVARD BY UP TO 14 FEET TO PROVIDE TWO LANES IN EACH DIRECTION. THE 1,700-FOOT STREET SEGMENT BETWEEN AIRPORT BOULEVARD AND BELLANCA AVENUE WOULD BE RESTRIPED TO PROVIDE TWO LANES IN EACH DIRECTION.	2030	$12,286
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1160020	0				CENTURY BOULEVARD (NEW 'A' STREET TO AVIATION BOULEVARD): WIDEN THE 4,000-FOOT STREET SEGMENT TO THE SOUTH BY 16 FEET TO PROVIDE FOUR LANES IN EACH DIRECTION. CONSTRUCTION WOULD INCLUDE A MEDIAN, PARKWAY AND SIDEWALKS.	2030	$18,478
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1160021	0				AVIATION BOULEVARD (CENTURY BOULEVARD TO WEST ARBOR VITAE STREET): WIDEN THE 2,800-FOOT STREET SEGMENT TO THE EAST BY UP TO 20 FEET TO PROVIDE THREE LANES IN EACH DIRECTION. CONSTRUCTION WOULD INCLUDE A MEDIAN, PARKWAY, AND SIDEWALKS.	2024	$13,753
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1160022	0				LA CIENEGA BOULEVARD (CENTURY BOULEVARD TO WEST ARBOR VITAE STREET): WIDEN THE 2,600-FOOT STREET SEGMENT TO THE WEST BY UP TO 25 FEET TO PROVIDE UP TO THREE LANES IN EACH DIRECTION. CONSTRUCTION WOULD INCLUDE A MEDIAN, PARKWAY, AND SIDEWALKS.	2024	$13,918
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1160023	0				AIRSIDE AUTOMATED PEOPLE MOVER (APM) SYSTEM: A RAIL OR FIXED GUIDEWAY BASED TRANSPORTATION SYSTEM OR SYSTEMS THAT MOVES PASSENGERS TO AND FROM THE CENTRAL TERMINAL AREA (CTA) TO THE TOM BRADLEY INTERNATIONAL TERMINAL AND THE MIDFIELD SATELLITE CONCOURSE IN A BELOW-GRADE CONFIGURATION.	2025	$225,000
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1160024	405				I-105/I-405 CONNECTIONS: CONSTRUCT NEW I-105 AND I-405 ON-AND-OFF RAMPS TO CONNECT TO THE CONSOLIDATED RENTAL CAR FACILITY AND OTHER LANDSIDE ACCESS FACILITIES.	2030	$300,000

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000'S)
County: Los Angeles									
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1160025	0				GATEWAY LAXPRESS EMPLOYEE TRANSPORT: MOBILITY HUBS AT REGIONAL TRANSIT CENTERS (INCLUDES PARKING, TRANSIT CONNECTOR SERVICE WITHIN KEY AREA EMPLOYEE RESIDENTIAL AREAS IN LA COUNTY.	2035	$75,000
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1160026	0				GATEWAY LAXPRESS EMPLOYEE IT PLATFORM: DEVELOP WEB-BASED/ APP-BASED PLATFORM THAT INCLUDES RESERVE-A-SEAT, MOBILITY SERVICE OPTIONS FOR GATEWAY TO LA BID/LAX EMPLOYEES TO ACCESS GATEWAY LAXPRESS SERVICES	2035	$250
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1160027	0				GATEWAY LAXPRESS EMPLOYEE TRANSPORT: PARTNERSHIP WITH METRO FOR CAPITAL COST OF EXISTING/NEW TRANSIT VEHICLES FOR EMPLOYEE TRANSIT (NO OPERATING COST)	2035	$50,000
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1160030	405				I-405 RAMP: PROVIDE AN ON-RAMP TO I-405 NORTHBOUND FROM NORTHBOUND LA CIENAGA BOULEVARD	2035	$90,000
LOCAL HIGHWAY	LOS ANGELES, CITY OF	1160031	0				EAST INTERMODAL TRANSPORTATION FACILITY: A FACILITY PROVIDING REMOTE PASSENGER PICK UP AND DROP OFF AREAS, PUBLIC PARKING, AND OTHER CONNECTIONS TO PUBLIC TRANSIT, INCLUDING THE METRO CRENSHAW/LAX LIGHT RAIL, AND OTHER COMMERCIAL VEHICLES.	2022	$156,804
LOCAL HIGHWAY	PORT OF LOS ANGELES	1200L001	0	HARBOR BLVD	SP SLIP	22ND STREET	DESIGN HARBOR BLVD. (FORMERLY KNOWN AS SAMPSON WAY) INTO A SCENIC BOULEVARD ALONG THE WEST PERIMETER OF PORTS O'CALL VILLAGE. THIS PROJECT WILL FACILITATE PUBLIC ACCESS THROUGHOUT THE WATERFRONT AREA TO BETTER CONNECT THE WATERFRONT WITH DOWNTOWN SAN PEDRO AND THE SURROUNDING COMMUNITY. THIS PROJECT WILL BEGIN AT THE SP SLIP AND END AT 22ND STREET.	2024	$22,000
LOCAL HIGHWAY	SAN GABRIEL VALLEY COUNCIL OF GOVERNMENTS (SGVCOG)	1200L002	0	HAMILTON BLVD., PARK AVE., MAIN ST., PALOMARES ST., SAN ANTONIO AVE., CITY OF POMONA	0	0	AT-GRADE CROSSING SAFETY IMPROVEMENTS, POMONA	2021	$22,916
LOCAL HIGHWAY	SAN GABRIEL VALLEY COUNCIL OF GOVERNMENTS (SGVCOG)	1200L003	0	GREENWOOD AVE., MAPLE AVE., VAIL AVE., CITY OF MONTEBELLO	0	0	AT-GRADE CROSSING SAFETY IMPROVEMENTS, MONTEBELLO	2021	$6,964
LOCAL HIGHWAY	SAN GABRIEL VALLEY COUNCIL OF GOVERNMENTS (SGVCOG)	1200L004	0	MAPLE AVE., CITY OF MONTEBELLO	0	0	MAPLE AVENUE PEDESTRIAN OVERCROSSING	2021	$24,470

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Los Angeles									
LOCAL HIGHWAY	VARIOUS AGENCIES	1AL04	0	ARTERIAL IMPROVEMENTS	COUNTYWIDE		REGIONAL SURFACE TRANSPORTATION IMPROVEMENTS, INCLUDING GOODS MOVEMENT GRADE CROSSINGS	2021	$212,900
LOCAL HIGHWAY	VARIOUS AGENCIES	1ITS04	0	ITS	COUNTYWIDE		CALL FOR PROJECTS SIGNAL SYNCHRONIZATION MODE	2030	$765,026
LOCAL HIGHWAY	PORT OF LONG BEACH	1O0701	0	PORTS OF LOS ANGELES/LONG BEACH			PIER B RAIL YARD (PHASE III - 12TH STREET ALTERNATIVE) EXPANSION OF PIER B STREET INTERMODAL RAILYARD.	2023	$309,100
LOCAL HIGHWAY		1O0702	0	RETROFIT SOUNDWALL PROGRAM	COUNTYWIDE		COUNTYWIDE SOUNDWALLS (METRO REGIONAL LINES AND MONTEREY PARK/SR-60)	2035	$2,114,400
LOCAL HIGHWAY	LOS ANGELES COUNTY MTA (METRO)	1O0703	0	FREEWAY SERVICE PATROL	COUNTYWIDE		FREEWAY SERVICE PATROL	2035	$858,900
LOCAL HIGHWAY	LOS ANGELES COUNTY MTA (METRO)	1O0704	0	SAFE	COUNTYWIDE		SAFE	2035	$25,600
LOCAL HIGHWAY	VARIOUS AGENCIES	1O1007	0	NON-MOTORIZED	COUNTYWIDE		CALL FOR PROJECTS BICYCLE MODE	2030	$264,801
LOCAL HIGHWAY	VARIOUS AGENCIES	1O1008	0	NON-MOTORIZED	COUNTYWIDE		CALL FOR PROJECTS PEDESTRIAN MODE	2030	$264,801
LOCAL HIGHWAY	VARIOUS AGENCIES	1O1009	0	NON-MOTORIZED	COUNTYWIDE		CALL FOR PROJECTS TRANSPORTATION ENHANCEMENT ACTIVITIES (TEA MODE)	2030	$3,772
LOCAL HIGHWAY	LOS ANGELES COUNTY MTA (METRO)	1O1010	0				CALL FOR PROJECTS RESERVE	2030	$81,287
LOCAL HIGHWAY	ARROYO VERDUGO COUNCIL OF GOVERNMENTS	1O1012	0				HIGHWAY OPERATIONAL IMPROVEMENTS IN ARROYO VERDUGO SUBREGION	2016	$260,000
LOCAL HIGHWAY	LAS VIRGENES MALIBU COUNCIL OF GOVERNMENTS (LVMCOG)	1O1013	0				HIGHWAY OPERATIONAL IMPROVEMENTS IN LAS VIRGENES/MALIBU SUBREGION	2016	$253,300

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000'S)
County: Los Angeles									
LOCAL HIGHWAY	VARIOUS AGENCIES	1RL04	0	RIDESHARE	COUNTYWIDE		RIDESHARE SERVICES	2035	$489,000
LOCAL HIGHWAY	VARIOUS AGENCIES	1TR1023	0	TDM	COUNTYWIDE		CALL FOR PROJECTS TDM MODE	2030	$157,700
OTHER	LOS ANGELES, CITY OF	1122002	0				WEST INTERMODAL TRANSPORTATION FACILITY: A FACILITY PROVIDING REMOTE PASSENGER PICK UP AND DROP OFF AREAS, PUBLIC PARKING, AND OTHER CONNECTIONS TO PUBLIC TRANSIT AND OTHER COMMERCIAL VEHICLES (I.E. DOOR-TO-DOOR SHUTTLES AND SCHEDULED BUSES).	2022	$267,625
OTHER	LOS ANGELES, CITY OF	1122003	0				CONSOLIDATED RENTAL CAR FACILITY (CONRAC): A CONSOLIDATED RENTAL CAR FACILITY TO PROVIDE A CENTRALIZED LOCATION FOR RENTAL CAR OPERATIONS AT LAX. THIS FACILITY WOULD INCLUDE A CUSTOMER SERVICE FACILITY, READY/RETURN GARAGE, RENTAL CAR STORAGE, QUICK TURNAROUND AREA, AND MAINTENANCE SUPPORT.	2023	$772,196
OTHER	PORT OF LOS ANGELES	1161L007	0	PORT OF LOS ANGELES	0	0	ALAMEDA CORRIDOR TERMINUS/CALIFORNIA COASTAL TRAIL EXTENSION GRADE SEPARATION (PEDESTRIAN/CLASS I BICYCLE PATH BRIDGE OVER FREIGHT MAINLINE): PROVIDE A PEDESTRIAN/BICYCLE BRIDGE OVER TWO RAIL MAINLINE TRACKS TO PROVIDE A DIRECT CONNECTION BETWEEN THE WILMINGTON COMMUNITY AND THE WATERFRONT.	2021	$23,800
OTHER	PORT OF LOS ANGELES	1161L008	0	PORT OF LOS ANGELES	0	0	CALIFORNIA COASTAL TRAIL - PORTS O' CALL PROMENADE: 30-FT WIDE PUBLIC PROMENADE/CLASS I BIKE PATH ALONG THE WATER'S EDGE FROM BERTHS 74-83 (APPROX. 3600') AND A TOWN SQUARE LOCATED AT 6TH ST EAST OF HARBOR BLVD. THE PROJECT IS PART OF THE PUBLIC ACCESS INVESTMENT FUND AND PROVIDES AREAS FOR PUBLIC GATHERINGS, EVENTS AND PARKING.	2021	$31,000
OTHER	LOS ANGELES COUNTY MTA (METRO)	1162O001	0	LOS ANGELES RIVER	RIVERSIDE DRIVE	ATLANTIC BLVD	LA RIVER WATERWAY & SYSTEM BIKEPATH	2025	$423,200
OTHER	LOS ANGELES COUNTY MTA (METRO)	1162O002	0	LARIVERWAY - SAN FERNANDO VALLEY COMPLETION PROJECT	VANALDEN AVE	FOREST LAWN DR AT THE 134 FWY	COMPLETE LA RIVER BIKEPATH	2025	$69,600

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000'S)
County: Los Angeles									
OTHER	LOS ANGELES COUNTY MTA	1162O003	0	VARIOUS	0	0	METRO ACTIVE TRANSPORT, TRANSIT 1ST/LAST MILE PROGRAM (SYSTEM CONNECTIVITY PROJECTS (NO SUBREGION))	2040	$831,427
OTHER	LOS ANGELES COUNTY MTA	1162O004	0	VARIOUS	0	0	MODAL CONNECTIVITY AND COMPLETE STREETS PROJECTS (ARROYO VERDUGO)	2040	$195,858
OTHER	LOS ANGELES COUNTY MTA	1162O005	0	VARIOUS	0	0	MULTIMODAL CONNECTIVITY PROGRAM (NORTH COUNTY)	2040	$164,137
OTHER	LOS ANGELES COUNTY MTA	1162O006	0	VARIOUS	0	0	SUBREGIONAL EQUITY PROGRAM (SYSTEM CONNECTIVITY PROJECTS (NO SUBREGION))	2040	$1,159,635
OTHER	LOS ANGELES COUNTY MTA	1162O007	0	VARIOUS	0	0	TRANSPORTATION SYSTEM AND MOBILITY IMPROVE. PROGRAM (SOUTH BAY)	2032	$422,926
OTHER	LOS ANGELES COUNTY MTA	1162O008	0	VARIOUS	0	0	TRANSPORTATION SYSTEM AND MOBILITY IMPROVE. PROGRAM (SOUTH BAY)	2040	$339,358
OTHER	LOS ANGELES COUNTY MTA	1162O009	0	VARIOUS	0	0	VISIONARY PROJECT SEED FUNDING (SYSTEM CONNECTIVITY PROJECTS (NO SUBREGION))	2040	$19,392
OTHER	LOS ANGELES COUNTY MTA	1162O010	0	VARIOUS	0	0	ACTIVE TRANSPORTATION 1ST/LAST MILE CONNECTIONS PROG. (WESTSIDE)	2040	$350,024
OTHER	LOS ANGELES COUNTY MTA	1162O011	0	VARIOUS	0	0	ACTIVE TRANSPORTATION PROGRAM (NORTH COUNTY)	2040	$255,973
OTHER	LOS ANGELES COUNTY MTA	1162O012	0	VARIOUS	0	0	ACTIVE TRANSPORTATION PROGRAM (INCLUDING GREENWAY PROJ.) (SAN GABRIEL VALLEY)	2040	$223,976
OTHER	LOS ANGELES COUNTY MTA	1162O013	0	VARIOUS	0	0	ACTIVE TRANSPORTATION PROJECTS (ARROYO VERDUGO)	2040	$93,744
OTHER	LOS ANGELES COUNTY MTA	1162O014	0	VARIOUS	0	0	ACTIVE TRANSPORTATION, 1ST/LAST MILE, & MOBILITY HUBS (CENTRAL CITY AREA)	2040	$208,463

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000'S)
County: Los Angeles									
OTHER	LOS ANGELES COUNTY MTA	1162O0015	0	VARIOUS	0	0	ACTIVE TRANSPORTATION, TRANSIT, AND TECH. PROGRAM (LAS VIRGENES MALIBU)	2032	$46,111
OTHER	LOS ANGELES COUNTY MTA	1162O0016	0	VARIOUS	0	0	FIRST/LAST MILE AND COMPLETE STREETS (SAN GABRIEL VALLEY)	2040	$191,980
OTHER	LOS ANGELES COUNTY MTA	1162O0017	0	VARIOUS	0	0	LOS ANGELES SAFE ROUTES TO SCHOOL INITIATIVE (CENTRAL CITY AREA)	2040	$171,692
OTHER	LONG BEACH	1163O0001	0	PIER D STREET	0	0	REALIGN PIER D ST BETWEEN MIDDLE HARBOR OUT GATE AND PICO AVE AND BROADWAY BETWEEN OLD MAINTENANCE YARD AND PICO AVE.	2023	$32,000
OTHER	LONG BEACH	1163O0002	0	HARBOR SCENIC DRIVE	0	0	CREATING A NEW 9,000-FOOT DEPARTURE TRACK FOR TRAINS SERVING FOUR MARINE TERMINALS ALONG THE EAST BASIN: PIER J PCT, PIER G ITS, PIER G METRO, AND PIER E/F LBCT. REMOVES ONE TRACK FROM ITS SOUTH RAILYARD, TOTALING 1,800 FEET. ADDS 7 NEW TRACKS TOTALING 5.	2021	$21,174
OTHER	PORT OF LOS ANGELES	1163O0003	0	PORT OF LOS ANGELES	0	0	PORT OF LOS ANGELES/LONG BEACH HARBOR PERFORMANCE ENHANCEMENT CENTER: ALAMEDA CORRIDOR TERMINUS/TERMINAL WAY GRADE SEPARATION	2022	$25,000
OTHER	PORT OF LOS ANGELES	1163O0004	0	PORT OF LOS ANGELES	0	0	ZERO EMISSION (ZE)/TRUCK TRIP REDUCTION/FREIGHT EFFICIENCY PROGRAM: WEST BASIN CONTAINER TERMINAL RAILYARD - RECONSTRUCT A 7-TRACK RAILYARD OPERATED WITH DIESEL POWERED TOP-PICKS TO A 10-TRACK RAILYARD OPERATED WITH ELECTRIFIED RAIL-MOUNTED GANTRY CRANES	2023	$60,000
OTHER	PORT OF LOS ANGELES	1200P001	0	PORT OF LOS ANGELES	0	0	EVERPORT TERMINAL BERTH EFFICIENCY AND EMISSION REDUCTION PROJECT: THE PROJECT ENTAILS A NEW WHARF AT THE EVERPORT TERMINAL TO ACCOMMODATE LARGER VESSELS AND MORE/LARGER ELECTRIFIED GANTRY CRANES.	2021	$65,164
OTHER	PORT OF LOS ANGELES	1200P002	0	PORT OF LOS ANGELES	0	0	'ZERO EMISSION (ZE)/TRUCK TRIP REDUCTION/FREIGHT EFFICIENCY PROGRAM:PIER 400 SECOND LEAD TRACK	2032	$15,000

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Los Angeles									
OTHER	PORT OF LONG BEACH	1200P003	0	PORT OF LONG BEACH	0	0	THIS COMPONENT (FOURTH TRACK AT OCEAN BOULEVARD) WILL ADD A 3,000-FOOT RAILROAD TRACK TO ELIMINATE A BOTTLENECK AT THE OCEAN BOULEVARD OVERCROSSING, REALIGN THE EXISTING LEAD TRACK, AND RECONFIGURE CROSSOVERS AND TURNOUTS, PROJECT INCLUDES 1) ADD A 3,000-FOOT RAILROAD TRACK 2) SLIDE EXISTING TRACK EASTWARD, 3) RELOCATE RETAINING WALL, 4) RELOCATE HARBOR SCENIC DRIVE 15 FT EASTWARD, 5) NARROW HARBOR SCENIC DRIVE'S SHOULDERS, 6) CONSTRUCT RETAINING WALLS ALONG THE AFFECTED ROADWAY, 7) PROTECT UTILITY CASING, 8) MODIFY CENTRALIZED TRAFFIC CONTROL (CTC), CONTROL POINT OCEAN, 9) PROTECT BRIDGE COLUMN	2022	$25,000
OTHER	PORT OF LOS ANGELES	1O0706LA01	0	PORT OF LOS ANGELES	0	0	ALAMEDA CORRIDOR SOUTHERN GAP CLOSURE: THIS PROJECT WILL PROVIDE SEPARATE RAIL ACCESS TO TWO ADJACENT ON-DOCK RAILYARDS, THUS ELIMINATING THE POTENTIAL FOR TRAIN COLLISIONS. THE NEW DOUBLE TRACK SEGMENT WILL ALSO REDUCE MOVING TRAIN BLOCKAGES AT TWO IMMEDIATELY ADJACENT RAIL CROSSINGS ON ROADWAYS, WHICH ALSO REDUCES THE POTENTIAL FOR TRAIN-VEHICULAR COLLISIONS.	2021	$10,056
OTHER	PORT OF LOS ANGELES	1O0706LA02	0	PORT OF LOS ANGELES	0	0	ZERO EMISSION (ZE)/TRUCK TRIP REDUCTION/FREIGHT EFFICIENCY PROGRAM: TERMINAL ISLAND ON-DOCK RAILYARD EXPANSION (ADDITIONAL LOADING TRACK FOR EVERPORT)"	2025	$6,500
OTHER	PORT OF LOS ANGELES	1O0706LA03	0	PORT OF LOS ANGELES	0	0	TERMINAL ISLAND RAILYARD ENHANCEMENT PROJECT: PROVIDE FIVE ADDITIONAL STORAGE TRACKS ADJACENT TO THE PIER 400 RAIL YARD	2021	$34,015
OTHER	PORT OF LOS ANGELES	1O0707	0	PORT OF LOS ANGELES			ZERO EMISSION (ZE)/TRUCK TRIP REDUCTION/FREIGHT EFFICIENCY PROGRAM: NEW CERRITOS CHANNEL RAIL BRIDGE	2030	$190,000
OTHER	PORT OF LOS ANGELES	1O0708	0	PORT OF LOS ANGELES			ZERO EMISSION (ZE)/TRUCK TRIP REDUCTION/FREIGHT EFFICIENCY PROGRAM: TRIPLE TRACK S/O THENARD	2030	$16,500

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Los Angeles									
OTHER	PORT OF LOS ANGELES	1O0710A	0	PORTS OF LOS ANGELES			OTHER IN-PORT MAINLINE. PORT OF LOS ANGELES PROJECTS - ZERO EMISSION (ZE)/TRUCK TRIP REDUCTION/FREIGHT EFFICIENCY PROGRAM: 1) PIER 400 SECOND LEAD TRACK; 2) PIER 400 RAIL EXPANSION; 3) PIER 300 RAIL EXPANSION: ADDITION OF TWO NEW LOADING TRACKS; 4) NEW TERMINAL ISLAND ON-DOCK RAILYARD (SEASIDE YARD); 5) TERMINAL ISLAND SUPPORT YARD; 6) BERTH 200 RAILYARD EXPANSION - ADDITIONAL STORAGE/WORKING TRACKS; 7) WBCT AND EVERPORT	2033	$532,000
OTHER	PORT OF LONG BEACH	1O0710B	0	PORT OF LONG BEACH	0	0	OTHER IN-PORT MAINLINE. PORT OF LONG BEACH PROJECTS: 1) MIDDLE HARBOR TERMINAL RAIL (3 PHASES); 2) PIER A ON-DOCK RAIL YARD EXPANSION TO CARRACK; 3) PIER A ON-DOCK RAIL YARD EAST OF CARRACK; 4) PIER G METRO TRACK IMPROVEMENTS.	2033	$262,623
PASSENGER RAIL	METRO/SCRRA	1CR04	0	METROLINK COMMUTER RAIL	COUNTYWIDE		METROLINK OPERATIONS SUBSIDY (DOES NOT INCLUDE METROLINK FARES AND OTHER NON-METRO FUNDS)	2040	$1,974,400
PASSENGER RAIL	CALIFORNIA HIGH SPEED RAIL AUTHORITY	1TR1012	0	CALIFORNIA HIGH-SPEED RAIL			CALIFORNIA HIGH-SPEED RAIL PHASE 1 - ENV/PE	2017	$80,000
PASSENGER RAIL	SOUTHERN CALIF REGIONAL RAIL AUTHORITY	1TR1015	0	METROLINK COMMUTER RAIL	COUNTYWIDE		METROLINK CAPITAL SUBSIDY (DOES NOT INCLUDE METROLINK FARES AND OTHER NON-METRO FUNDS)	2040	$935,949
STATE HIGHWAY	PORT OF LOS ANGELES	1120007	47	SR-47	SR-47 @ FRONT STREET		SR 47-V. THOMAS BRIDGE/FRONT ST INTERCHANGE: NEW WESTBOUND SR 47 ON- AND OFF-RAMPS AT FRONT STREET JUST WEST OF THE VINCENT THOMAS BRIDGE AND ELIMINATE THE EXISTING NON-STANDARD RAMP CONNECTION TO THE HARBOR BOULEVARD OFF-RAMP; FRONT STREET IS AN NHS CONN	2023	$31,562
STATE HIGHWAY		1122004	138	SR-138	I-5	SR-14	NW 138 CORRIDOR IMPROVEMENT PROJECT - APPROXIMATELY 36 MILES, PROVIDING AN IMPROVED 4 TO 6 LANE FACILITY BETWEEN I-5 AND SR 14	2030	$600,000

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Los Angeles									
STATE HIGHWAY	CALTRANS	1160003	110	HARBOR TRANSITWAY	30TH STREET	FIGUEROA ST.	THE PROJECT PROPOSES TO BUILD AN ELEVATED HOV/HOT OFF-RAMP CONNECTOR ON THE NORTHBOUND I-110 BETWEEN 28TH STREET (PM 20.58) AND FIGUEROA STREET OVERCROSSING (PM 20.92). THE PROPOSED ELEVATED HOV/HOT OFF-RAMP CONNECTOR ON THE NORTHBOUND I-110 BETWEEN 28TH STREET (PM 20.58) AND FIGUEROA STREET OVERCROSSING (PM 20.92) WOULD BYPASS THE BOTTLENECK INTERSECTIONS AT ADAMS BLVD AND FLOWER STREET AND ELIMINATE THE DELAY BY PROVIDING THE DIRECT ACCESS TO FIGUEROA STREET.	2023	$55,000
STATE HIGHWAY	LOS ANGELES COUNTY MTA (METRO)	1200S003	405	I-405	I-105	I-110	I-405 EXPRESSLANES FROM I-105 TO I-110.	2028	$71,560
STATE HIGHWAY	LOS ANGELES COUNTY MTA (METRO)	1200S004	405	I-405	I-110	LA/ORANGE COUNTY LINE	I-405 EXPRESSLANES FROM I-110 TO LA/ORANGE COUNTRY LINE.	2028	$110,390
STATE HIGHWAY	LOS ANGELES COUNTY MTA (METRO)	1162S010	5	I-5	SR-14	KERN COUNTY LINE	I-5 NORTH CAPACITY ENHANCEMENT (TRUCK ONLY)	2039	$373,100
STATE HIGHWAY	LOS ANGELES COUNTY MTA (METRO)	1162S011	105	I-105	I-405	I-605	I-105 EXPRESS LANE FROM I-405 TO I-605	2029	$228,500
STATE HIGHWAY	LOS ANGELES COUNTY MTA (METRO)	1162S012	405	I-405	I-10	US-101	SEPULVEDA PASS TRANSIT CORRIDOR (PH 1). INCLUDES HIGHWAY EXPRESSLANES.	2026	$310,500
STATE HIGHWAY	LOS ANGELES COUNTY MTA (METRO)	1162S013	0	VARIOUS	0	0	HIGHWAY DEMAND BASED PROG. (HOV EXT. & CONNECT.) (SAN GABRIEL VALLEY)	2040	$223,976
STATE HIGHWAY	LOS ANGELES COUNTY MTA (METRO)	1162S014	0	VARIOUS	0	0	HIGHWAY EFFICIENCY PROGRAM (LAS VIRGENES MALIBU)	2032	$191,649
STATE HIGHWAY	LOS ANGELES COUNTY MTA (METRO)	1162S016	0	VARIOUS	0	0	SOUTH BAY HIGHWAY OPERATIONAL IMPROVEMENTS (MEASURE M) (SOUTH BAY)	2040	$1,066,554

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000'S)
County: Los Angeles									
STATE HIGHWAY	LOS ANGELES COUNTY MTA (METRO)	1163S003	605	I-605	SB I-605 RAMPS	BEVERLY BLVD POSTMILE RANGE IS R14.1 TO R14.6	THE SB I-605 LOOP ON AND OFF RAMPS ARE TO BE REMOVED AND RECONFIGURED INTERCHANGE, AND THE SB I-605 COLLECTOR ROAD IS TO BE REMOVED FROM THE MAINLINE. INTERSECTION IMPROVEMENTS AT BEVERLY BLVD AND SB I-605 RAMPS WILL ADD A LEFT TURN LANES ON WB BEVERLY BLVD. CLASS II BIKE LANES TO BE ADDED THROUGH THE INTERCHANGE MATCHING THE RAIL BRIDGE WHICH HAS BEEN RECENTLY WIDENED OVER UP TO THE NORTH. RECONFIGURE TO EITHER A DIAMOND OR D-RAMP INTERCHANGE AT BEVERLY BLVD.	2022	$25,607
STATE HIGHWAY	LOS ANGELES COUNTY MTA (METRO)	1163S004	605	I-605	605 PM R3.7	605 PM R4.5	SB I-605 AT SOUTH STREET. THE PROPOSED PROJECT WILL RECONFIGURE THE OFF-RAMP LANES SO THAT ONE LANE OPENS TO DUAL LEFT TURN LANES AND THE OTHER OPENS TO DUAL RIGHT TURN LANES.	2022	$11,239
STATE HIGHWAY	LOS ANGELES COUNTY MTA (METRO)	1163S005	91	SR-91	ATLANTIC AVE	CHERRY AVE	ADDITION OF ONE AUXILIARY LANE IN THE EASTBOUND DIRECTION, EXTENDING THE OUTSIDE #5 LANE BEYOND THE ATLANTIC AVE EB OFF RAMP TO CHERRY AVE. THEN DROPPING IT BEFORE THE CHERRY AVE. UNDERCROSSING, WIDENING THE ORANGE AVE. AND WALNUT AVE. UNDERCROSSINGS, AND POTENTIAL RECONFIGURATION OF LOCAL INTERCHANGES.	2024	$83,923
STATE HIGHWAY	LOS ANGELES COUNTY MTA (METRO)	1163S006	91	SR-91	CENTRAL AVE	NB I-710 TO WB SR-91 CONNECTOR	PROPOSED IMPROVEMENTS WOULD RECONFIGURE CENTRAL AVE. INTERCHANGE TO A MODIFIED DDI (DIVERGING DIAMOND INTERCHANGE).	2024	$49,000
STATE HIGHWAY	LOS ANGELES COUNTY MTA (METRO)	1163S007	91	SR-91	WILMINGTON AVE	NB I-710 TO WB SR-91 CONNECTOR	PROPOSED IMPROVEMENTS WOULD RECONFIGURE WILMINGTON AVE. INTERCHANGE TO A MODIFIED DDI (DIVERGING DIAMOND INTERCHANGE).	2023	$49,000
STATE HIGHWAY	LOS ANGELES COUNTY MTA (METRO)	1163S008	60	SR-60	SR-60/7TH AVENUE INTERCHANGE PM R14.3	SR-60/7TH AVENUE INTERCHANGE PM R14.3	IMPROVE 7TH AVENUE OFF RAMP AT WB SR-60. RECONFIGURE ON AND OFF RAMPS TO IMPROVE MOBILITY AND FREEWAY/ARTERIAL OPERATIONS.	2024	$21,000
STATE HIGHWAY	LOS ANGELES COUNTY MTA (METRO)	1163S009	605	I-605	VALLEY BLVD	TEMPLE BLVD	RECONFIGURE RAMPS TO IMPROVE MOBILITY AND FREEWAY/ARTERIAL OPERATIONS. THE PROJECT INVOLVES THE RECONFIGURATION OF SB I-605 RAMP BY REMOVING THE HORSESHOE ON-RAMP AND ADDING TWO LANES TO THE ON-RAMP. THE PROJECT WILL ALSO RECONSTRUCT THE SB I-605 LOOP OFF AND ON-RAMPS. LASTLY, THE PROJECT WILL ADD A WB THROUGH LANE ON VALLEY BLVD WEST OF TEMPLE AVE AND ADD A TWO LANE LEFT TURN POCKET FOR SB I-605 ON-RAMP ON WB VALLEY BLVD.	2024	$21,126

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000'S)
County: Los Angeles									
STATE HIGHWAY	LOS ANGELES COUNTY MTA (METRO)	1163S010	605	I-605/I-5/I-105	I-105	SLAUSON AVENUE	IMPROVEMENTS TO I-605 FROM SLAUSON AVENUE TO I-105 AND I-5 FROM FLORENCE TO PARAMOUNT BOULEVARD, WHICH INCLUDE ONE ADDITIONAL GENERAL PURPOSE LANE OR HOT LANE IN EACH DIRECTION AND CONTINUING THE HOV LANE THROUGH THE I-605/I-5 INTERCHANGE. IMPROVEMENTS MADE TO THE MAINLINE, RAMP, FREEWAY-TO-FREEWAY AND LOCAL INTERCHANGES, AND ADDITION OF AUXILIARY LANES. LA-605 PM R6.3/R21/1 LA-5 PM 5.8/9.5 LA-105 PM R16.6/R18.2]	2031	$2,200,000
STATE HIGHWAY	LOS ANGELES COUNTY MTA (METRO)	1163S011	605	I-605/I-10	SLAUSON AVENUE	I-10	IMPROVEMENTS TO I-605 FROM TELEGRAPH ROAD TO I-10, WHICH MAY INCLUDE ONE ADDITIONAL GENERAL PURPOSE LANE IN EACH DIRECTION OR HOT LANE IN EACH DIRECTION AND CONTINUING THE HOV LANE THROUGH THE I-605/I-10 INTERCHANGE. IMPROVEMENTS MADE TO THE MAINLINE, RAMP, FREEWAY-TO-FREEWAY AND LOCAL INTERCHANGES, AND ADDITIONS OF AUXILIARY LANES ALONG SR-60 FROM SANTA ANITA AVENUE TO TURNBULL CANYON ROAD. LA-605 PM R6.3/R21/1 LA-60 PM 10.2/15.6 I-10 PM 28.9/31.6	2031	$2,200,000
STATE HIGHWAY	LOS ANGELES COUNTY MTA (METRO)	1163S012	91	SR-91	605 PM 5.0 /91 PM 16.9	605 PM 5.8 / 91 PM 19.8	WB SR-91 IMPROVEMENT PROJECT – ALONDRA BLVD TO SHOEMAKER AVE ADD GENERAL PURPOSE LANE, AUXILIARY LANES, ON/OFF RAMP IMPROVEMENTS. THE WESTBOUND STATE ROUTE 91 (SR-91) IMPROVEMENT PROJECT (PROJECT) PROPOSES TO WIDEN AND IMPROVE APPROXIMATELY 4 MILES OF FREEWAY ALONG WESTBOUND SR-91 BETWEEN APPROXIMATELY SHOEMAKER AVENUE AND INTERSTATE 605 (I-605) INTERCHANGE. THE STUDY AREA INCLUDES WESTBOUND SR 91 AND NORTHBOUND I-605 AND TRAVERSES THE CITIES OF CERRITOS AND ARTESIA. THE PROJECT INCLUDES THE BUILD ALTERNATIVE WITH THE DESIGN OPTION FOR THE REDUCED LANE/SHOULDER WIDTH AND THE DESIGN OPTION FOR PIONEER BOULEVARD WESTBOUND RAMPS/168TH ALIGNMENT WHICH PROPOSES TO ALIGN THE SR-91 WESTBOUND RAMPS WITH 168TH STREET IN ARTESIA AT THE PIONEER BOULEVARD INTERCHANGE. THIS DESIGN OPTION WOULD CREATE A FOUR-LEGGED INTERSECTION WITH PIONEER BOULEVARD AS THE NORTH AND SOUTH LEGS, THE WESTBOUND RAMPS AS THE EAST LEG, AND 168TH STREET AS THE WEST LEG.	2025	$187,800
STATE HIGHWAY	LOS ANGELES COUNTY MTA (METRO)	1200S001	10	I-10	I-605	LA/SAN BERNARDINO COUNTY LINE	I-10 EXPRESSLANES FROM I-605 TO LA/SAN BERNARDINO COUNTY LINE.	2028	$196,840

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Los Angeles									
STATE HIGHWAY	LOS ANGELES COUNTY MTA (METRO)	1200S002	405	I-405	I-10	I-105	I-405 EXPRESSLANES FROM I-10 TO I-105.	2028	$70,880
STATE HIGHWAY	LOS ANGELES COUNTY MTA (METRO)	1200S005	605	I-605	I-105	LA/ORANGE COUNTY LINE	I-605 EXPRESSLANES FROM I-105 TO ORANGE COUNTY LINE.	2031	$100,850
STATE HIGHWAY	LOS ANGELES COUNTY MTA	1C0401	710	I-710	PICO/ANAHEIM	SR-60	I-710 CORRIDOR CAPACITY ENHANCEMENT - ADD 1 MIXED FLOW LANES BETWEEN OCEAN BLVD AND SR-1 (EACH DIRECTION), ADD 2 TRUCK LANES BETWEEN WILLOW ST AND DEL AMO BLVD (EACH DIRECTION), ADD 1 MIXED FLOW LANES BETWEEN I-105 AND SR-60 (EACH DIRECTION), AND INTERCHANGE IMPROVEMENTS BETWEEN OCEAN BLVD IN LONG BEACH AND SR-60 IN EAST LOS ANGELES	2040	$5,941,000
STATE HIGHWAY	LOS ANGELES COUNTY MTA (METRO)	1H0101	14	SR-14	AVE. P-8	AVE. L	ADD 1 HOV LANE EACH DIRECTION ON THE SR-14 FROM AVE. P-8 TO AVE. L	2027	$120,000
STATE HIGHWAY	LOS ANGELES COUNTY MTA (METRO)	1H0103	5	I-5/I-405	SOUTH	NORTH	I-5/I-405 CARPOOL LANE PARTIAL CONNECTOR (SOUTH TO NORTH)	2029	$330,000
STATE HIGHWAY	LOS ANGELES COUNTY MTA (METRO)	1M0104	57	SR-57/SR-60	PM 4.3 ON SR-57 & PM 23.5 ON SR-60	PM 4.8 ON SR-57 & PM 26.5 ON SR-60	SR-57/SR-60 INTERCHANGE IMPROVEMENT	2028	$300,000
STATE HIGHWAY	PORT OF LOS ANGELES	1M0430	47	SR-47	AT NAVY WAY		SR 47/NAVY WAY INTERCHANGE: CONSTRUCTION OF INTERCHANGE AT SR-47 / NAVY WAY TO ELIMINATE TRAFFIC SIGNAL AND MOVEMENT CONFLICTS; THIS PROJECT WAS A S.CA TRADE CORRIDOR TIER II TCIF PROJECT AS SUBMITTED TO THE CTC IN 2008; PROJECT REMOVES LAST SIGNAL ON SR 47 BETWEEN DESMOND AND V. THOMAS BRIDGES; NHS INTERMODAL CONNECTOR ROUTE	2025	$50,000
STATE HIGHWAY	CALTRANS	1M0802	101	US-101	AT UNIVERSAL TERRACE PARKWAY		US-101/UNIVERSAL TERRACE PARKWAY (CAMPO DE CAHUENGA WAY) INTERCHANGE IMPROVEMENTS	2023	$21,516
STATE HIGHWAY	LOS ANGELES COUNTY MTA	1M1002	710	I-710			I-710 EARLY ACTION PROJECTS	2022	$711,600
STATE HIGHWAY	SOUTH BAY COUNCIL OF GOVERNMENTS	1M1003	91	91/105/110/405			I-405, I-110, I-105 AND SR-91 RAMP AND INTERCHANGE IMPROVEMENTS (SOUTH BAY)	2016	$1,508,900

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Los Angeles									
STATE HIGHWAY	LOS ANGELES COUNTY MTA (METRO)	1O1002	0				SAFETY NET (IMMEDIATE NEEDS) PROGRAM	2040	$347,500
STATE HIGHWAY	LOS ANGELES COUNTY MTA (METRO)	1O1004	0				CALL FOR PROJECTS RSTI MODE	2030	$594,017
STATE HIGHWAY	LOS ANGELES COUNTY MTA (METRO)	1O1005	0				CALL FOR PROJECTS GOODS MOVEMENT MODE	2030	$765,026
STATE HIGHWAY	CALTRANS	LA962212	138				ROUTE 138: IN PALMDALE @ AVENUE P-8 FROM ROUTE 14 TO 100TH STREET - ACQUISITION OF ROW FOR FUTURE RTE 138 (TIER 2 ENV) (CFP 2212 $3540 2001 CFP 8021)(EA# 116720,PPNO 0393F)	2019	$700,000
TRANSIT		1120002	0	EXPAND RAIL	WILSHIRE/ VERMONT	EXPOSITION/ VERMONT	VERMONT SHORT CORRIDOR: WILSHIRE/VERMONT TO EXPOSITION/ VERMONT	2045	$1,180,000
TRANSIT		1120003	0	EXPAND RAIL	CRENSHAW CORRIDOR	METRO BLUE LINE SLAUSON STATION	SLAUSON LIGHT RAIL: CRENSHAW CORRIDOR TO METRO BLUE LINE SLAUSON STATION	2045	$554,000
TRANSIT		1120004	0	EXPAND RAIL	METRO RED LINE STATION NORTH HOLLYWOOD	BURBANK BOB HOPE AIRPORT	METRO RED LINE EXTENSION: METRO RED LINE STATION NORTH HOLLYWOOD TO BURBANK BOB HOPE AIRPORT	2045	$940,000
TRANSIT		1120005	0	EXPAND RAIL		METRO GREEN LINE NORWALK STATION	METRO GREEN LINE EXTENSION: METRO GREEN LINE NORWALK STATION TO NORWALK METROLINK STATION	2045	$500,000
TRANSIT	LOS ANGELES, CITY OF	1122001	0		LAX CENTRAL TERMINAL AREA	MANCHESTER SQUARE, LOS ANGELES, CA (BOUNDED BY MANCHESTER BLVD., LA CIENEGA BLVD., AVIATION BLVD., AND CENTURY BLVD.)	LANDSIDE AUTOMATED PEOPLE MOVER (APM) SYSTEM: A FIXED GUIDEWAY-BASED TRANSPORTATION SYSTEM THAT MOVES PASSENGERS TO AND FROM THE CENTRAL TERMINAL AREA (CTA) TO THE LANDSIDE ACCESS FACILITIES (CONRAC AND ITFS) AND OTHER MASS TRANSPORTATIONFACILITIES IN AN ABOVE-GRADE CONFIGURATION. A TOTAL OF SIX STATIONS WOULD BE LOCATED ALONG THE ALIGNMENT; PASSENGER WALKWAYS AND VERTICAL CIRCULATION CORES WOULD CONNECT THE APM STATIONSWITH THE AIRPORT TERMINALS AND LANDSIDE ACCESS FACILITIES. THE APM SYSTEM WOULD ALSO INCLUDE A MAINTENANCE FACILITY AND SEVERAL ELECTRICAL SUBSTATIONS TO PROVIDE POWER TO THE SYSTEM. CONSTRUCTION OF THE APM GUIDEWAY AND STATIONS WOULD REQUIRE THE DEMOLITION/ RELOCATION OF SEVERAL ENABLING PROJECTS.	2023	$1,705,214

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Los Angeles									
TRANSIT	LOS ANGELES COUNTY MTA (METRO)	1160001	0	SEPULVEDA PASS TRANSIT CORRIDOR	METRO ORANGE LINE VAN NUYS STATION	WILSHIRE/ WESTWOOD	SEPULVEDA PASS TRANSIT CORRIDOR (PHASE 2)	2033	$7,804,800
TRANSIT	LOS ANGELES COUNTY MTA (METRO)	1162T017	0	BRT CONNECTOR ORANGE/RED LINE TO GOLD LINE	ORANGE/RED LINE NORTH HOLLYWOOD STATION	GOLD LINE DEL MAR STATION	BRT CONNECTOR ORANGE/RED LINE TO GOLD LINE	2022	$283,400
TRANSIT	LOS ANGELES COUNTY MTA (METRO)	1162T020	0	ORANGE LINE BRT IMPROVEMENTS	EXISTING ORANGE LINE	EXISTING ORANGE LINE	ORANGE LINE BRT IMPROVEMENTS	2025	$321,400
TRANSIT	LOS ANGELES COUNTY MTA (METRO)	1162T021	0	VARIOUS	0	0	COUNTYWIDE BRT PROJECTS PH 1 (ALL SUBREGIONS) (SYSTEM CONNECTIVITY PROJECTS (NO SUBREGION)	2022	$61,846
TRANSIT	LOS ANGELES COUNTY MTA (METRO)	1162T022	0	VARIOUS	0	0	COUNTYWIDE BRT PROJECTS PH 2 (ALL SUBREGIONS) (SYSTEM CONNECTIVITY PROJECTS (NO SUBREGION))	2032	$88,086
TRANSIT	LOS ANGELES COUNTY MTA (METRO)	1162T023	0	VARIOUS	0	0	NORTH SAN FERNANDO VALLEY BUS RAPID TRANSIT IMPROVEMENTS (SYSTEM CONNECTIVITY PROJECTS (NO SUBREGION)	2023	$222,830
TRANSIT	LOS ANGELES COUNTY MTA (METRO)	1162T024	0	VARIOUS	0	0	STREET CAR AND CIRCULATOR PROJECTS (SYSTEM CONNECTIVITY PROJECTS (NO SUBREGION))	2022	$41,822
TRANSIT	LOS ANGELES COUNTY MTA (METRO)	1162T025	0	VARIOUS	0	0	TRANSIT PROGRAM (NORTH COUNTY)	2040	$570,122
TRANSIT	LOS ANGELES COUNTY MTA (METRO)	1162T026	0	VARIOUS	0	0	TRANSIT PROJECTS (ARROYO VERDUGO)	2040	$249,283
TRANSIT	LOS ANGELES COUNTY MTA (METRO)	1162T027	0	VARIOUS	0	0	BUS SYSTEM IMPROVEMENT PROGRAM (SAN GABRIEL VALLEY)	2040	$53,328
TRANSIT	LOS ANGELES COUNTY MTA (METRO)	1162T028	0	VARIOUS	0	0	COUNTYWIDE BRT PROJECTS PH 3 (ALL SUBREGIONS) (SYSTEM CONNECTIVITY PROJECTS (NO SUBREGION))	2040	$40,350
TRANSIT	LOS ANGELES COUNTY MTA (METRO)	1162T029	0	EXPAND RAIL	WILSHIRE/ VERMONT	EXPOSITION/ VERMONT	VERMONT TRANSIT CORRIDOR	2028	$530,100

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Los Angeles									
TRANSIT	LOS ANGELES COUNTY MTA (METRO)	1200O001	0	0	0	0	ANTELOPE VALLEY LINE CAPACITY IMPROVEMENT PROJECT: ADD CAPACITY BETWEEN LOS ANGELES UNION STATION AND LANCASTER WHERE UP OPERATES FREIGHT TRAINS. PHASE I INCLUDES DOUBLE TRACK SECTIONS, BURBANK JUNCTION SPEED IMPROVEMENTS, AND SIGNAL RESPACING. THE PROJECT WILL ELIMINATE RAIL BOTTLENECKS AND IMPROVE TRAVEL TIME AND RELIABILITY FOR BOTH FREIGHT AND COMMUTER RAIL.	2026	$856,348
TRANSIT	LOS ANGELES COUNTY MTA (METRO)	1200T001	0	0	ADDRESS: 410 CENTER STREET, LOS ANGELES	0	DESIGN AND CONSTRUCTION OF THE EMERGENCY SECURITY OPERATIONS CENTER (ESOC) INCLUDING THE EMERGENCY OPERATIONS CENTER AND NEW SECURITY OPERATIONS CENTER.	2022	$112,700
TRANSIT	BURBANK AIRPORT	1200T004	0	0	0	0	REPLACEMENT PASSENGER TERMINAL (RPT) AND ASSOCIATED SUPPORT FACILITIES (AIRCRAFT APRONS/RAMPS, PRIMARY AND SECONDARY ROADS, AUTO PARKING, REPLACEMENT AIRLINE CARGO BUILDING, REPLACEMENT GSE MAINTENANCE AND AN REPLACEMENT ARFF BUILDING. ALSO INCLUDES IS THE DEMOLITION OF THE EXISTING TERMINAL BUILDING AND ELEVATED PARKING STRUCTURE, AND THE CONSTRUCTION OF TAXIWAYS TO REPLACE EXISTING NON-STANDARD TAXILANES. THE AIRPORT WILL PROVIDE SHUTTLE SERVICES TO THE NORTH STATION (ANTELOPE VALLEY LINE) AND THE REGIONAL INTERMODAL TRANSPORTATION CENTER WHICH INCLUDES THE RENTAL CAR FACILITY AND ACCESS TO THE EMPIRE STATION (VENTURA LINE AND AMTRAK). THE REPLACEMENT TERMINAL WILL ALSO PROVIDE ACCESS TO CITY BUS SERVICES.	2024	$1,200,000
TRANSIT	LOS ANGELES COUNTY MTA (METRO)	1O1003	0	RAIL REHABILITATION AND REPLACEMENT (CAPITAL COSTS ONLY)			RAIL REHABILITATION AND REPLACEMENT (CAPITAL COSTS ONLY)	2040	$6,538,500
TRANSIT	LOS ANGELES COUNTY MTA (METRO)	1TL0703	0	METRO RAIL TRANSIT CAPITAL	COUNTYWIDE		RAIL CAPITAL PROJECTS	2040	$19,151,000
TRANSIT	LOS ANGELES COUNTY MTA (METRO)	1TL104	0	BUS CAPITAL	COUNTYWIDE		COUNTYWIDE BUS SYSTEM IMPROVEMENT--METRO FLEET	2039	$7,483,000
TRANSIT	LOS ANGELES COUNTY MTA (METRO)	1TL204	0	METRO RAIL TRANSIT CAPITAL	ROSECRANS AVENUE	MARQUARDT AVENUE	GRADE SEPARATION AT THE INTERSECTION OF ROSECRANS/MARQUARDT IN THE CITY OF SANTA FE SPRINGS.	2023	$156,437
TRANSIT	LOS ANGELES COUNTY MTA (METRO)	1TR0101	0	AIRPORT METRO CONNECTOR	AVIATION & 96TH STREET	AVIATION & 96TH STREET	AIRPORT METRO CONNECTOR 96TH ST STATION/GREEN LINE EXT LAX	2023	$620,700

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Los Angeles									
TRANSIT	LOS ANGELES COUNTY MTA (METRO)	1TR0704A	0	GOLD LINE EASTSIDE EXTENSION (SR-60)	GOLD LINE ATLANTIC STATION	PECK RD (SOUTH EL MONTE)	PHASE 2 OF THE GOLD LINE EASTSIDE EXTENSION TO SOUTH EL MONTE ALONG SR-60	2035	$4,530,700
TRANSIT	LOS ANGELES COUNTY MTA (METRO)	1TR0704B	0	GOLD LINE EASTSIDE EXTENSION (WASHINGTON BLVD)	GOLD LINE ATLANTIC STATION	LAMBERT RD (WHITTIER)	PHASE 2 OF THE GOLD LINE EASTSIDE EXTENSION TO WHITTIER ALONG WASHINGTON BLVD.	2057	$4,530,700
TRANSIT	LOS ANGELES COUNTY MTA (METRO)	1TR0706	0	SFV N/S BRT PHASE II			EAST SF VALLEY TRANSIT CORRIDOR PROJECT	2027	$1,572,500
TRANSIT	LOS ANGELES COUNTY MTA (METRO)	1TR1001	0	GREEN LINE SOUTH BAY EXTENSION	MARINE AVENUE STATION	PROPOSED TORRANCE TRANSIT CENTER	GREEN LINE EXTENSION TO CRENSHAW BLVD IN TORRANCE	2030	$1,159,500
TRANSIT	LOS ANGELES COUNTY MTA (METRO)	1TR1003	0	PURPLE/RED LINE	CENTURY CITY	WESTWOOD	WESTSIDE PURPLE LINE EXTENSION SECTION 3	2027	$3,664,123
TRANSIT	DOWNEY	1TR1009	0	LAKEWOOD STATION TRANSIT CENTER AND PARK-AND-RIDE	METRO GREEN LINE LAKEWOOD STATION	METRO GREEN LINE LAKEWOOD STATION	CONSTRUCT TRANSIT CENTER AND PARK-AND-RIDE LOT FOR CONNECTION TO THE METRO GREEN LINE AT LAKEWOOD STATION. A TOTAL OF 230 PARKING SPACES ARE PROPOSED.	2018	$5,100
TRANSIT	LOS ANGELES COUNTY MTA (METRO)	1TR1010	0	BUS CAPITAL	COUNTYWIDE		COUNTYWIDE BUS SYSTEM IMPROVEMENT--MUNI FLEET	2040	$6,130,487
TRANSIT	LOS ANGELES COUNTY MTA (METRO)	1TR1011	0	WEST SANTA ANA BRANCH ROW CORRIDOR	PIONEER BLVD (ARTESIA)	UNION STATION/ DOWNTOWN LA	WEST SANTA ANA BRANCH TRANSIT CORRIDOR LRT	2028	$6,433,400
TRANSIT	LOS ANGELES COUNTY MTA (METRO)	1TR1014	0				ACCESS SERVICES INCORPORATED (PARATRANSIT) - METRO SUBSIDY	2035	$4,210,300
TRANSIT	LOS ANGELES COUNTY MTA (METRO)	1TR1016	0				UNION BUS DIVISION (CAPITAL COSTS ONLY)	2016	$44,900

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000'S)
County: Los Angeles									
TRANSIT	LOS ANGELES COUNTY MTA (METRO)	1TR1019	0	METRO RAIL TRANSIT CAPITAL	COUNTYWIDE		RAIL SYSTEM IMPROVEMENTS (CAPITAL COSTS ONLY)	2035	$2,365,700
TRANSIT	LOS ANGELES COUNTY MTA (METRO)	1TR1021	0				METRO AND MUNICIPAL REGIONAL CLEAN FUEL BUS CAPITAL--FACILITIES AND ROLLING STOCK (METRO'S SHARE TO BE USED FOR CLEAN FUEL BUSES) (CAPITAL COSTS ONLY)	2040	$150,000
TRANSIT	LOS ANGELES COUNTY MTA (METRO)	1TR1022	0				CALL FOR PROJECTS TRANSIT CAPITAL MODE	2030	$355,656

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000'S)
County: Orange									
LOCAL HIGHWAY	VARIOUS AGENCIES	2120005	0	ARTERIALS	COUNTYWIDE		ARTERIAL PAVEMENT REHABILITATION	2045	$5,828,125
LOCAL HIGHWAY	SANTA ANA	2160001	0	17TH STREET	LINCOLN AVE	E OF LOSSAN	17TH STREET GRADE SEPARATION AT LOSSAN	2030	$158,300
LOCAL HIGHWAY	ORANGE COUNTY TRANSPORTATION AUTHORITY (OCTA)	2200L001	0	SANTA ANA BLVD	0	0	SANTA ANA BLVD GRADE SEPARATION AT LOSSAN	2035	$103,200
LOCAL HIGHWAY	VARIOUS AGENCIES	2A0704	0	MASTER PLAN OF ARTERIAL HIGHWAYS	COUNTYWIDE		COMPLETE MPAH, IMPROVE ARTERIAL CAPACITY	2041	$7,011,333
LOCAL HIGHWAY	VARIOUS AGENCIES	2A0705	0	SIGNAL SYNCHRONIZATION PROGRAM	COUNTYWIDE		SYNCHRONIZE SIGNALS ACROSS JURISDICTIONS	2041	$311,280
LOCAL HIGHWAY	VARIOUS AGENCIES	2L220	0	NON-MOTORIZED	COUNTYWIDE		OC BIKEWAYS	2045	$805,741
OTHER	VARIOUS AGENCIES	2120002	0	ENVIRONMENTAL CLEANUP PROGRAM	COUNTYWIDE		TRANSPORTATION-RELATED WATER QUALITY PROGRAM	2041	$298,340
OTHER	ORANGE COUNTY TRANSPORTATION AUTHORITY (OCTA)	2160012	0				BOND INTEREST	2041	$900,072
PASSENGER RAIL	OCTA/SCRRA	2CR0704	0	COMMUTER RAIL	COUNTYWIDE		COMMUTER RAIL & INTERCITY RAIL - CAPITAL COSTS FOR SAFETY, OPERATIONS, STATIONS, AND MAINTENANCE FACILITIES	2041	$977,853
STATE HIGHWAY	IRVINE	2200S001	133	133	TRABUCO RD	0	ADD NEW ON- AND OFF-RAMPS AT TRABUCO & SR 133	2040	$106,000
STATE HIGHWAY	ORANGE COUNTY TRANSPORTATION AUTHORITY (OCTA)	2H0702	5	I-5	BARRANCA PARKWAY		BARRANCA PARKWAY HOV INTERCHANGE IMPROVEMENT - ADD SB HOV ON-RAMP AND NB HOV OFF-RAMP	2045	$39,479
STATE HIGHWAY	ORANGE COUNTY TRANSPORTATION AUTHORITY (OCTA)	2H0707	73	SR-73	I-405	MACARTHUR	ADD 1 HOV LANE EACH DIRECTION FROM MACARTHUR TO 405	2040	$207,577

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Orange									
STATE HIGHWAY	ORANGE COUNTY TRANSPORTATION AUTHORITY (OCTA)	2L149	0	MOTORIST SERVICES	COUNTYWIDE		FREEWAY SERVICE PATROL AND CALLBOX PROGRAM	2041	$179,906
STATE HIGHWAY	ORANGE COUNTY TRANSPORTATION AUTHORITY (OCTA)	2M0732	5	I-5	SR-57	SR-91	ADD 1 HOV LANE EACH DIRECTION	2040	$305,924
STATE HIGHWAY	RIVERSIDE COUNTY TRANSPORTATION COMMISSION (RCTC)	2M0737	91	SR-91	SR-241	I-15	ADD 1 LANE EACH DIRECTION FROM SR 241 TO COUNTY LINE, AND OTHER OPERATIONAL IMPROVEMENTS. (LINKED WITH RIV071250B)	2037	$292,530
STATE HIGHWAY	ANAHEIM	2T04128	91	SR-91	FAIRMONT DRIVE		CONSTRUCT OVERCROSSING AND SR-91 INTERCHANGE AT FAIRMONT BLVD	2035	$76,800
TRANSIT	ORANGE COUNTY TRANSPORTATION AUTHORITY (OCTA)	2120001	0	VANPOOL			VANPOOL OPERATIONS	2045	$52,642
TRANSIT	ORANGE COUNTY TRANSPORTATION AUTHORITY (OCTA)	2160007	0	ELDERLY & HANDICAPPED ASSISTANCE			SENIOR NON-EMERGENCY MEDICAL TRANSPORTATION PROGRAM	2041	$101,100
TRANSIT	ORANGE COUNTY TRANSPORTATION AUTHORITY (OCTA)	2160008	0	FIXED ROUTE TRANSIT			OC TRANSIT VISION - CAPITAL	2040	$57,766
TRANSIT	ORANGE COUNTY TRANSPORTATION AUTHORITY (OCTA)	2160009	0	FIXED ROUTE TRANSIT			OC TRANSIT VISION - OPERATIONS & MAINTENANCE	2045	$1,047,769
TRANSIT	ORANGE COUNTY TRANSPORTATION AUTHORITY (OCTA)	2160013	0	COMMUTER RAIL			COMMUTER RAIL & INTERCITY RAIL - OPERATIONAL COSTS (SUBSIDIES)	2045	$1,376,182
TRANSIT	ORANGE COUNTY TRANSPORTATION AUTHORITY (OCTA)	2160014	0	FIXED ROUTE BUS			COUNTYWIDE FIXED ROUTE AND PARATRANSIT - OPERATIONS (MAINTAINS EXISTING SERVICE LEVELS)	2045	$12,089,822
TRANSIT	ORANGE COUNTY TRANSPORTATION AUTHORITY (OCTA)	2200T001	0	FIXED ROUTE BUS	0	0	OC TRANSIT VISION - CORRIDOR IMPROVEMENTS	2040	$3,563,218
TRANSIT	ORANGE COUNTY TRANSPORTATION AUTHORITY (OCTA)	2200T002	0	FIXED ROUTE BUS	0	0	INNOVATIVE CLEAN TRANSIT (INCREMENTAL COST)	2040	$442,000

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000'S)
County: Orange									
TRANSIT	ORANGE COUNTY TRANSPORTATION AUTHORITY (OCTA)	2200T003	0	TSOC	0	0	TRANSIT SECURITY AND OPERATIONS CENTER CONSTRUCTION	2023	$25,300
TRANSIT	ORANGE COUNTY TRANSPORTATION AUTHORITY (OCTA)	2L206	0	FIXED ROUTE BUS	COUNTYWIDE		COUNTYWIDE FIXED ROUTE AND PARATRANSIT - CAPITAL (MAINTAINS EXISTING SERVICE LEVELS).	2045	$1,266,547
TRANSIT	ORANGE COUNTY TRANSPORTATION AUTHORITY (OCTA)	2TR0702	0	COMMUNITY-BASED SHUTTLES PROGRAM	COUNTYWIDE		COMMUNITY CIRCULATORS	2041	$239,800
TRANSIT	ORANGE COUNTY TRANSPORTATION AUTHORITY (OCTA)	2TR0703	0	ELDERLY & HANDICAPPED ASSISTANCE	COUNTYWIDE		SENIOR MOBILITY PROGRAM	2041	$121,320
TRANSIT	ORANGE COUNTY TRANSPORTATION AUTHORITY (OCTA)	2TR0709	0	SAFE TRANSIT STOPS	COUNTYWIDE		SAFE TRANSIT STOPS	2041	$22,880

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Riverside									
LOCAL HIGHWAY	TEMECULA	3120001	0	RANCHO WAY	DIAZ RD.	MARGARITA RD.	CONSTRUCT RANCHO WAY - 4 LANE LOCAL ARTERIAL FROM DIAZ RD. TO MARGARITA RD.	2035	$52,483
LOCAL HIGHWAY	BEAUMONT	3120003	0	POTRERO BLVD. EXTENSION	CALIFORNIA	MICHIGAN AVE.	CONSTRUCT NEW 4 LANE ARTERIAL HIGHWAY EXTENSION AND OVERPASS FACILITY AT SR79	2020	$36,000
LOCAL HIGHWAY	MURRIETA	3120005	0	ELM STREET	ADAMS AVENUE	JACKSON AVENUE	WIDEN FROM 2 TO 4 LANES WITH I-15 OVERCROSSING	2030	$31,155
LOCAL HIGHWAY	MURRIETA	3120006	0	IVY STREET	JEFFERSON AVENUE	WASHINGTON AVENUE	WIDEN FROM 2 TO 4 LANES	2023	$2,001
LOCAL HIGHWAY	MURRIETA	3120007	0	WARM SPRINGS PARKWAY	CLINTON KEITH ROAD	SCOTT ROAD	CONSTRUCT - REALIGN ANTELOPE RD FROM CLINTON KEITH RD. TO SCOTT ROAD - 4 THROUGH LANES, 2 LANE IN EACH DIRECTION.	2030	$24,924
LOCAL HIGHWAY	MURRIETA	3120008	0	GUAVA STREET	WASHINGTON AVENUE	MONROE AVENUE	WIDEN FROM 2 TO 4 LANES	2030	$12,462
LOCAL HIGHWAY	MURRIETA	3120010	0	MADISON AVE.	GUAVA STREET	DATE ST.	WIDEN FROM 2 TO 4 LANES	2030	$18,693
LOCAL HIGHWAY	MURRIETA	3120013	0	LOS ALAMOS RD. - NORTH SIDE	HANCOCK AVE.	WHITEWOOD AVE.	WIDENING FROM 4 TO 6 LANES.	2035	$2,916
LOCAL HIGHWAY	MURRIETA	3120014	0	MONROE AVE.	MURRIETA HOT SPRINGS RD.	LOS ALAMOS AVE.	CONSTRUCT A 4 LANE FACILITY - MONROE AVE. FROM MURRIETA HOT SPRINGS RD. TO LOS ALAMOS RD.	2023	$15,000
LOCAL HIGHWAY	JURUPA VALLEY	3120016	0	MARKET ST	RUBIDOUX BLVD.	NORTH OF THE SANTA ANA RIVER	WIDEN FROM 2 TO 4 LANES	2030	$31,155
LOCAL HIGHWAY	DESERT HOT SPRINGS	3120017	0	MISSION LAKES BLVD	SR62	INDIAN AVE.	WIDEN FROM 2 TO 4 LANES	2022	$9,486
LOCAL HIGHWAY	DESERT HOT SPRINGS	3120018	0	MOUNTAIN VIEW RD.	PIERSON BLVD. AT EAST TERMINUS OF DESERT VIEW AVE.	HACIENDA AVE.	WIDEN FROM 2 TO 4 LANES	2022	$1,064
LOCAL HIGHWAY	DESERT HOT SPRINGS	3120021	0	PIERSON BLVD.	AMBROSIO DR	MIRACLE HILL RD.	WIDEN FROM 2 TO 4 LANES	2023	$2,150

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Riverside									
LOCAL HIGHWAY	DESERT HOT SPRINGS	3120022	0	PIERSON BLVD.	MIRACLE HILL RD.	EASTERN TERMINUS OF DESERT VIEW AVE.	WIDEN FROM 2 TO 4 LANES	2023	$7,531
LOCAL HIGHWAY	DESERT HOT SPRINGS	3120023	0	PALM DR.	DILLON RD.	TWO BUNCH PALMS TR.	WIDEN FROM 4 TO 6 LANES. OTHER IMPROVEMENTS INCLUDE SHOULDERS AND MEDIANS	2023	$7,153
LOCAL HIGHWAY	DESERT HOT SPRINGS	3120024	0	PALM DR.	PIERSON BLVD.	MISSION LAKE BLVD.	WIDEN FROM 4 TO 6 LANES. OTHER IMPROVEMENTS INCLUDE SHOULDERS AND MEDIANS	2023	$5,298
LOCAL HIGHWAY	DESERT HOT SPRINGS	3120025	0	WORSLEY RD.	PIERSON BLVD.	INDIAN AVE.	WIDEN FROM 2 TO 4 LANES	2023	$13,676
LOCAL HIGHWAY	JURUPA VALLEY	3120036	0	JURUPA RD	CEDAR ST	E'LY OF FELSPAR ST	GRADE SEPARATION - 2 LANES OVER UPRR TRACKS	2030	$126,151
LOCAL HIGHWAY	CATHEDRAL CITY	3160009	0	E. PALM CANYON	WEST CATHEDRAL CITY LIMITS	CATHEDRAL CANYON DRIVE	WIDEN FROM 4 TO 6 LANES	2025	$11,525
LOCAL HIGHWAY	CATHEDRAL CITY	3160010	0	E. PALM CANYON	CATHEDRAL CANYON DRIVE	DATE PALM DR	WIDEN FROM 4 TO 6 LANES	2027	$2,562
LOCAL HIGHWAY	CATHEDRAL CITY	3160011	0	E. PALM CANYON	DATE PALM DR	EAST CATHEDRAL CITY LIMITS	WIDEN FROM 4 TO 6 LANES	2030	$2,831
LOCAL HIGHWAY	CORONA	3160012	0	RADIO RD	SAMPSON AVE	WALKER LN	GRADE SEPARATION - 2 LANES OVER BNSF RR TRACKS	2040	$25,000
LOCAL HIGHWAY	HEMET	3160013	0	CAWSTON AVE	COVE ST	MUSTANG WAY	WIDEN FROM 2 TO 4 LANES	2035	$3,000
LOCAL HIGHWAY	HEMET	3160014	0	HEMET ST	HEMET ST BRIDGE OVER BAUTISTA CREEK		CONSTRUCT 2 LANE BRIDGE ACROSS BAUTISTA CREEK	2035	$21,305

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Riverside									
LOCAL HIGHWAY	HEMET	3160015	0	LYON AVE	LYON AVE BRIDGE OVER SALT CREEK CHANNEL		CONSTRUCT 4 LANE BRIDGE ACROSS SALT CREEK CHANNEL	2035	$20,000
LOCAL HIGHWAY	HEMET	3160016	0	CAWSTON AVE	CAWSTON AVE BRIDGE OVER SALT CREEK CHANNEL		CONSTRUCT 4 LANE BRIDGE ACROSS SALT CREEK CHANNEL	2035	$20,647
LOCAL HIGHWAY	HEMET	3160017	0	WARREN RD	WARREN RD BRIDGE OVER SALT CREEK CHANNEL		CONSTRUCT 6 LANE BRIDGE ACROSS SALT CREEK CHANNEL	2035	$20,000
LOCAL HIGHWAY	HEMET	3160018	0	ESPLANADE AVE	WARREN RD	SAN JACINTO ST	WIDEN FROM 2 TO 4 LANES	2035	$5,000
LOCAL HIGHWAY	HEMET	3160020	0	LYON AVE	DOMENIGONI PKWY	CHAMBERS ST	CONSTRUCT NEW 4 LANE ARTERIAL	2035	$15,979
LOCAL HIGHWAY	HEMET	3160022	0	MENLO AVE	WESTERLY END	PARK AVE	WIDEN FROM 2 TO 4 LANES	2035	$20,000
LOCAL HIGHWAY	INDIO	3160023	0	ADAMS ST	AVE 38	AVE 40	WIDEN FROM 2 TO 4 LANES	2027	$1,400
LOCAL HIGHWAY	INDIO	3160024	0	AVE 38	ADAMS ST	MADISON ST	WIDEN FROM 2 TO 4 LANES	2027	$2,500
LOCAL HIGHWAY	INDIO	3160025	0	AVE 40	VARNER RD	JEFFERSON ST	WIDEN FROM 2 TO 4 LANES	2027	$1,400
LOCAL HIGHWAY	INDIO	3160027	0	CLINTON ST	MILES ST	DE ORO AVE	WIDEN FROM 3 TO 4 LANES	2027	$500
LOCAL HIGHWAY	INDIO	3160028	0	DILLON RD	CABAZON RD	HWY 86 IC	WIDEN FROM 2 TO 4 LANES, NOT INCLUDING BRIDGE OVER COACHELLA VALLEY STORM WATER CHANNEL	2027	$1,100

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000'S)
County: Riverside									
LOCAL HIGHWAY	INDIO	3160029	0	DILLON RD	BRIDGE OVER COACHELLA VALLEY STORM WATER CHANNEL		WIDEN FROM 2 TO 4 LANES	2027	$17,500
LOCAL HIGHWAY	INDIO	3160030	0	DILLON RD	AVE 44	NORTH CITY LIMITS	WIDEN FROM 2 TO 4 LANES	2032	$1,962
LOCAL HIGHWAY	INDIO	3160031	0	INDIO BLVD	I-10 IC	JEFFERSON ST	WIDEN FROM 4 TO 6 LANES, NOT INCLUDING RAILROAD CROSSING	2024	$700
LOCAL HIGHWAY	INDIO	3160032	0	INDIO BLVD	UNION PACIFIC RAILROAD CROSSING		WIDEN FROM 4 TO 6 LANES	2024	$13,000
LOCAL HIGHWAY	INDIO	3160033	0	MADISON ST	AVE 38	AVE 40	WIDEN FROM 3 TO 4 LANES	2027	$1,000
LOCAL HIGHWAY	INDIO	3160034	0	MADISON ST OC	MADISON ST OC AT I-10		NEW 4 LANE OVERCROSSING	2040	$50,000
LOCAL HIGHWAY	MORENO VALLEY	3160035	0	CACTUS AVE	NASON ST	REDLANDS BLVD	WIDEN FROM 2 TO 4 LANES	2028	$8,000
LOCAL HIGHWAY	MORENO VALLEY	3160036	0	INDIAN ST BRIDGE OVER CHANNEL LATERAL A	SUPERIOR AVE	SAN MICHELE RD	CONSTRUCT BRIDGE TO CLOSE ROADWAY GAP AND PROVIDE MINIMUM 2 LANES (1 LANE IN EACH DIRECTION) BETWEEN SUPERIOR AVE AND SAN MICHELE RD	2024	$4,000
LOCAL HIGHWAY	PERRIS	3160038	0	ETHANAC RD	GOETZ RD	KEYSTONE DR	WIDEN FROM 2 TO 6 LANES, INCLUDING BRIDGE OVER SAN JACINTO STORM CHANNEL.	2030	$10,500
LOCAL HIGHWAY	PERRIS	3160039	0	ETHANAC RD	GOETZ RD	I-215	WIDEN FROM 2 TO 4 LANES	2020	$4,000
LOCAL HIGHWAY	PERRIS	3160040	0	NUEVO RD	PERRIS BLVD	DUNLAP DR	WIDEN FROM 4 TO 6 LANES	2030	$6,854
LOCAL HIGHWAY	PERRIS	3160041	0	NUEVO RD	EVANS RD	WILSON AVE	WIDEN FROM 2 TO 4 LANES, INCLUDING BRIDGE OVER PERRIS VALLEY STORM DRAIN	2020	$7,500

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000'S)
County: Riverside									
LOCAL HIGHWAY	LAKE ELSINORE	3161L009	0	TEMESCAL CANYON RD SEGMENT A & C	WESTERLY CITY BOUNDARY, 0.68 MILE WESTERLY OF LAKE STREET	LAKE ST	IN LAKE ELSINORE - CONS OF A NEW 4-LANE DIVIDED ROADWAY, REALIGNING EXISTING TEMESCAL CANYON ROAD AND REPLACE EXISTING 2-LANE UNIMPROVED TEMESCAL CANYON ROAD FROM LAKE STREET TO 650 FT EASTERLY OF CITY'S WESTERLY BOUNDARY. SEGMENT OF THIS REALIGNED ROAD INCLUDES A 706' BRIDGE FUNDED BY HBP LISTED SEPARATELY UNDER RIV111203.	2025	$5,750
LOCAL HIGHWAY	CALIMESA	3200L001	0	CALIMESA BOULEVARD	CHERRY VALLEY BLVD.	1200 FEET N/O CHERRY VALLEY BLVD	IN RIVERSIDE COUNTY IN THE CITY OF CALIMESA - WIDEN CALIMESA BLVD FROM 2 TO 4 LANES AND REALIGN CALIMESA BLVD AT CHERRY VALLY BLVD	2022	$2,600
LOCAL HIGHWAY	CALIMESA	3200L002	0	CALIMESA BOULEVARD	1200 N/O CHERRY VALLEY BLVD	600 FEET S/O SINGLETON ROAD	IN RIVERSIDE COUNTY IN THE CITY OF CALIMESA - WIDEN CALIMESA BLVD FROM TO 2 TO 4 LANES BETWEEN 1200 FEET N/O CHERRY VALLEY BLVD TO 600 FEET S/O SINGLETON ROAD	2024	$900
LOCAL HIGHWAY	CALIMESA	3200L003	0	CALIMESA BOULEVARD	600 FEET S/O SINGLETON ROAD	600 FEET N/O SINGLETON ROAD	IN RIVERSIDE COUNTY IN THE CITY OF CALIMESA - WIDEN CALIMESA BOULEVARD FROM 2 TO 4 LANES AND REALIGN CALIMESA BLVD AT SINGLETON ROAD	2026	$5,100
LOCAL HIGHWAY	CALIMESA	3200L004	0	CALIMESA BOULEVARD	600 FEET N/O SINGLETON ROAD	SANDALWOOD DRIVE	IN RIVERSIDE COUNTY IN THE CITY OF CALIMESA - WIDEN CALIMESA BLVD FROM TO 2 TO 4 LANES BETWEEN 600 FEET N/O SINGLETON ROAD AND SANDALWOOD DRIVE	2028	$5,200
LOCAL HIGHWAY	CALIMESA	3200L005	0	DESERT LAWN DRIVE	CHERRY VALLEY BLVD	CHAMPIONS DRIVE	IN RIVERSIDE COUNTY IN THE CITY OF CALIMESA - WIDEN DESERT LAWN DRIVE FROM TO 2 TO 4 LANES BETWEEN CHERRY VALLEY BLVD AND CHAMPIONS DRIVE	2034	$6,000
LOCAL HIGHWAY	CALIMESA	3200L006	0	ROBERTS ROAD	CHERRY VALLEY BLVD	OLD ROBERTS ROAD INTERSECTION	IN RIVERSIDE COUNTY IN THE CITY OF CALIMESA - WIDEN FROM 2 LANE TO 4 LANE MAJOR ARTERIAL ROADWAY ON ROBERTS ROAD BETWEEN CHERRY VALLEY BLVD AND OLD ROBERTS ROAD INTERSECTION	2024	$6,000
LOCAL HIGHWAY	CALIMESA	3200L007	0	ROBERTS ROAD	OLD ROBERTS ROAD INTERSECTION	500 FEET N/O SINGLETON ROAD	IN RIVERSIDE COUNTY IN THE CITY OF CALIMESA - WIDEN FROM 2 LANE TO 4 LANE MAJOR ARTERIAL ROADWAY ON ROBERTS ROAD BETWEEN OLD ROBERTS ROAD INTERSECTION AND 500 FEET N/O SINGLETON ROAD	2026	$4,550
LOCAL HIGHWAY	CALIMESA	3200L008	0	ROBERTS ROAD	500 FEET N/O SINGLETON ROAD	SANDALWOOD DRIVE	IN RIVERSIDE COUNTY IN THE CITY OF CALIMESA - CONSTRUCT NEW 4 LANE MAJOR ARTERIAL ROADWAY FOR ROBERTS ROAD BETWEEN 500 FEET N/O SINGLETON ROAD AND SANDALWOOD DRIVE . AN ALIGNMENT STUDY WILL BE PREPARED FOR THIS SEGMENT OF THE ROADWAY.	2028	$14,500
LOCAL HIGHWAY	CALIMESA	3200L009	0	ROBERTS ROAD	SANDALWOOD DRIVE	450 FEET N/O SANDALWOOD DRIVE	IN RIVERSIDE COUNTY IN THE CITY OF CALIMESA - WIDEN FROM 2 LANE TO 4 LANE MAJOR ARTERIAL ROADWAY ON ROBERTS ROAD BETWEEN SANDALWOOD DRIVE AND 450 FEET N/O SANDALWOOD DRIVE	2030	$300

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000'S)
County: Riverside									
LOCAL HIGHWAY	CALIMESA	3200L010	0	ROBERTS ROAD	450 FEET N/O SANDALWOOD DRIVE	COUNTY LINE ROAD	IN RIVERSIDE COUNTY IN THE CITY OF CALIMESA - CONSTRUCT NEW 4 LANE MAJOR ARTERIAL ROADWAY FOR ROBERTS ROAD BETWEEN 450 FEET N/O SANDALWOOD DRIVE AND COUNTY LINE ROAD. AN ALIGNMENT STUDY WILL BE PREPARED FOR THIS SEGMENT OF THE ROADWAY.	2032	$5,000
LOCAL HIGHWAY	CALIMESA	3200L011	0	SINGLETON ROAD	SAN TIMOTEO CANYON ROAD	ROBERTS ROAD	IN RIVERSIDE COUNTY IN THE CITY OF CALIMESA - CONSTRUCT NEW 4 LANE ARTERIAL HIGHWAY ROADWAY AND SECONDARY ROADWAY FOR SINGLETON ROAD FROM ROBERTS ROAD TO SAN TIMOTEO CANYON ROAD. PROJECT WILL INCLUDE AN ALIGNMENT STUDY DURING DESIGN PHASE. IN ADDITION, A BRIDGE IS REQUIRED OVER THE SAN TIMOTEO WASH.	2020	$26,000
LOCAL HIGHWAY	CATHEDERAL CITY	3200L012	0	DAVALL DR.	RAMON ROAD	MCCALLUM BLVC	WIDEN 2 TO 4 LANES	2028	$1,500
LOCAL HIGHWAY	CATHEDRAL CITY	3200L013	0	VARNER ROAD	MOUNTAIN VIEW RD	DATE PALM DR	WIDEN 2 TO 6 LANES	2026	$4,500
LOCAL HIGHWAY	EASTVALE	3200L014	0	LIMONITE AVENUE	ARCHIBALD AVE	HELLMAN AVE	LIMONITE GAP AND BRIDGE OVER CUCAMONGA CREEK INCLUDING CAPACITY ENHANCEMENT.	2035	$9,690
LOCAL HIGHWAY	JURUPA VALLEY	3200L015	0	VAN BUREN BOULEVARD	LIMONITE AVENUE	SANTA ANA RIVER	WIDEN ROAD FROM 4 TO 6 LANES	2025	$7,000
LOCAL HIGHWAY	CORONA	3200L016	0	FULLERTON AVE	MAGNOLIA AVE	BEVERLY RD	IN THE CITY OF CORONA ON EXSTING FULLERTON AVE. - WIDEN AND REALIGN EXISTING 2 TO 4 LANES BY ADDING 1 NORTHWEST AND SOUTHEAST THRU LANE. CONSTRUCT SIDEWALK W/ADA RAMPS ALONG FULLERTON AVE	2045	$4,900
LOCAL HIGHWAY	CORONA	3200L017	0	ONTARIO AVE	LINCOLN AVE	125 W/O CONEJO ST	IN THE CITY OF CORONA ON EXISTING ONTARIO AVENUE-- WIDEN AND REALIGN EXISTING 4 TO 6 LANES BY ADDING 1 EB THRU LANE, CONSTRUCT 900' SIDEWALK W/ADA RAMP ON THE SOUTHEAST SIDE OF ONTARIO AVE AND LINCOLN AVE.	2028	$2,000
LOCAL HIGHWAY	CORONA	3200L018	0	RIMPAU AVE	MAGNOLIA AVE	OLYMPIC DR	IN THE CITY OF CORONA ON EXISTING RIMPAU AVE. - WIDEN AND REALIGN EXISTING 4 TO 5 LANES BY ADDING 1 NB THRU LANE. CONSTRUCT SIDEWALK W/ADA RAMPS ALONG RIMPAU AVE AND SIGNAL MODIFICATION IN CALIFORNIA AVE.	2033	$3,200
LOCAL HIGHWAY	CORONA	3200L019	0	RIMPAU AVE	FRANCIS ST	MAGNOLIA AVE	IN THE CITY OF CORONA ON EXSTING RIMPAU AVE. - WIDEN AND REALIGN EXISTING 2 TO 4 LANES BY ADDING 1 SB AND NB THRU LANE. CONSTRUCT SIDEWALK W/ADA RAMPS ALONG RIMPAU AVE.	2038	$5,600

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Riverside									
LOCAL HIGHWAY	INDIO	3200L020	0	GOLF CENTER PKWY	AVE 45	HWY 111	WIDEN FROM 2 TO 4 LANES	2030	$15,000
LOCAL HIGHWAY	INDIO	3200L021	0	MONROE ST	I-10	AVE 44	WIDEN FROM 2 TO 4 LANES	2026	$15,000
LOCAL HIGHWAY	INDIAN WELLS	3200L022	0	HWY111	WEST CITY LIMITS	EAST CITY LIMITS	TRAFFIC SIGNAL SYCHRONIZATION PROGRAM THROUGH INDIAN WELLS (ALONG COOK STREET, FRED WARING DRIVE, HIGHWAY 111, AND WASHINGTON AVENUE) INCLUDING BUT NOT LIMITED TO SIGNAL UPGRADES, COMMUNICATION SYSTEMS, HARDWARE, AND SOFTWARE. (PM 2.5 BENEFITS)	2028	$1,000
LOCAL HIGHWAY	LA QUINTA	3200L023	0	AVE 48	DUNE PALMS RD	JEFFERSON ST	REPLACE LOW WATER CROSSING WITH BRIDGE	2045	$8,007
LOCAL HIGHWAY	LA QUINTA	3200L024	0	AVE 54	MADISON ST	MONROE ST	WIDEN SOUTH SIDE OF AVE 54 FROM 1 TO 2 LANES, CONSTRUCT BIKE LANE, AND SIDEWALKFOR GAP CLOSURE.	2035	$3,489
LOCAL HIGHWAY	LA QUINTA	3200L025	0	AVE 60	MONROE ST	CITY LIMITS	WIDEN ROAD FROM 2 TO 4 LANES, CONSTRUCT BIKE LANES, AND SIDEWALK.	2035	$2,115
LOCAL HIGHWAY	LA QUINTA	3200L026	0	AVE 60	MADISON ST	MONROE ST	WIDEN NORTH SIDE OF ROAD FROM 1 TO 2 LANES, CONSTRUCT BIKE LANES, AND SIDEWALK.	2035	$1,653
LOCAL HIGHWAY	LA QUINTA	3200L027	0	MONROE ST	AVE 54	MOUNTAIN VIEW LANE	WIDEN WEST SIDE OF MONROE FROM 1 TO 2 LANES, CONSTRUCT BIKE LANE, AND SIDEWALK FOR GAP CLOSURE.	2030	$3,171
LOCAL HIGHWAY	LA QUINTA	3200L028	0	MONROE ST	AVE 58	AVE 59	WIDEN WEST SIDE OF MONROE FROM 1 TO 2 LANES, CONSTRUCT BIKE LANE, AND SIDEWALK FOR GAP CLOSURE.	2030	$1,909
LOCAL HIGHWAY	LA QUINTA	3200L029	0	MONROE ST	AVE 59	AVE 60	WIDEN EAST SIDE OF MONROE FROM 1 TO 2 LANES, CONSTRUCT BIKE LANE, AND SIDEWALK WITHIN THE CITY BOUNDARY.	2030	$2,511
LOCAL HIGHWAY	LA QUINTA	3200L030	0	MONROE ST	AVE 60	AVE 61	WIDEN ROAD FROM 2 TO 4 LANES, CONSTRUCT BIKE LANES, AND SIDEWALK.	2030	$3,860
LOCAL HIGHWAY	LA QUINTA	3200L031	0	WESTWARD HO	ADAMS ST	DUNE PALMS RD	WIDEN ROAD FROM 2 TO 4 LANES	2040	$7,142

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Riverside									
LOCAL HIGHWAY	LA QUINTA	3200L032	0	WESTWARD HO	DUNE PALMS RD	JEFFERSON RD	WIDEN SOUTH SIDE OF ROAD FROM 1 TO 2 LANES	2040	$4,021
LOCAL HIGHWAY	MARCH JPA	3200L033	0	6TH STREET	CACTUS AVE	MEYER DRIVE	CONSTRUCT EXTENSION OF 6TH STREET FROM CACTUS AVENUE TO MEYER DRIVE WITH 4-LANE ARTERIAL WITH CENTER MEDIAN. (THIS PORTION OF 6TH STREET WILL BE RENAMED "MARCH LIFECARE DRIVE" IN THE FUTURE)	2028	$7,000
LOCAL HIGHWAY	MORENO VALLEY	3200L034	0	EUCALYPTUS AVE	MORENO BEACH DR.	PETTIT ST	WIDEN FROM 2 TO 4 LANES	2028	$2,000
LOCAL HIGHWAY	MORENO VALLEY	3200L035	0	EUCALYPTUS AVE.	HEACOCK ST	MORRISON ST.	WIDEN ARTERIAL FROM 2 TO 4 LANES	2028	$15,000
LOCAL HIGHWAY	MORENO VALLEY	3200L036	0	SUNNYMEAD BLVD.	PERRIS BLVD	KITCHING ST	WIDEN ARTERIAL FROM 2 TO 4 LANES, CONSTRUCT ROUNDABOUT AT SR-60 EB ON-RAMP/SUNNYMEAD INTERSECTION	2028	$6,000
LOCAL HIGHWAY	MURRIETA	3200L037	0	CLINTON KEITH ROAD	FRENCH VALLEY CREEK BRIDGE	WINCHESTER ROAD	CONSTRUCT CLINTON KEITH ROAD FROM FRENCH VALLEY CREEK BRIDGE TO WINCHESTER ROAD- 6 THROUGH LANES, 3 IN EACH DIRECTION	2025	$5,227
LOCAL HIGHWAY	MURRIETA	3200L038	0	WHITEWOOD ROAD	MURRIETA HOT SPRINGS ROAD	JACKSON AVENUE	CONSTRUCT - REALIGN WHITEWOOD ROAD FROM MURRIETA HOT SPRINGS ROAD TO JACKSON AVENUE- 4 THROUGH LANES, 2 LANE IN EACH DIRECTION.	2025	$5,000
LOCAL HIGHWAY	PERRIS	3200L039	0	EVANS RD	CITRUS AVE	NUEVO RD	WIDEN FROM 2 TO 4 LANES	2022	$3,500
LOCAL HIGHWAY	PERRIS	3200L040	0	INDIAN AVE	RIDER ST	ORANGE AVE	WIDEN FROM 2 TO 4 LANES	2025	$5,597
LOCAL HIGHWAY	PERRIS	3200L041	0	MORGAN ST	REDLANDS AVE	EVANS RD	CONSTRUCT 4 LANE ARTERIAL	2030	$13,180
LOCAL HIGHWAY	PERRIS	3200L042	0	MORGAN ST	EVANS RD	BRADLEY AVE	WIDEN FROM 2 TO 4 LANES	2030	$6,590
LOCAL HIGHWAY	PERRIS	3200L043	0	PERRIS BLVD	11ST/CASE RD	4TH ST	WIDEN FROM 2 TO 4 LANES	2025	$13,180

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Riverside									
LOCAL HIGHWAY	PERRIS	3200L044	0	PERRIS BLVD	RIDER ST	NUEVO RD	WIDEN FROM 4 TO 6 LANES	2025	$10,000
LOCAL HIGHWAY	PERRIS	3200L045	0	PLACENTIA AVE	INTERSTATE 215 E FRONTAGE RD	INDIAN AVE	CONSTRUCT 4 LANE ARTERIAL	2022	$3,500
LOCAL HIGHWAY	PERRIS	3200L046	0	PLACENTIA AVE	INDIAN AVE	PERRIS BLVD	WIDEN FROM 2 TO 4 LANES	2022	$3,500
LOCAL HIGHWAY	PERRIS	3200L047	0	REDLANDS AVE	RAMONA EXWY	MORGAN ST	WIDEN FROM 2 TO 4 LANES	2022	$3,210
LOCAL HIGHWAY	PERRIS	3200L048	0	REDLANDS AVE	MORGAN ST	RIDER ST	CONSTRUCT 4 LANE ARTERIAL	2022	$6,420
LOCAL HIGHWAY	PERRIS	3200L049	0	REDLANDS AVE	RIDER ST	PLACENTIA AVE	WIDEN FROM 2 TO 4 LANES	2022	$3,210
LOCAL HIGHWAY	PERRIS	3200L050	0	REDLANDS AVE	CITRUS AVE	NUEVO RD	WIDEN FROM 2 TO 4 LANES	2025	$1,878
LOCAL HIGHWAY	PERRIS	3200L051	0	REDLANDS AVE	SAN JACINTO AVE	ELLIS AVE	WIDEN FROM 2 TO 4 LANES	2025	$1,878
LOCAL HIGHWAY	PERRIS	3200L052	0	RIDER ST	REDLANDS AVE	EVANS RD	WIDEN FROM 2 TO 4 LANES	2030	$13,180
LOCAL HIGHWAY	RIVERSIDE COUNTY	3200L053	0	20TH AVE	PALM DR	MOUNTAIN VIEW RD	WIDEN FROM 2 TO 4 LANES	2040	$7,037
LOCAL HIGHWAY	RIVERSIDE COUNTY	3200L054	0	DILLON RD	SR-86	CABAZON RD	WIDEN FROM 2 TO 4 LANES	2030	$3,000
LOCAL HIGHWAY	RIVERSIDE COUNTY	3200L055	0	DILLON RD	MOUNTAIN VIEW RD	BENNETT RD	WIDEN FROM 2 TO 4 LANES	2032	$11,496

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Riverside									
LOCAL HIGHWAY	RIVERSIDE COUNTY	3200L056	0	DILLON RD	BENNETT RD	THOUSAND PALMS CYN RD (INCLUDES BRIDGE AT WIDE CYN CHNL)	WIDEN FROM 2 TO 4 LANES	2035	$32,506
LOCAL HIGHWAY	RIVERSIDE COUNTY	3200L057	0	DILLON RD	WHITEWATER BRIDGE	I-10	WIDEN FROM 2 TO 4 LANES	2040	$2,700
LOCAL HIGHWAY	RIVERSIDE COUNTY	3200L058	0	DILLON RD	THOUSAND PALM CYN RD	SUNNY ROCK RD	WIDEN FROM 2 TO 4 LANES	2040	$23,442
LOCAL HIGHWAY	RIVERSIDE COUNTY	3200L059	0	DILLON RD	SUNNY ROCK RD	NORTHERN CITY LIMITS OF INDIO	WIDEN FROM 2 TO 6 LANES	2040	$36,461
LOCAL HIGHWAY	RIVERSIDE COUNTY	3200L060	0	GILMAN SPRINGS RD	ALESSANDRO BVLD	BRIDGE ST	WIDEN FROM 2 TO 4 LANES	2035	$15,815
LOCAL HIGHWAY	RIVERSIDE COUNTY	3200L061	0	INDIAN AVE	20TH AVE	DILLON RD	WIDEN FROM 4 TO 6 LANES	2040	$15,000
LOCAL HIGHWAY	RIVERSIDE COUNTY	3200L062	0	S VALLEY PKWY	HARRISON ST	TYLER ST (MISSING LINK)	CONSTRUCT 4 LANE ARTERIAL	2043	$9,584
LOCAL HIGHWAY	RIVERSIDE COUNTY	3200L063	0	S VALLEY PKWY	TYLER ST	POLK ST (MISSING LINK)	CONSTRUCT 4 LANE ARTERIAL	2044	$10,562
LOCAL HIGHWAY	RIVERSIDE COUNTY	3200L064	0	S VALLEY PKWY / AVE 60	MONROE ST	JACKSON ST	WIDEN FROM 2 TO 4 LANES	2040	$4,494
LOCAL HIGHWAY	RIVERSIDE COUNTY	3200L065	0	S VALLEY PKWY / AVE 60	JACKSON ST	VAN BUREN ST	WIDEN FROM 2 TO 4 LANES	2041	$4,741
LOCAL HIGHWAY	RIVERSIDE COUNTY	3200L066	0	S VALLEY PKWY / AVE 60	VAN BUREN ST	HARRISON ST	WIDEN FROM 2 TO 4 LANES	2042	$5,269
LOCAL HIGHWAY	RIVERSIDE COUNTY	3200L067	0	TEMESCAL CANYON RD	TOM BARNES ST	DOS LAGOS DR	WIDEN FROM 2 TO 4 LANES	2020	$12,000

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Riverside									
LOCAL HIGHWAY	RIVERSIDE COUNTY	3200L068	0	TEMESCAL CANYON RD	DOS LAGOS DR	I-15	WIDEN FROM 2 TO 4 LANES	2020	$24,644
LOCAL HIGHWAY	RIVERSIDE COUNTY	3200L069	0	TEMESCAL CANYON RD	I-15	INDIAN TRUCK TRAIL	WIDEN FROM 2 TO 4 LANES	2030	$40,000
LOCAL HIGHWAY	RIVERSIDE COUNTY	3200L070	0	WASHINGTON ST	DEL WEBB BLVD / LAS MONTANAS RD	AVE 38	WIDEN FROM 4 TO 6 LANES	2030	$5,000
LOCAL HIGHWAY	RIVERSIDE COUNTY	3200L071	0	WASHINGTON ST	COYOTE SONG WAY	THOUSAND PALMS CYN RD	WIDEN FROM 2 TO 4 LANES	2040	$9,270
LOCAL HIGHWAY	RIVERSIDE COUNTY	3200L072	0	CLINTON KEITH RD (PHASE III)	LEON RD	SR-79	CONSTRUCT 6 LANE ARTERIAL	2022	$18,301
LOCAL HIGHWAY	SAN JACINTO	3200L073	0	COTTONWOOD AVE	WARREN ROAD	KIRBY ST	WIDEN FROM 3 TO 4 LANES (NO. SIDE =2; SO. SIDE=1)	2030	$3,000
LOCAL HIGHWAY	SAN JACINTO	3200L074	0	COTTONWOOD AVE	SANDALWOOD	LYON AVE	WIDEN FROM 3 TO 4 LANES (NO. SIDE =2; SO. SIDE=1)	2030	$450
LOCAL HIGHWAY	SAN JACINTO	3200L075	0	COTTONWOOD AVE	LYON AVE	STATE ST	WIDEN FROM 2 TO 4 LANES	2030	$1,700
LOCAL HIGHWAY	SAN JACINTO	3200L076	0	SEVENTH ST	CAWSTON AVE	LAUREN LN	WIDENING FROM 2 TO 4 LANES	2030	$1,000
LOCAL HIGHWAY	TEMECULA	3200L077	0	AVENIDA DE MISSIONES	TEMECULA CREEK BRIDGE	VIA RIO	EXTENSION OF AVENIDA DE MISSIONES FROM VIA RIO TEMECULA TO LOMA LINDA ROAD OVER TEMECULA CREEK	2045	$17,000
LOCAL HIGHWAY	TEMECULA	3200L078	0	LA PAZ STREET	YNEZ RD.	TEMECULA PARKWAY	WIDEN FROM 2 TO 4 LANES	2025	$2,500
LOCAL HIGHWAY	TEMECULA	3200L079	0	PECHANGA PARKWAY	DEER HOLLOW WAY	VIA GILBERTO RD.	WIDEN FROM 4 TO 6 LANES	2022	$10,000

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Riverside									
LOCAL HIGHWAY	TEMECULA	3200L080	0	RAINBOW CYN RD.	PECHANGA PARKWAY	CITY LIMIT	WIDEN FROM 2 TO 4 LANES	2035	$8,000
LOCAL HIGHWAY	WILDOMAR	3200L081	0	LOST RD/LEMON ST	ORANGE ST	NORTHERLY CITY LIMITS	WIDEN FROM 2 TO 4 LANES	2030	$13,910
LOCAL HIGHWAY	RANCHO MIRAGE	3200L082	0	SAN JACINTO DRIVE	RANCHO LAS PALMAS DRIVE	RANCHO MIRAGE COMMUNITY PARK	PEDESTRIAN SIDEWALK CONNECTING SHOPPING/PARKING AREA TO COMMUNITY PARK.	2021	$1,000
LOCAL HIGHWAY	COACHELLA	3A01CV002	0	AVE 50	BRIDGE. AT ALL AMER.CANAL		CONSTRUCT 6-LANE BRIDGE	2025	$3,603
LOCAL HIGHWAY	INDIO	3A01CV003	0	AVENUE 50	JEFFERSON ST	MADISON ST	WIDEN FROM 2 TO 4 LANES	2024	$5,374
LOCAL HIGHWAY	COACHELLA	3A01CV004	0	AVE 50	SR-86 TO I-10	I-10	WIDEN FROM 2 TO 6 LANES	2025	$24,830
LOCAL HIGHWAY	COACHELLA	3A01CV005	0	AVE 50	VAN BUREN ST	HARRISON ST	WIDEN FROM 2 TO 6 LANES	2020	$7,174
LOCAL HIGHWAY	LA QUINTA	3A01CV010	0	AVE 52	JEFFERSON STREET	MADISON STREET	WIDEN FROM 2 TO 4 LANES IN AREAS WITH MISSING SECTIONS ON THE NORTH SIDE OF AVENUE 52.	2030	$944
LOCAL HIGHWAY	INDIO	3A01CV012	0	AVENUE 52	MONROE ST	JACKSON ST	WIDEN FROM 3 TO 4 LANES	2027	$10,527
LOCAL HIGHWAY	COACHELLA	3A01CV014	0	AVE 52	CALHOUN ST	FREDRICK ST	WIDEN FROM 2 TO 6 LANES	2023	$11,006
LOCAL HIGHWAY	COACHELLA	3A01CV015A	0	AVE 52	FREDRICK ST	HARRISON ST	WIDEN FROM 2 TO 6 LANES	2023	$2,973
LOCAL HIGHWAY	COACHELLA	3A01CV015B	0	AVE 52	HARRISON ST	HWY 111	WIDEN FROM 2 TO 6 LANES	2024	$1,830

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Riverside									
LOCAL HIGHWAY	COACHELLA	3A01CV015C	0	AVE 52	HWY 111	SR-86S	WIDEN FROM 2 TO 6 LANES	2035	$130,503
LOCAL HIGHWAY	COACHELLA	3A01CV016	0	AVE 54	VAN BUREN ST	HARRISON ST	WIDEN FROM 2 TO 4 LANES	2026	$11,315
LOCAL HIGHWAY	COACHELLA	3A01CV017	0	AVE 54	HARRISON ST	TYLER ST	WIDEN FROM 2 TO 4 LANES	2024	$12,011
LOCAL HIGHWAY	COACHELLA	3A01CV018	0	AVE 54	TYLER ST	HWY 111	WIDEN FROM 2 TO 4 LANES	2022	$7,925
LOCAL HIGHWAY	COACHELLA	3A01CV023	0	AVE 56 / AIRPORT BLVD (NORTH SIDE)	0.25 MI. W OF VAN BUREN ST	HARRISON ST	WIDEN FROM 2 TO 4 LANES	2023	$14,201
LOCAL HIGHWAY	PALM DESERT	3A01CV030	0	COUNTRY CLUB DRIVE	ELDORADO DR	OASIS CLUB DRIVE	WIDEN FROM 4 TO 6 LANES	2027	$4,678
LOCAL HIGHWAY	PALM DESERT	3A01CV031	0	COUNTRY CLUB DRIVE	OASIS CLUB DRIVE	WASHINGTON STREET	WIDEN FROM 4 TO 6 LANES	2035	$5,146
LOCAL HIGHWAY	PALM DESERT	3A01CV033	0	COUNTRY CLUB DRIVE	PORTOLA AVENUE	COOK STREET	WIDEN FROM 4 TO 6 LANES	2027	$4,465
LOCAL HIGHWAY	PALM DESERT	3A01CV040A	0	FRANK SINATRA DR	ELDORADO DR	TAMARISK ROW DR	WIDEN FROM 4 TO 6 LANES	2027	$1,787
LOCAL HIGHWAY	PALM DESERT	3A01CV040B	0	FRANK SINATRA DR	COOK ST	ELDORADO DR	WIDEN FROM 4 TO 6 LANES	2027	$7,485
LOCAL HIGHWAY	DESERT HOT SPRINGS	3A01CV047A	0	HACIENDA AVE	CHOLLA DR	PALM DR	WIDEN FROM 2 TO 4 LANES (2 LANES IN EACH DIRECTION) FROM CHOLLA DR. TO PALM DR.	2025	$3,629
LOCAL HIGHWAY	DESERT HOT SPRINGS	3A01CV047B	0	HACIENDA AVE	LITTLE MORONGO RD	CHOLLA DR(MISSINGLINK)	CONSTRUCT NEW FOUR 12-FT LANES WITH 14-FT MEDIANS BETWEEN LITTLE MORONGO RD AND CHOLLA DR.	2025	$8,447

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Riverside									
LOCAL HIGHWAY	DESERT HOT SPRINGS	3A01CV048	0	HACIENDA AVE	PALM DR	MOUNTAIN VIEW RD	WIDEN FROM 2 TO 4 LANES	2025	$6,901
LOCAL HIGHWAY	DESERT HOT SPRINGS	3A01CV049	0	HACIENDA AVE	MOUNTAIN VIEW RD	DILLON RD(LONGCYNRD)	WIDEN FROM 2 TO 4 LANES	2025	$12,356
LOCAL HIGHWAY	DESERT HOT SPRINGS	3A01CV053	0	INDIAN AVE	MISSION LAKES BLVD	PIERSON BLVD	IN THE COACHELLA VALLEY IN THE CITY OF DESERT HOT SPRINGS - INDIAN AVE. WIDENING: WIDENING OF INDIAN AVE. FROM 2 TO 6 THROUGH LANES (3 IN EA DIR) BETWEEN MISSION LAKES BLVD., AND PIERSON BLVD.	2022	$27,783
LOCAL HIGHWAY	INDIO	3A01CV054	0	JACKSON ST	AVE 49	AVE 50	WIDEN FROM 3 TO 4 LANES	2022	$5,177
LOCAL HIGHWAY	INDIO	3A01CV060	0	MADISON ST	AVE 50	AVE 49	WIDEN FROM 2 TO 4 LANES	2027	$11,824
LOCAL HIGHWAY	INDIO	3A01CV061	0	MADISON ST	HWY 111	AVE 48	WIDENING FROM 3 TO 4 LANES	2022	$7,271
LOCAL HIGHWAY	INDIO	3A01CV063	0	MADISON ST	MILES AVE	FRED WARING DR (MISSING LINK)	CONSTRUCT NEW 4 - LANE ROAD, INCLUDING BRIDGE AT ALL AMERICAN CANAL AND WHITEWATER RIVER.	2033	$22,947
LOCAL HIGHWAY	INDIO	3A01CV064	0	MADISON ST	FRED WARING DR	INDIO BLVD	WIDEN FROM 2 TO 4 LANES	2027	$5,947
LOCAL HIGHWAY	DESERT HOT SPRINGS	3A01CV067	0	MISSION LAKES BLVD	INDIAN AVE	LITTLE MORONGO RD	WIDEN FROM 2 TO 4 LANES	2025	$13,331
LOCAL HIGHWAY	DESERT HOT SPRINGS	3A01CV068	0	MISSION LAKES BLVD	LITTLE MORONGO RD	PALM DR	WIDEN FROM 2 TO 4 LANES	2025	$6,901
LOCAL HIGHWAY	DESERT HOT SPRINGS	3A01CV071	0	MOUNTAIN VIEW	HACIENDA AVE	DILLON RD	WIDEN FROM 2 TO 4 LANES	2025	$9,201
LOCAL HIGHWAY	CATHEDRAL CITY	3A01CV073	0	MOUNTAIN VIEW	20TH AVE	VARNER RD	WIDEN FROM 2 TO 6 LANES	2024	$9,026

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Riverside									
LOCAL HIGHWAY	DESERT HOT SPRINGS	3A01CV075	0	PIERSON BLVD	SR-62	INDIAN AVE	WIDEN FROM 2 TO 4 LANES	2025	$14,947
LOCAL HIGHWAY	DESERT HOT SPRINGS	3A01CV076	0	PIERSON BLVD	INDIAN AVE	LITTLE MORONGO RD	WIDEN FROM 2 TO 4 LANES	2025	$9,904
LOCAL HIGHWAY	DESERT HOT SPRINGS	3A01CV085	0	TWO BUNCH PALMS TR	LITTLE MORONGO RD	PALM DR	WIDEN FROM 2 TO 4 LANES	2025	$7,496
LOCAL HIGHWAY	DESERT HOT SPRINGS	3A01CV086	0	TWO BUNCH PALMS TR	PALM DR	MIRACLE HILL RD	WIDEN FROM 2 TO 4 LANES	2025	$5,319
LOCAL HIGHWAY	COACHELLA	3A01CV087	0	VAN BUREN ST	AVE 52	AVE 54	WIDEN FROM 2 TO 4 LANES	2023	$613
LOCAL HIGHWAY	COACHELLA	3A01CV088	0	VAN BUREN ST	AVE 54	AVE 56/AIRPORT BLVD	WIDEN FROM 2 TO 4 LANES	2023	$617
LOCAL HIGHWAY	CATHEDRAL CITY	3A01CV097	0	VISTA CHINO	DATE PALM	DA VALL DR	CONSTRUCT NEW 6-LANE ROAD	2024	$23,636
LOCAL HIGHWAY	DESERT HOT SPRINGS	3A01CV103	0	LITTLE MORONGO RD	TWO BUNCH PALMS TR	DILLON RD	WIDEN FROM 2 TO 4 LANES	2025	$16,632
LOCAL HIGHWAY	DESERT HOT SPRINGS	3A01CV104	0	LITTLE MORONGO RD	MISSION LAKES BLVD	PIERSON BLVD	WIDEN FROM 2 TO 4 LANES	2025	$4,600
LOCAL HIGHWAY	DESERT HOT SPRINGS	3A01CV105	0	LITTLE MORONGO RD	PIERSON BLVD	TWO BUNCH PALMS TR	WIDEN FROM 2 TO 4 LANES	2025	$13,331
LOCAL HIGHWAY	INDIO	3A01CV110B	0	JACKSON ST	I-10 IC	AVE 44	WIDEN FROM 2 TO 4 LANES	2024	$1,846
LOCAL HIGHWAY	INDIO	3A01CV116	0	JEFFERSON ST	AVE 40	AVE 39	WIDEN TO 4 LANES	2027	$4,289

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Riverside									
LOCAL HIGHWAY	HEMET	3A01WT039	0	STATE ST	JOHNSTON AVE	FLORIDA AVE (SR-74)	WIDEN FROM 2 TO 4 LANES	2035	$1,750
LOCAL HIGHWAY	HEMET	3A01WT040	0	STETSON AVE	WEST OF CAWSTON AVE	WARREN RD	RELOCATE AND CONSTRUCT 4 LANE ARTERIAL	2035	$8,387
LOCAL HIGHWAY	HEMET	3A01WT041	0	WARREN RD	ESPLANADE AVE	DOMENIGONI PKWY	WIDEN FROM 2 TO 4 LANES	2035	$21,984
LOCAL HIGHWAY	LAKE ELSINORE	3A01WT044	0	MISSION TR	RAILROAD CANYON RD	CORYDON ST	WIDEN FROM 4 TO 6 LANES	2025	$7,716
LOCAL HIGHWAY	LAKE ELSINORE	3A01WT045	0	SR-74 (GRAND AVE)	RIVERSIDE DR (SR-74)	ORTEGA HWY (SR-74)	WIDEN FROM 2 TO 4 LANES CHANGE FROM 6 LANES TOTAL TO 4 LANES TOTAL	2035	$16,036
LOCAL HIGHWAY	MORENO VALLEY	3A01WT049B	0	ALESSANDRO BLVD	FREDERICK ST	PERRIS BLVD	WIDEN FROM 4 TO 6 LANES	2028	$6,000
LOCAL HIGHWAY	MORENO VALLEY	3A01WT050C	0	ALESSANDRO BLVD	PERRIS BLVD	NASON ST	WIDEN ALESSANDRO BLVD FROM PERRIS BLVD TO NASON ST FROM 2 TO 6 LANES, BIKE LANES AND SIDEWALKS	2028	$14,000
LOCAL HIGHWAY	MORENO VALLEY	3A01WT057B	0	LASSELLE ST	EUCALYPTUS	ALESSANDRO	WIDEN FROM 2 TO 4 LANES	2024	$2,300
LOCAL HIGHWAY	MORENO VALLEY	3A01WT062	0	PERRIS BLVD	RECHE VISTA DR	SUNNYMEAD RANCH PKWAY	WIDEN FROM 2 TO 4 LANES	2022	$3,000
LOCAL HIGHWAY	WILDOMAR	3A01WT071	0	CLINTON KEITH RD	I-15	COPPERCRAFT	WIDEN FROM 2 TO 6 LANES	2030	$21,955
LOCAL HIGHWAY	MURRIETA	3A01WT072	0	CLINTON KEITH RD	COPPERCRAFT	TOULON DR	WIDEN FROM 4 TO 6 LANES	2030	$2,050
LOCAL HIGHWAY	MURRIETA	3A01WT075	0	JEFFERSON AVE	NUTMEG ST	PALOMAR ST	CONSTRUCT 6 LANE ARTERIAL	2035	$7,611

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Riverside									
LOCAL HIGHWAY	MURRIETA	3A01WT076	0	JEFFERSON AVE	NUTMEG ST	MURRIETA HOT SPRINGS RD	WIDEN FROM 4 TO 6 LANES	2035	$13,930
LOCAL HIGHWAY	MURRIETA	3A01WT083	0	CLINTON KEITH RD	TOULON DR	I-215	WIDEN FROM 4 TO 6 LANES	2030	$44,241
LOCAL HIGHWAY	PERRIS	3A01WT100	0	EVANS RD	NUEVO RD	I-215	CONSTRUCT 4 LANE ARTERIAL	2030	$17,646
LOCAL HIGHWAY	PERRIS	3A01WT101	0	GOETZ RD	CASE RD	ETHANAC RD	WIDEN FROM 2 TO 4 LANES	2024	$19,332
LOCAL HIGHWAY	PERRIS	3A01WT105	0	PERRIS BLVD	RAMONA EXPWY	NUEVO RD	WIDEN FROM 4 TO 6 LANES	2025	$20,000
LOCAL HIGHWAY	PERRIS	3A01WT107	0	PLACENTIA AVE	INDIAN AVE	MURRIETA RD	WIDEN FROM 2 TO 4 LANES	2025	$37,555
LOCAL HIGHWAY	PERRIS	3A01WT110B	0	RAMONA EXPWY	EVANS RD	RIDER ST	WIDEN FROM 4 TO 6 LANES	2030	$13,483
LOCAL HIGHWAY	RIVERSIDE, CITY OF	3A01WT112	0	ARLINGTON AVE	MAGNOLIA AVE	ALESSANDRO BLVD	WIDEN FROM 4 TO 6 LANES	2026	$13,494
LOCAL HIGHWAY	RIVERSIDE, CITY OF	3A01WT114	0	CENTRAL AVE	MAGNOLIA AVE	SR91	WIDEN FROM 4 TO 6 LANES BTWN SR-91 AND MAGNOLIA	2026	$2,730
LOCAL HIGHWAY	JURUPA VALLEY	3A01WT127	0	BELLGRAVE AVE	CANTU-GALLEANO RANCH RD/ BIRTCHER DR INTERSECTION	VAN BUREN BLVD	WIDEN FROM 2 TO 4 LANES	2035	$6,918
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A01WT128	0	BENTON RD	SR-79	EASTERN BYPASS	WIDEN FROM 2 TO 6 LANES	2030	$11,480
LOCAL HIGHWAY	WILDOMAR	3A01WT133	0	BUNDY CANYON RD	I-15	MURRIETA RD	WIDEN FROM 2 TO 4 LANES	2025	$35,549

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Riverside									
LOCAL HIGHWAY	WILDOMAR	3A01WT134	0	BUNDY CANYON RD	MISSION TRAIL	I-15	WIDEN FROM 2 TO 4 LANES	2030	$4,992
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A01WT136	0	BUTTERFIELD STAGE RD+ POURROY RD	MURRIETA HOT SPRINGS RD	SR-79 (WINCHESTER)	CONSTRUCT 4 LANE ARTERIAL	2035	$65,351
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A01WT151	0	ETHANAC RD	SR-74	KEYSTONE DR	CONSTRUCT 4 LANE ARTERIAL	2035	$65,000
LOCAL HIGHWAY	MENIFEE	3A01WT152	0	ETHANAC RD	SHERMAN RD	MATTHEWS RD	WIDEN FROM 2 TO 4 LANES INCL. GRADE SEPARATION OVER BNSF RR (GRADE SEP PORTION IS NOT PART OF GRADE SEP LIST AND SHOULD REMAIN HERE)	2027	$62,922
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A01WT154	0	GILMAN SPRINGS RD	BRIDGE ST	SH-79 (SANDERSON AVE)	WIDEN FROM 2 TO 4 LANES	2035	$30,000
LOCAL HIGHWAY	JURUPA VALLEY	3A01WT163	0	LIMONITE AVE	BAIN ST.	DOWNEY ST	WIDEN FROM 2 TO 4 LANES	2025	$6,500
LOCAL HIGHWAY	JURUPA VALLEY	3A01WT164	0	LIMONITE AVE	VAN BUREN BLVD	BALDWIN ST	WIDEN FROM 4 TO 6 LANES	2030	$1,869
LOCAL HIGHWAY	MENIFEE	3A01WT166	0	MCCALL BLVD	I-215	ASPEL RD	WIDEN FROM 4 TO 6 LANES	2027	$5,330
LOCAL HIGHWAY	MENIFEE	3A01WT167	0	MCCALL BLVD	ASPEL RD	MENIFEE RD	WIDEN FROM 2 TO 4 LANES	2027	$4,276
LOCAL HIGHWAY	MENIFEE	3A01WT170	0	MENIFEE RD	RAMONA EXPWY	SR-74 (PINACATE RD)	WIDEN FROM 2 TO 4 LANES	2027	$28,593
LOCAL HIGHWAY	MENIFEE	3A01WT171	0	MENIFEE RD	SR-74 (PINACATE RD)	SIMPSON RD	WIDEN FROM 2 TO 4 LANES INCL. GRADE SEPARATION OVER RR (GRADE SEP PORTION IS NOT PART OF GRADE SEP LIST AND SHOULD REMAIN HERE)	2027	$57,290
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A01WT173	0	MURRIETA HOT SPRINGS RD	POURROY RD	SR-79 (EASTERN BYPASS)	CONSTRUCT 4 LANE ARTERIAL	2035	$15,673

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Riverside									
LOCAL HIGHWAY	MURRIETA	3A01WT174	0	MURRIETA HOT SPRINGS RD	MARGARITA RD	SR-79 (WINCHESTER)	WIDEN FROM 4 TO 6 LANES	2020	$4,500
LOCAL HIGHWAY	WILDOMAR	3A01WT180	0	PALOMAR ST	MISSION TRAIL	JEFFERSON	WIDEN FROM 2 TO 4 LANES	2030	$38,456
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A01WT182	0	RAMONA EXPWY	RIDER ST	PICO AVE	WIDEN FROM 4 TO 6 LANES	2035	$5,661
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A01WT183	0	RAMONA EXPWY	PICO AVE	BRIDGE ST	WIDEN FROM 2 TO 6 LANES	2040	$80,945
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A01WT185	0	SANDERSON AVE (SR-79)	GILLMAN SPRINGS RD (AT SR-79)	RAMONA EXPWY	WIDEN FROM 4 TO 6 LANES	2040	$36,898
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A01WT192	0	GILMAN SPRINGS	SH-79 (SANDERSON AVE)	STATE ST	WIDEN FROM 2 TO 4 LANES	2045	$15,428
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A01WT196	0	SR-79 (EASTERN BYPASS)	SR79 (WINCHESTER RD NEAR SCOTT RD)	I-15	CONSTRUCT 4 LANE ARTERIAL	2040	$411,389
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A01WT199	0	VAN BUREN BLVD	MOCKINGBIRD CANYON RD	WOOD RD	WIDEN FROM 4 TO 6 LANES	2022	$14,709
LOCAL HIGHWAY	SAN JACINTO	3A01WT210	0	RAMONA EXPWY (PHASE III)	EAGLE RD	LAKE PARK DR	WIDENING FROM 4 TO 6 LANES	2030	$15,000
LOCAL HIGHWAY	SAN JACINTO	3A01WT213	0	SAN JACINTO AVE.	RAMONA EXPWY	7TH ST	WIDEN FROM 2 TO 4 LANES	2022	$10,000
LOCAL HIGHWAY	SAN JACINTO	3A01WT214	0	STATE ST	GILLMAN SPRINGS RD	QUANDT RANCH RD	WIDEN FROM 2 TO 4 LANES	2025	$8,500
LOCAL HIGHWAY	SAN JACINTO	3A01WT215	0	WARREN RD	RAMONA EXPWY	ESPLANADE AVE	WIDEN FROM 2 TO 4 LANES	2025	$10,000

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Riverside									
LOCAL HIGHWAY	TEMECULA	3A01WT217	0	RANCHO CALIFORNIA RD	JEFFERSON AVE	MARGARITA RD	WIDEN FROM 4 TO 6 LANES	2035	$14,408
LOCAL HIGHWAY	TEMECULA	3A01WT218	0	SR-79 SOUTH (TEMECULA PKWY)	I-15	PECHANGA PKWY	WIDEN FROM 6 TO 8 LANES	2023	$2,164
LOCAL HIGHWAY	TEMECULA	3A01WT221	0	FRENCH VALLEY (WESTERN BYPASS SEGMENT 1) AT CHERRY ST.	DIAZ RD	JEFFERSON AVE	CONSTRUCT 6 LANE ARTERIAL (INCLUDING BRIDGE AT MURRIETA CREEK)	2035	$20,353
LOCAL HIGHWAY	BLYTHE	3A04A03	0	HOBSONWAY	ARROWHEAD BLVD	CARLTON AVE	WIDEN FROM 2 TO 4 LANES	2023	$3,751
LOCAL HIGHWAY	BLYTHE	3A04A04	0	N. LOVEKIN BLVD	10TH AVE	8TH AVE	WIDEN EXISTING BRIDGE AT C-CANAL FROM 2 TO 4 LANES	2023	$2,441
LOCAL HIGHWAY	BLYTHE	3A04A05	0	14TH AVE	RIVER VALLEY RD	7TH ST	WIDEN EXISTING BRIDGE AT D-CANAL FROM 2 TO 4 LANES	2027	$2,461
LOCAL HIGHWAY	BLYTHE	3A04A06	0	HOBSONWAY	OLIVE LAKE BLVD	INTAKE BLVD	WIDEN EXISTING BRIDGE AT C-CANAL FROM 2 TO 4 LANES	2032	$3,599
LOCAL HIGHWAY	BLYTHE	3A04A07	0	RIVIERA DR	18TH AVE	20TH AVE	CONSTRUCT 2 LANE OVERCROSSING AT THE LOWER OUTFALL DRAIN	2030	$3,001
LOCAL HIGHWAY	BLYTHE	3A04A08	0	7TH ST	HOBSONWAY	RICE ST	WIDEN FROM 2 TO 4 LANES	2025	$975
LOCAL HIGHWAY	BLYTHE	3A04A09	0	N. LOVEKIN BLVD	HOBSONWAY	10TH AVE	WIDEN FROM 2 TO 4 LANES	2022	$5,070
LOCAL HIGHWAY	BLYTHE	3A04A10	0	BARNARD ST	DATE ST	INTAKE BLVD	CONSTRUCT/EXTEND 2 LANE ARTERIAL	2025	$2,175
LOCAL HIGHWAY	LAKE ELSINORE	3A04A11	0	NICHOLS RD	COLLIER AVE	EL TORO RD	WIDEN FROM 2 TO 6 LANES	2035	$12,363

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Riverside									
LOCAL HIGHWAY	LAKE ELSINORE	3A04A13	0	AUTO CENTER DR (CASINO DR)	FRANKLIN ST	DIAMOND DR (RAILROAD CYN RD)	WIDEN BRIDGE OVER SAN JACINTO RIVER FROM 2 TO 4 LANES	2025	$9,587
LOCAL HIGHWAY	LAKE ELSINORE	3A04A14	0	FRANKLIN ST	AVENUE 6	CANYON ESTATES DR	WIDEN STREET AND BRIDGE OVER I-15 FROM 2 TO 4 LANES	2035	$1,782
LOCAL HIGHWAY	LAKE ELSINORE	3A04A15	0	MALAGA RD	MISSION TR	CASINO DR/ LAKEVIEW TERRACE	WIDEN FROM 2 TO 4 LANES	2030	$12,088
LOCAL HIGHWAY	PALM SPRINGS	3A04A21	0	SALVIA RD.	GARNETT HILL	GENE AUTRY TR.	CONSTRUCT 4 LANE ARTERIAL CONNECTOR	2031	$12,345
LOCAL HIGHWAY	PALM SPRINGS	3A04A22	0	SUNRISE PARKWAY	SUNRISE WAY NORTH OF SAN RAFAEL DR	N. INDIAN CANYON DR.	CONSTRUCT/EXTEND 4 LANE ARTERIAL CONNECTOR	2025	$13,529
LOCAL HIGHWAY	PERRIS	3A04A23	0	"A" STREET	NUEVO RD	4TH ST	WIDEN FROM 2 TO 4 LANES	2022	$9,631
LOCAL HIGHWAY	MENIFEE	3A04A31	0	GARBANI RD	I-215	MENIFEE RD	RECONSTRUCT AND WIDEN FROM 2 TO 4 LANES	2030	$3,617
LOCAL HIGHWAY	MENIFEE	3A04A32	0	GARBANI RD	BRADLEY RD	I-215	CONSTRUCT 4-LANE ARTERIAL	2030	$4,110
LOCAL HIGHWAY	JURUPA VALLEY	3A04A33	0	PHILADELPHIA AVE	WINEVILLE RD	ETIWANDA AVE	WIDEN FROM 1 EB EXISTING TO 2 LANES	2035	$1,484
LOCAL HIGHWAY	JURUPA VALLEY	3A04A35	0	RIVERSIDE DR	I-15	ETIWANDA AVE	WIDEN FROM 2 TO 4 LANES	2030	$2,243
LOCAL HIGHWAY	JURUPA VALLEY	3A04A36	0	RIVERSIDE DR AT DAY CREEK	WINEVILLE RD	ETIWANDA AVE	WIDEN BRIDGE FROM 2 TO 4 LANES	2035	$567
LOCAL HIGHWAY	COACHELLA	3A04CV113	0	AVE 50	HWY 111 TO SR-86S	SR-86S	WIDEN FROM 2 TO 6 LANES	2025	$102,558

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Riverside									
LOCAL HIGHWAY	CORONA	3A04T027	0	MAGNOLIA AVE	ONTARIO AVE	KELLOGG AVE.	INTERSECTION UPGRADES ON MAGNOLIA AVE. BETWEEN ONTARIO AVE. AND KELLOGG AVE.TO ACCOMMODATE RESTRIPING FROM 4 TO 6 LANES.	2035	$277
LOCAL HIGHWAY	CORONA	3A04WT030	0	MAIN ST	SOUTH GRAND BLVD.	ONTARIO AVE.	WIDEN FROM 2 TO 4 LANES.	2035	$4,575
LOCAL HIGHWAY	CORONA	3A04WT032	0	RAILROAD ST	VIOLET ST	GRAND BLVD	WIDEN FROM 2 TO 4 LANES	2035	$9,416
LOCAL HIGHWAY	HEMET	3A04WT034	0	DOMENIGONI PKWY	WARREN RD	SANDERSON AVE	WIDEN FROM 4 TO 6 LANES	2035	$8,000
LOCAL HIGHWAY	LAKE ELSINORE	3A04WT042	0	GRAND AVE	MACHADO ST	SR-74	WIDEN FROM 2 TO 4 LANES	2032	$3,527
LOCAL HIGHWAY	LAKE ELSINORE	3A04WT043	0	LAKE ST	I-15	LINCOLN ST	WIDEN FROM 2 TO 6 LANES	2025	$34,089
LOCAL HIGHWAY	LAKE ELSINORE	3A04WT046	0	SR-74 (RIVERSIDE DR)	LAKESHORE DR	GRAND AVE	WIDEN FROM 2 TO 6 LANES	2030	$14,954
LOCAL HIGHWAY	MORENO VALLEY	3A04WT052	0	EUCALYPTUS AVE	I-215	TOWNGATE BLVD	WIDEN FROM 4 TO 6 LANES	2028	$5,000
LOCAL HIGHWAY	MORENO VALLEY	3A04WT055	0	INDIAN ST	SAN MICHELE RD	HARLEY KNOX RD	WIDEN FROM 2 TO 4 LANES	2028	$6,000
LOCAL HIGHWAY	MORENO VALLEY	3A04WT056G	0	IRONWOOD AVE	NASON ST	REDLANDS BLVD	WIDEN FROM 2 TO 4 LANES	2026	$8,063
LOCAL HIGHWAY	MORENO VALLEY	3A04WT064	0	PIGEON PASS RD	CANTARINI	N HIDDEN SPRINGS	WIDEN FROM 2 TO 4 LANES	2028	$6,000
LOCAL HIGHWAY	MENIFEE	3A04WT080	0	MENIFEE RD	GARBANI RD	SCOTT RD	WIDEN FROM 2 TO 4 LANES	2022	$3,696

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Riverside									
LOCAL HIGHWAY	NORCO	3A04WT086	0	1ST ST	PARKRIDGE AVE	HAMNER AVE	WIDEN FROM 2 TO 4 LANES	2022	$2,020
LOCAL HIGHWAY	NORCO	3A04WT087	0	2ND ST	RIVER RD	HAMNER AVE	WIDEN FROM 2 TO 4 LANES	2022	$5,449
LOCAL HIGHWAY	NORCO	3A04WT088	0	CORYDON AVE	RIVER RD	NORCO DR	WIDEN FROM 2 TO 4 LANES	2030	$9,227
LOCAL HIGHWAY	NORCO	3A04WT089	0	HAMNER	COTA STREET	HAMNER AVE	WIDEN FROM 4 TO 6 LANES	2023	$1,433
LOCAL HIGHWAY	NORCO	3A04WT090	0	HILLSIDE AVE	1ST ST	HIDDEN VALLEY PKWY	CONSTRUCT 2 LANE ARTERIAL	2027	$2,343
LOCAL HIGHWAY	NORCO	3A04WT091	0	NORCO DR	CORYDON AVE	HAMNER AVE	WIDEN FROM 2 TO 4 LANES	2024	$6,055
LOCAL HIGHWAY	PERRIS	3A04WT092	0	11TH ST/CASE RD	PERRIS BLVD	GOETZ RD	WIDEN FROM 2 TO 4 LANES	2025	$2,568
LOCAL HIGHWAY	PERRIS	3A04WT093	0	ELLIS AVE	SR-74	I-215	CONSTRUCT 2 LANE ARTERIAL AND 2 LANE GRADE SEPARATION OVER BNSF RR (KEEP GRADE SEPARATION IN ARTERIAL SECTION)	2040	$27,075
LOCAL HIGHWAY	PERRIS	3A04WT102	0	GOETZ RD	LESSER LN	ETHANAC RD	WIDEN FROM 2 TO 4 LANES	2040	$9,571
LOCAL HIGHWAY	RIVERSIDE, CITY OF	3A04WT115	0	IOWA AVE	NORTH CITY LIMIT	BLAINE ST	WIDEN FROM 4 TO 6 LANES	2026	$8,559
LOCAL HIGHWAY	RIVERSIDE, CITY OF	3A04WT117	0	OVERLOOK PKWY	CHATEAU RIDGE LN	SANDTRACK RD	CONSTRUCT MISSING 4 LANE LINKS	2026	$10,000
LOCAL HIGHWAY	RIVERSIDE, CITY OF	3A04WT118	0	TYLER ST	WELLS AVE	ARLINGTON AVE	WIDEN FROM 2 TO 4 LANES	2026	$5,650

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Riverside									
LOCAL HIGHWAY	RIVERSIDE, CITY OF	3A04WT120	0	WASHINGTON ST	VICTORIA AVE	HERMOSA DR	WIDEN FROM 2 TO 4 LANES	2026	$7,732
LOCAL HIGHWAY	RIVERSIDE, CITY OF	3A04WT121	0	WOOD RD	JOHN F KENNEDY DR	VAN BUREN BLVD	WIDEN FROM 2 TO 4 LANES	2026	$4,445
LOCAL HIGHWAY	JURUPA VALLEY	3A04WT125	0	ARMSTRONG RD	SAN BERNARDINO COUNTY LINE	VALLEY WAY	WIDEN FROM 2 TO 4 LANES	2035	$8,940
LOCAL HIGHWAY	WILDOMAR	3A04WT126	0	BAXTER RD	I-15	CENTRAL ST	WIDEN FROM 2 TO 4 LANES	2040	$17,929
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A04WT129	0	BRIGGS RD	SR-74 (PINACATE RD)	SIMPSON RD	CONSTRUCT 4 LANE ARTERIAL	2035	$27,937
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A04WT130	0	BRIGGS RD	SIMPSON RD	DOMENIGONI PKWY	CONSTRUCT 4 LANE ARTERIAL	2045	$32,649
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A04WT131	0	BRIGGS RD	NEWPORT RD	SCOTT RD	WIDEN FROM 2 TO 4 LANES	2035	$17,007
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A04WT132	0	BRIGGS RD	SCOTT RD	SR-79 (WINCHESTER RD)	CONSTRUCT 4 LANE ARTERIAL/WIDEN FROM 2 TO 4 LANES	2025	$36,000
LOCAL HIGHWAY	JURUPA VALLEY	3A04WT140	0	CANTU-GALLEANO RANCH RD	3,350' EASTERLY OF WINEVILLE RD	BELLGRAVE AVE/ BIRTCHER DR INTERSECTION	CONSTRUCT 4 LANE ARTERIAL, INCLUDING 4-LANE BRIDGE CROSSING CHANNEL	2030	$2,492
LOCAL HIGHWAY	WILDOMAR	3A04WT142	0	CENTRAL ST	BAXTER RD	PALOMAR ST	WIDEN FROM 2 TO 4 LANES	2030	$4,500
LOCAL HIGHWAY	WILDOMAR	3A04WT143	0	CENTRAL ST	GRAND AVE	PALOMAR ST	WIDEN FROM 2 TO 4 LANES	2030	$3,112
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A04WT144	0	CHERRY VALLEY BLVD	DESERT LAWN DR	NOBLE ST	WIDEN FROM 2 TO 4 LANES	2035	$18,059

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Riverside									
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A04WT145	0	CHERRY VALLEY BLVD	NOBLE ST	HIGHLAND SPRINGS AVE	CONSTRUCT 4 LANE ARTERIAL	2045	$19,772
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A04WT148	0	DOMENIGONI PKWY	SR-79 (WINCHESTER RD)	WARREN RD	WIDEN FROM 4 TO 6 LANES	2045	$28,401
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A04WT150	0	ELLIS AVE	POST RD	SR-74	WIDEN FROM 2 TO 4 LANES	2040	$14,717
LOCAL HIGHWAY	MENIFEE	3A04WT155	0	GOETZ RD	NORMANDY RD	JUANITA DR	WIDEN FROM 2 TO 4 LANES	2027	$2,925
LOCAL HIGHWAY	MENIFEE	3A04WT156	0	GOETZ RD	JUANITA DR	LESSER LN	WIDEN FROM 2 TO 4 LANES	2027	$10,987
LOCAL HIGHWAY	WILDOMAR	3A04WT157	0	GRAND AVE	ORTEGA HWY (SR-74)	CENTRAL ST	WIDEN FROM 2 TO 4 LANES	2040	$30,765
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A04WT160	0	HARLEY JOHN RD	WASHINGTON ST	CAJALCO RD	WIDEN FROM 2 TO 4 LANES	2040	$6,072
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A04WT161	0	HORSETHIEF CANYON RD	TEMESCAL CANYON RD	I-15	WIDEN FROM 2 TO 4 LANES	2030	$5,932
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A04WT168	0	MCCALL BLVD	MENIFEE RD	SR-79 (WINCHESTER)	CONSTRUCT 2 LANE ARTERIAL INCL. GRADE SEPARATION OVER BNSF RR (GRADE SEP PORTION IS NOT PART OF GRADE SEP LIST AND SHOULD REMAIN HERE)	2045	$116,629
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A04WT169	0	MCCALL BLVD	SR-79 (WINCHESTER RD)	WARREN RD	CONSTRUCT 2 LANE ARTERIAL INCL. GRADE SEPARATION OVER BNSF RR - GRADE SEP PORTION IS NOT PART OF GRADE SEP LIST AND SHOULD REMAIN IN THE ARTERIAL SECTION.	2045	$43,699
LOCAL HIGHWAY	MENIFEE	3A04WT175	0	MURRIETA RD	ETHANAC RD	MCCALL BLVD	WIDEN FROM 2 TO 4 LANES	2027	$8,659
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A04WT179	0	NUEVO RD	DUNLAP DR	MENIFEE RD	WIDEN FROM 2 TO 6 LANES	2035	$45,000

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Riverside									
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A04WT198B	0	TEMESCAL CANYON RD	INDIAN TRUCK TRAIL	NEW TEMESCAL WASH, 0.22 MI. W/O LAKE ST.	WIDEN FROM 2 TO 4 LANES	2035	$30,002
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A04WT202	0	WASHINGTON ST	HERMOSA DR	HARLEY JOHN RD	WIDEN FROM 2 TO 4 LANES	2040	$19,460
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A04WT203	0	WOOD RD	KRAMERIA AVE	CAJALCO RD	WIDEN FROM 2 TO 4 LANES	2035	$14,137
LOCAL HIGHWAY	SAN JACINTO	3A04WT208	0	ESPLANADE AVE	PARKSIDE LN.	WARREN RD	WIDEN FROM 2 TO 4 LANES	2025	$10,553
LOCAL HIGHWAY	DESERT HOT SPRINGS	3A07001	0	MISSION LAKES BLVD	PALM DR	EASTERN TERMINUS AT VERBENA DR	WIDEN FROM 2 TO 4 LANES	2025	$2,300
LOCAL HIGHWAY	PALM SPRINGS	3A07002	0	N. INDIAN CANYON DR.	N. BANK OF WHITEWATER RIVER	S. BANK OF WHITEWATER RIVER	NEW BRIDGE TO REPLACE EXISTING LOW WATER CROSSING AT WHITEWATER RIVER.	2031	$166,218
LOCAL HIGHWAY	PALM SPRINGS	3A07004	0	GENE AUTRY TRAIL	N. BANK OF WHITEWATER RIVER	S. BANK OF WHITEWATER RIVER	NEW BRIDGE TO REPLACE EXISTING LOW WATER CROSSING AT WHITEWATER RIVER.	2045	$111,500
LOCAL HIGHWAY	PALM SPRINGS	3A07005	0	RAMON RD	S. INDIAN CYN	SUNRISE WAY (INCL. BARISTO STORM CHNL XING)	WIDEN FROM 4 TO 6 LANES	2031	$169,482
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07007	0	VAN BUREN BLVD	ORANGE TERRACE PKWY	OPPORTUNITY WAY	WIDEN FROM 4 TO 6 LANES	2025	$3,983
LOCAL HIGHWAY	PALM SPRINGS	3A07009	0	CROSSLEY RD / GOLF CLUB DR	N. BANK OF WASH	S. BANK OF WASH	NEW BRIDGE OVER PALM CANYON WASH.	2045	$53,950
LOCAL HIGHWAY	COACHELLA	3A07011	0	AVE 54	HWY 111	FILLMORE	CONSTRUCT 4-LANE BRIDGE	2025	$47,984
LOCAL HIGHWAY	JURUPA VALLEY	3A07014	0	SCHLEISMAN RD	I-15	ARLINGTON AVE	CONSTRUCT 4 LANE ARTERIAL	2035	$37,518

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Riverside									
LOCAL HIGHWAY	JURUPA VALLEY	3A07016	0	LIMONITE AVE	WINEVILLE AVE.	ETIWANDA AVE	WIDEN EB LANE FROM 1 LANE TO 2 LANES.	2020	$7,000
LOCAL HIGHWAY	INDIO	3A07017	0	AVENUE 44	WHITEWATER RIVER	DILLON RD	WIDEN FROM 2 TO 4 LANES	2032	$4,122
LOCAL HIGHWAY	CATHEDRAL CITY	3A07018A	0	LANDAU	VISTA CHINO	UPRR	CONSTRUCT NEW 6-LANE ROAD	2035	$28,293
LOCAL HIGHWAY	CATHEDRAL CITY	3A07018B	0	LANDAU	I-10	VALLEY CENTER BLVD	CONSTRUCT NEW 6-LANE ROAD	2035	$15,292
LOCAL HIGHWAY	CATHEDRAL CITY	3A07018C	0	LANDAU	VALLEY CENTER BLVD	VARNER RD	CONSTRUCT NEW 4-LANE ROAD	2035	$22,939
LOCAL HIGHWAY	RANCHO MIRAGE	3A07024	0	FRANK SINATRA DR	WHITEWATER RIVER BRIDGE	AT FRANK SINATRA DRIVE	REPLACE A 4 LANE AT GRADE LOW-WATER CROSSING WITH A NEW 4 LANE BRIDGE	2022	$43,433
LOCAL HIGHWAY	INDIO	3A07030	0	MONROE ST	AVE 41	AVE 42	WIDEN FROM 2 TO 4 LANES	2022	$7,815
LOCAL HIGHWAY	CATHEDRAL CITY	3A07032	0	DATE PALM DR	DINAH SHORE DR	RAMON RD	WIDEN FROM 4 TO 6 LANES	2026	$5,246
LOCAL HIGHWAY	COACHELLA	3A07036	0	VAN BUREN ST	AVE 48	AVE 50	WIDEN FROM 2 TO 6 LANES	2023	$13,762
LOCAL HIGHWAY	COACHELLA	3A07037	0	VAN BUREN ST	AVE 50	AVE 52	WIDEN FROM 2 TO 6 LANES	2023	$13,762
LOCAL HIGHWAY	COACHELLA	3A07039	0	AVE 50	JACKSON ST	VAN BUREN ST	WIDEN FROM 2 TO 4 LANES	2023	$13,658
LOCAL HIGHWAY	COACHELLA	3A07040	0	GRAPEFRUIT BLVD	AVE 48/DILLON RD	AVE 50	WIDEN FROM 2 TO 6 LANES	2022	$12,908

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Riverside									
LOCAL HIGHWAY	CATHEDRAL CITY	3A07042	0	DA VALL RD	VALLEY CENTER BLVD	VARNER RD	CONSTRUCT NEW 6-LANE ROAD, INCLUDING BRIDGE AT LONG CANYON	2028	$25,400
LOCAL HIGHWAY	CATHEDRAL CITY	3A07048	0	DATE PALM DR	GERALD FORD DR	DINAH SHORE DR	WIDEN FROM 4 TO 6 LANES	2028	$5,008
LOCAL HIGHWAY	INDIO	3A07050	0	AVE 42	CLINTON ST	MONROE ST	WIDEN FROM 2 TO 4 LANES	2032	$13,543
LOCAL HIGHWAY	COACHELLA	3A07051	0	DILLON RD	AVE 44	I-10	WIDEN FROM 2 TO 4 LANES	2023	$11,474
LOCAL HIGHWAY	INDIO	3A07052	0	AVENUE 50	MONROE ST	JACKSON ST	WIDEN FROM 3 TO 4 LANES	2024	$5,030
LOCAL HIGHWAY	PALM SPRINGS	3A07054	0	INDIAN AVE	19TH AVE	300 FT. SOUTH OF 18TH AVE.	WIDEN FROM 2 TO 4 LANES	2025	$8,807
LOCAL HIGHWAY	CATHEDRAL CITY	3A07055	0	DA VALL RD (WEST SIDE OF DA VALL RDD)	DINAH SHORE	RAMON RD	WIDEN FROM 2 TO 4 LANES	2025	$8,028
LOCAL HIGHWAY	INDIO	3A07056	0	AVENUE 50	MADISON ST	MONROE ST	WIDEN FROM 2 TO 4 LANES	2024	$5,591
LOCAL HIGHWAY	CATHEDRAL CITY	3A07060	0	DATE PALM DR	EAST PALM CYN	PEREZ ROAD	WIDEN FROM 4 TO 6 LANES, INCLUDING BRIDGE AT N. CATHEDRAL CHANNEL	2022	$13,015
LOCAL HIGHWAY	INDIO	3A07064	0	AVE 42	MONROE ST	JACKSON ST	WIDEN FROM 4 TO 6 LANES	2027	$7,335
LOCAL HIGHWAY	INDIO	3A07065	0	AVENUE 50	JACKSON ST	CITY LIMITS	WIDEN FROM 2 TO 4 LANES	2022	$5,144
LOCAL HIGHWAY	COACHELLA	3A07069	0	GRAPEFRUIT BLVD	AVE 52	AVE 54	WIDEN FROM 2 TO 6 LANES	2020	$7,074

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Riverside									
LOCAL HIGHWAY	LA QUINTA	3A07070	0	AVE 50	JEFFERSON STREET	MADISON STREET	WIDEN FROM 2 TO 4 LANES. SHARED PROJECT BETWEEN THE CITY OF LA QUINTA AND INDIO. THE SOUTH SIDE OF AVENUE 50 WIDENING FROM 1 TO 2 LANES, INCLUDING BIKE LANES AND SIDEWALK.	2028	$3,161
LOCAL HIGHWAY	COACHELLA	3A07071	0	GRAPEFRUIT BLVD	AVE 50	AVE 52	WIDEN FROM 2 TO 6 LANES	2023	$8,971
LOCAL HIGHWAY	COACHELLA	3A07074	0	HARRISON ST	AVE 54	AVE 56	WIDEN FROM 2 TO 4 LANES	2024	$8,849
LOCAL HIGHWAY	COACHELLA	3A07078	0	AVE 58	VAN BUREN ST	HARRISON ST (SR-86)	WIDEN FROM 2 TO 4 LANES	2023	$6,630
LOCAL HIGHWAY	INDIO	3A07079	0	VARNER RD / AVE 42	JEFFERSON ST	CLINTON ST	WIDEN FROM 2 TO 4 LANES, INCLUDING BRIDGE OVER ALL AMERICAN CANAL.	2032	$11,355
LOCAL HIGHWAY	INDIO	3A07086	0	JACKSON ST	AVE 50	AVE 52	WIDEN FROM 3 TO 4 LANES	2022	$4,285
LOCAL HIGHWAY	COACHELLA	3A07088	0	GRAPEFRUIT BLVD	AVE 54	AVE 56	WIDEN FROM 2 TO 6 LANES	2023	$6,646
LOCAL HIGHWAY	COACHELLA	3A07092	0	AVE 48	GRADE SEPARATION AT HWY 111/SPRR		WIDEN FROM 4 TO 6 LANES	2030	$11,343
LOCAL HIGHWAY	PALM SPRINGS	3A07095	0	CROSSLEY RD	DINAH SHORE DR.	FAIRWAY CR	WIDEN FROM 2 TO 4 LANES	2025	$3,364
LOCAL HIGHWAY	COACHELLA	3A07096	0	DILLON RD	I-10	WHITEWATER BR.	WIDEN FROM 4 TO 6 LANES	2026	$4,669
LOCAL HIGHWAY	COACHELLA	3A07098	0	AVE 52	JACKSON ST	CALHOUN ST	WIDEN FROM 2 TO 6 LANES	2024	$5,105
LOCAL HIGHWAY	CATHEDRAL CITY	3A07099	0	CATHEDRAL CYN DR	TERRACE RD	E PALM CYN	WIDEN FROM 2 TO 4 LANES	2022	$3,452

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Riverside									
LOCAL HIGHWAY	LA QUINTA	3A07102	0	AVE 58	JEFFERSON ST	MADISON ST	WIDEN SOUTH SIDE FROM 1 TO 2 LANES AND PORTION OF NORTH SIDE FROM 1 TO 2 LANES	2030	$7,832
LOCAL HIGHWAY	MORENO VALLEY	3A07105	0	MORENO BEACH DR	LOCUST AVE	SR-60	WIDEN FROM 2 TO 4 LANES	2028	$6,000
LOCAL HIGHWAY	LA QUINTA	3A07106	0	AVE 58	MADISON ST	MONROE ST	WIDEN SOUTH SIDE FROM 1 TO 2 LANES IN AREAS WITH MISSING SECTIONS INCLUDING BIKE LANES AND SIDEWALK	2030	$690
LOCAL HIGHWAY	RIVERSIDE, CITY OF	3A07107	0	CANYON CREST DR	COUNTRY CLUB	VIA VISTA	WIDEN 2 TO 4 LANES	2026	$8,000
LOCAL HIGHWAY	COACHELLA	3A07108	0	AVE 48	VAN BUREN ST	W OF HWY 86	WIDEN FROM 2 TO 5 LANES	2022	$5,013
LOCAL HIGHWAY	PALM SPRINGS	3A07112	0	CROSSLEY RD	SUNNY DUNES RD	DINAH SHORE DR.	WIDEN FROM 2 TO 4 LANES	2023	$2,184
LOCAL HIGHWAY	PALM SPRINGS	3A07114	0	S. PALM CYN DR	TAHQUITZ CYN RD	RAMON RD	WIDEN FROM 3 TO 4 LANES	2030	$3,863
LOCAL HIGHWAY	PALM SPRINGS	3A07118	0	N. PALM CYN DR	ALEJO RD	TAHQUITZ CYN RD	WIDEN FROM 3 TO 4 LANES	2030	$3,686
LOCAL HIGHWAY	CATHEDRAL CITY	3A07120	0	DA VALL RD	AVE 30	VALLEY CENTER BLVD	CONSTRUCT NEW 6-LANE ROAD, INCLUDING BRIDGE OVER THE RAILROAD NEW DA VALL INTERCHANGE. EB/WB AUX LANES	2028	$52,600
LOCAL HIGHWAY	PALM DESERT	3A07122	0	PORTOLA AVENUE	1,500' N/O FRANK SINATRA DRIVE	2,000' S/O GERALD FORD DRIVE	WIDEN FROM 4 TO 6 LANES	2027	$4,464
LOCAL HIGHWAY	PALM DESERT	3A07123	0	COUNTRY CLUB DRIVE	COOK STREET	ELDORADO DR	WIDEN FROM 4 TO 6 LANES	2030	$4,225
LOCAL HIGHWAY	PALM SPRINGS	3A07126	0	SUNRISE PARKWAY	N. INDIAN CANYON DR	NORTH PALM CANYON DRIVE (SR 111)	CONSTRUCT/EXTEND 4 LANE ARTERIAL CONNECTOR	2031	$20,318

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Riverside									
LOCAL HIGHWAY	CATHEDRAL CITY	3A07127	0	DA VALL RD (WEST SIDE OF DA VALL RD)	MCCALLUM WAY	AVE 30	WIDEN FROM 2 TO 3 LANES ON THE WEST SIDE OF DA VALL RD WITHIN CATHEDRAL CITY BOUNDARY.	2026	$4,156
LOCAL HIGHWAY	TEMECULA	3A07129	0	DIAZ ROAD (WESTERN BYPASS)	NORTH CITY LIMITS WINCHESTER ROAD	DENDY PARKWAY	CONSTRUCT 4 LANE ARTERIAL	2023	$3,025
LOCAL HIGHWAY	PALM DESERT	3A07136	0	COOK STREET	FRANK SINATRA	COUNTRY CLUB DR.	WIDEN FROM 4 TO 6 LANES	2025	$10,859
LOCAL HIGHWAY	RANCHO MIRAGE	3A07138	0	BOB HOPE DR	FRANK SINATRA DR	GERALD FORD DR	WIDEN FROM 4 TO 6 LANES	2023	$6,319
LOCAL HIGHWAY	PALM SPRINGS	3A07145	0	RAMON RD	S. PALM CYN DR	S. INDIAN CYN DR	WIDEN FROM 4 TO 6 LANES	2030	$1,201
LOCAL HIGHWAY	MORENO VALLEY	3A07154	0	NASON ST	ELDER AVE	IRONWOOD AVE	WIDEN 2 TO 4 LANES / STREET IMPROVEMENT	2028	$1,000
LOCAL HIGHWAY	MORENO VALLEY	3A07160	0	HEACOCK ST-SI	EUCALYPTUS	FIR	STREET IMPROVEMENT / WIDENING 2 TO 4 LANES GAPS	2028	$1,800
LOCAL HIGHWAY	MORENO VALLEY	3A07161	0	REDLANDS BLVD	SPRUCE AVE	NORTH CITY LIMITS	WIDEN 2 TO 4 LANES / STREET IMPROVEMENT	2028	$6,000
LOCAL HIGHWAY	COACHELLA	3A07164	0	AVE 52	INTERSECTION OF AVE 52 AND HWY 111		WIDEN FROM 2 TO 6 LANES	2022	$174
LOCAL HIGHWAY	COACHELLA	3A07165	0	AVE 52	INTERSECTION OF AVE 52 AND SR-86	ALL AMERICAN CANAL	WIDEN FROM 2 TO 6 LANES	2020	$5,000
LOCAL HIGHWAY	MORENO VALLEY	3A07168	0	HEACOCK ST-SI	DRACAEA	EUCALYPTUS	STREET IMPROVEMENT / WIDENING 2 TO 4 LANES GAPS	2028	$1,000
LOCAL HIGHWAY	MORENO VALLEY	3A07169	0	HEACOCK ST-SI	IRONWOOD AVE	MANZANITA AVE	STREET IMPROVEMENT / WIDENING 2 TO 4 LANES GAPS	2022	$650

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Riverside									
LOCAL HIGHWAY	MORENO VALLEY	3A07170	0	PERRIS BLVD	BRODIAEA AVE	DRACAEA	WIDEN FROM 4 TO 6 LANES / STREET IMPROVEMENT	2023	$1,500
LOCAL HIGHWAY	INDIO	3A07171	0	JEFFERSON ST	SUN CITY BLVD.	AVE 40	WIDEN FROM 4 TO 6 LANES	2027	$3,861
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07172	0	AVE 48	VAN BUREN ST	DILLON RD	WIDEN FROM 2 TO 5 LANES	2021	$4,500
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07175	0	AVE 56 / AIRPORT BLVD	MONROE ST	JACKSON ST	WIDEN FROM 2 TO 4 LANES	2038	$6,874
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07176	0	AVE 56 / AIRPORT BLVD	JACKSON ST	0.25 MILES W OF VAN BUREN ST	WIDEN FROM 2 TO 6 LANES	2036	$4,385
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07177	0	AVE 56 / AIRPORT BLVD	HARRISON ST	TYLER ST	WIDEN FROM 2 TO 6 LANES	2034	$7,410
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07178	0	AVE 56 / AIRPORT BLVD	TYLER ST	POLK ST	WIDEN FROM 2 TO 6 LANES	2032	$5,503
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07179	0	AVE 56 / AIRPORT BLVD	POLK ST	PALM ST	WIDEN FROM 2 TO 6 LANES	2030	$1,882
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07181	0	AVE 56 / AIRPORT BLVD (SOUTH SIDE)	0.25 MI. W OF VAN BUREN ST	HARRISON ST	WIDEN FROM 2 TO 6 LANES	2033	$10,332
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07182	0	AVE 56 / AIRPORT BLVD	PALM ST	SR-86	WIDEN FROM 4 TO 6 LANES	2045	$17,694
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07184	0	AVE 58	MONROE ST	JACKSON ST	WIDEN FROM 2 TO 4 LANES	2032	$6,190
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07185	0	AVE 58	JACKSON ST	VAN BUREN ST	WIDEN FROM 2 TO 4 LANES	2035	$7,023

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Riverside									
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07187	0	AVE 62	MONROE ST	JACKSON ST	WIDEN FROM 2 TO 6 LANES	2045	$12,729
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07188	0	AVE 62	JACKSON ST	VAN BUREN ST	WIDEN FROM 2 TO 6 LANES	2034	$14,764
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07189	0	AVE 62	VAN BUREN ST	HARRISON ST	WIDEN FROM 2 TO 6 LANES	2040	$14,195
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07190	0	AVE 62	HARRISON ST	TYLER ST	WIDEN FROM 2 TO 6 LANES	2042	$9,628
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07191	0	AVE 62	TYLER ST	POLK ST	WIDEN FROM 2 TO 6 LANES	2041	$9,331
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07192	0	AVE 62	POLK ST	FILLMORE ST	WIDEN FROM 2 TO 6 LANES	2045	$19,074
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07193	0	AVE 62	FILLMORE ST	PIERCE ST	WIDEN FROM 2 TO 6 LANES	2038	$45,825
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07194	0	AVE 62	PIERCE ST	SR-86	WIDEN FROM 2 TO 6 LANES	2040	$12,394
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07196	0	AVE 66	AVE 66 BR./LOW WATER XING	BTWN W/O COACHELLA VALLEY STORM WATER CHNL AND PIERCE ST	WIDEN FROM 2 TO 6 LANES	2030	$5,357
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07197	0	BOB HOPE DR	DINAH SHORE	RAMON RD	WIDENING OF THE SOUTH BOUND LANE FROM 2 TO 3 LANES.	2030	$4,289
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07199	0	COOK ST	VARNER RD	RAMON RD	CONSTRUCT 4 LANE ARTERIAL	2040	$34,035
LOCAL HIGHWAY	PALM DESERT	3A07200	0	COUNTRY CLUB DR	MONTEREY AVE	PORTOLA AVE	WIDEN FROM 4 TO 6 LANES	2027	$10,382

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Riverside									
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07204	0	DILLON RD	INTERSECTION OF DILLON RD & INDIAN AVE	4 WAY INTERSECTION	WIDEN FROM 2 TO 4 LANES	2021	$1,355
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07205	0	DILLON RD	INDIAN AVE	PALM DR	WIDEN FROM 2 TO 4 LANES, INCLUDING A NEW BRIDGE AT MISSION CR.	2027	$16,891
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07206	0	DILLON RD	INTERSECTION OF DILLON RD & PALM DR	EASTERLY	WIDEN FROM 4 TO 6 LANES	2031	$1,355
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07207	0	DILLON RD	PALM DR	MOUNTAIN VIEW	WIDEN FROM 2 TO 4 LANES, INCLUDING INTERSECTION IMPROVEMENTS AT DILLON & PALM DR (TRAFFIC SIGNAL IMPROVEMENTS).	2032	$8,103
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07212	0	DILLON RD	BR. AT WHITEWATER CHNL	MOUNTAIN VIEW	WIDEN FROM 2 TO 4 LANES	2030	$2,032
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07213	0	DILLON RD	WHITEWATER BR.	I-10	WIDEN FROM 2 TO 4 LANES	2025	$4,512
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07219	0	INDIAN AVE	DILLON RD	14TH AVE	WIDEN FROM 2 TO 6 LANES	2040	$7,574
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07220	0	INDIAN AVE	14TH AVE	PIERSON BLVD	WIDEN FROM 2 TO 6 LANES	2040	$6,895
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07221	0	INDIAN AVE	INTERSECTION OF INDIAN AVE AND 20TH AVE	NORTHERLY	WIDEN FROM 4 TO 6 LANES	2021	$1,158
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07222	0	INDIAN AVE	20TH AVE	18TH AVE	WIDEN FROM 2 TO 4 LANES	2021	$3,028
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07223	0	INDIAN AVE	18TH AVE	DILLON RD	WIDEN FROM 2 TO 4 LANES	2021	$13,265
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07230	0	MOUNTAIN VIEW	DILLON RD	20TH AVE	WIDEN FROM 2 TO 4 LANES	2031	$6,821

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Riverside									
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07235	0	RAMON RD	INTERSECTION OF RAMON RD & VARNER RD	DATE GARDEN DR.	WIDEN FROM 4 TO 6 LANES	2040	$302
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07238	0	RAMON RD	MONTEREY AVE	THOUSAND PALMS CYN RD	WIDEN FROM 2 TO 4 LANES	2040	$22,466
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07240	0	TWO BUNCH PALMS TR	INDIAN AVE	LITTLE MORONGO RD	CONSTRUCT 4 LANE ARTERIAL	2045	$17,235
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07244	0	VAN BUREN ST	INDIO BLVD	AVE 48	WIDEN THE EAST SIDE OF VAN BUREN FROM 2 TO 3 LANES.	2038	$6,117
LOCAL HIGHWAY	RIVERSIDE COUNTY	3A07252	0	VARNER RD	WASHINGTON ST	ADAMS ST	WIDEN FROM 3 TO 4 LANES	2037	$1,536
LOCAL HIGHWAY	PERRIS	3A07262	0	CASE RD	GOETZ RD	I-215	WIDEN FROM 2 TO 4 LANES, INCLUDING 2 BRIDGES OVER SAN JACINTO RIVER AND INTERCHANGE AT I-215	2025	$82,036
LOCAL HIGHWAY	PERRIS	3A07264	0	DUNLAP	ORANGE	ELLIS AVE	WIDEN FROM 2 TO 4 LANES	2030	$5,469
LOCAL HIGHWAY	PERRIS	3A07266	0	MAPES AVE	GOETZ RD	WEST CITY LIMIT	WIDEN FROM 2 TO 4 LANES	2030	$9,571
LOCAL HIGHWAY	PERRIS	3A07267	0	MCPHERSON RD	ETHANAC RD	MAPES AVE	CONSTRUCT 2 LANE ARTERIAL	2030	$5,448
LOCAL HIGHWAY	PERRIS	3A07268	0	MARKHAM ST	WADE	REDLANDS AVE	WIDEN FROM 2 TO 4 LANES	2025	$7,462
LOCAL HIGHWAY	PERRIS	3A07269	0	MORGAN ST	NEVADA	INDIAN AVE	WIDEN FROM 2 TO 4 LANES	2025	$1,187
LOCAL HIGHWAY	PERRIS	3A07271	0	MOUNTAIN AVE	MCPHERSON	A ST	WIDEN FROM 2 TO 4 LANES	2030	$3,515

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Riverside									
LOCAL HIGHWAY	PERRIS	3A07272	0	MURRIETA RD	CASE RD	ETHANAC RD	WIDEN FROM 2 TO 4 LANES	2022	$8,989
LOCAL HIGHWAY	PERRIS	3A07273	0	ORANGE AVE	INDIAN AVE	DUNLAP DR	WIDEN FROM 2 TO 4 LANES	2030	$40,419
LOCAL HIGHWAY	PERRIS	3A07276	0	RIDER ST	NEVADA	INDIAN AVE	WIDEN FROM 2 TO 4 LANES	2030	$26,360
LOCAL HIGHWAY	PERRIS	3A07277	0	SAN JACINTO AVE	WEST CITY LIMIT	NAVAJO	WIDEN FROM 2 TO 6 LANES	2030	$5,834
LOCAL HIGHWAY	PERRIS	3A07278	0	SAN JACINTO AVE	NAVAJO	A ST	CONSTRUCT 4 LANE ARTERIAL	2030	$5,834
LOCAL HIGHWAY	PERRIS	3A07279	0	SAN JACINTO AVE	A ST	REDLANDS AVE	WIDEN FROM 2 TO 4 LANES, INCLUDING BRIDGE OVER I-215.	2040	$32,412
LOCAL HIGHWAY	PERRIS	3A07280	0	SAN JACINTO AVE	REDLANDS AVE	DUNLAP DR	WIDEN FROM 2 TO 6 LANES, INCLUDING BRIDGE OVER PERRIS VALLEY STORN DRAIN.	2030	$19,447
LOCAL HIGHWAY	PERRIS	3A07282	0	WATSON	A ST	MCPHERSON RD	CONSTRUCT 4 LANE ARTERIAL	2030	$14,059
LOCAL HIGHWAY	PERRIS	3A07283	0	WEBSTER AVE	HARLEY KNOX BLVD.	MARKHAM	CONSTRUCT 6 LANE ARTERIAL	2022	$8,000
LOCAL HIGHWAY	PERRIS	3A07284	0	WEBSTER AVE	MARKHAM	RAMONA EXPWY	WIDEN FROM 2 TO 6 LANES	2022	$4,000
LOCAL HIGHWAY	SAN JACINTO	3A07287	0	CAWSTON AVE	COTTONWOOD AVE.	RAMONA EXPWAY	CONSTRUCT 4 LANE ARTERIAL	2040	$4,500
LOCAL HIGHWAY	SAN JACINTO	3A07289	0	HEWITT ST	MAIN ST	SOUTH CITY LIMIT	WIDEN FROM 2 TO 4 LANES	2030	$5,200

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Riverside									
LOCAL HIGHWAY	SAN JACINTO	3A07291	0	PALM AVE	ESPLANADE AVE	SEVENTH ST	WIDEN FROM 2 TO 4 LANES	2030	$3,000
LOCAL HIGHWAY	SAN JACINTO	3A07292	0	PALM AVE	SEVENTH ST	DE ANZA DR.	WIDEN FROM 2 TO 4 LANES	2022	$7,500
LOCAL HIGHWAY	SAN JACINTO	3A07294	0	SEVENTH ST	600' W/O MELENA LN.	WARREN RD	CONSTRUCT 4 LANE ARTERIAL	2030	$11,000
LOCAL HIGHWAY	SAN JACINTO	3A07295	0	SEVENTH ST	CAWSTON AVE	RAMONA EXPWAY (CURRENTLY MOUNTAIN AVE.)	WIDEN FROM 2 TO 4 LANES	2030	$18,000
LOCAL HIGHWAY	SAN JACINTO	3A07296	0	SOBOBA RD	CASINO ENTRANCE	CHABELA DR.	WIDEN FROM 2 TO 4 LANES	2030	$7,500
LOCAL HIGHWAY	PALM DESERT	3A07298	0	PORTOLA AVE	MAGNESIA FALLS DR	COUNTRY CLUB DR	WIDEN FROM 4 TO 6 LANES	2027	$12,476
LOCAL HIGHWAY	PALM DESERT	3A07299	0	COOK ST	BR. AT WHITEWATER CHNL		WIDEN FROM 4 TO 6 LANES	2025	$13,785
LOCAL HIGHWAY	PALM DESERT	3A07301	0	COOK ST	COUNTRY CLUB	WHITEWATER BRG.	WIDEN FROM 4 TO 6 LANES	2025	$10,650
LOCAL HIGHWAY	PALM DESERT	3A07304	0	FRANK SINATRA DR	MONTEREY AVE	PORTOLA AVE	WIDEN FROM 4 TO 6 LANES	2027	$9,419
LOCAL HIGHWAY	PALM DESERT	3A07305	0	PORTOLA AVE	COUNTRY CLUB DR	2,070' S/O FRANK SINATRA DR	WIDEN FROM 4 TO 6 LANES	2027	$8,452
LOCAL HIGHWAY	PALM DESERT	3A07306	0	FRANK SINATRA DR	PORTOLA AVE	COOK ST	WIDEN FROM 4 TO 6 LANES	2027	$6,914
LOCAL HIGHWAY	PALM DESERT	3A07311	0	COOK ST	WHITEWATER BR.	FRED WARING DR	WIDEN FROM 4 TO 6 LANES	2025	$3,292

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Riverside									
LOCAL HIGHWAY	PALM DESERT	3A07312	0	GERALD FORD DR	COOK ST	FRANK SINATRA DR	WIDEN FROM 3 TO 4 LANES	2030	$1,828
LOCAL HIGHWAY	PALM DESERT	3A07314	0	PORTOLA AVE	HWY 111	MAGNESIA FALLS DR	WIDEN FROM 4 TO 6 LANES	2027	$1,233
LOCAL HIGHWAY	RIVERSIDE, CITY OF	3A07315	0	VAN BUREN BLVD	AUDREY AVE	GARFIELD	WIDEN FROM 4 TO 6 LANES	2026	$20,000
LOCAL HIGHWAY	CATHEDRAL CITY	3A0802	0	VALLEY CENTER BLVD	PALM DR	DATE PALM DR	IN THE CITY OF CATHEDRAL CITY, CONSTRUCT VALLEY CENTER BLVD NORTH OF I-10 AND SOUTH OF VARNER RD AS A 4 LANES ARTERIAL FROM PALM DR TO DATE PALM DR	2024	$57,063
LOCAL HIGHWAY	CATHEDRAL CITY	3A0803	0	VALLEY CENTER BLVD	DATE PALM DR	DA VALL DR (FUTURE EXTENSION)	IN THE CITY OF CATHEDRAL CITY, CONSTRUCT VALLEY CENTER BLVD NORTH OF I-10 AND SOUTH OF VARNER RD AS A 4 LANE ARTERIAL FROM DATE PALM DR TO FUTURE DA VALL RD EXTENSION	2025	$53,059
LOCAL HIGHWAY	VARIOUS AGENCIES	3AL104	0	ARTERIAL IMPROVEMENTS	COACHELLA VALLEY		EASTERN COUNTY WIDEN/RECONSTRUCT/REHABILITATE REGIONAL ARTERIALS	2026	$116,699
LOCAL HIGHWAY	VARIOUS AGENCIES	3AL204	0	ARTERIAL IMPROVEMENTS	COUNTYWIDE		WIDEN/CONSTRUCT REGIONAL ARTERIALS	2026	$553,031
LOCAL HIGHWAY	VARIOUS AGENCIES	3AL304	0	ARTERIAL IMPROVEMENTS	WESTERN COUNTY		WESTERN COUNTY WIDEN/REHABILITATE ARTERIAL IMPROVEMENTS	2026	$211,437
LOCAL HIGHWAY	RIVERSIDE COUNTY TRANSPORTATION COMMISSION (RCTC)	3EL04	0	ECONOMIC DEVELOPMENT	WESTERN COUNTY		INFRASTRUCTURE AND FACILITY IMPROVEMENTS INCENTIVES	2039	$45,604
LOCAL HIGHWAY	RIVERSIDE, CITY OF	3G01G05	0	CHICAGO AV	THORTON ST	COLUMBIA AVE	GRADE SEPARATION - 4 LANES OVER BNSF RR TRACKS	2035	$145,786
LOCAL HIGHWAY	RIVERSIDE, CITY OF	3G01G07	0	SPRUCE ST (BNSF)	SR-91	I-215	GRADE SEPARATION - 4 LANES OVER BNSF RR TRACKS	2035	$60,000
LOCAL HIGHWAY	BANNING	3G01G19	0	HARGRAVE ST	I-10	LINCOLN ST	GRADE SEPARATION - 2 LANES OVER UPRR	2028	$54,961

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Riverside									
LOCAL HIGHWAY	RIVERSIDE, CITY OF	3G01G22	0	TYLER ST	SR-91	COMANCHE AVE	GRADE SEPARATION - 4 LANES OVER BNSF RR TRACKS	2030	$124,620
LOCAL HIGHWAY	RIVERSIDE, CITY OF	3G01G23	0	ADAMS ST	INDIANA AVE	LINCOLN ST	GRADE SEPARATION - 4 LANES OVER BNSF RR	2035	$160,856
LOCAL HIGHWAY	BEAUMONT	3G01G26	0	CALIFORNIA AVE	3RD ST	I-10	GRADE SEPARATION - 2 LANES OVER UPRR TRACKS	2028	$45,646
LOCAL HIGHWAY	RIVERSIDE, CITY OF	3G01G31	0	PIERCE ST	MAGNOLIA AVE	INDIANA AVE	GRADE SEPARATION - 3 LANES OVER BNSF RR TRACKS	2030	$49,848
LOCAL HIGHWAY	BANNING	3G01G36	0	22ND ST	I-10	LINCOLN ST	GRADE SEPARATION - 2 LANES OVER UPRR TRACKS	2030	$52,668
LOCAL HIGHWAY	JURUPA VALLEY	3G01G40	0	BELLGRAVE AVE	BAIN ST	RUTILE ST	GRADE SEPARATION - 2 LANES OVER UPRR TRACKS	2030	$188,241
LOCAL HIGHWAY	BANNING	3G01G43	0	SAN GORGONIO AVE	I-10	LINCOLN ST	GRADE SEPARATION - 2 LANES OVER UPRR TRACKS	2030	$68,541
LOCAL HIGHWAY	RIVERSIDE COUNTY	3G0703	0	AVENUE 62	WEST OF SR 111	WEST OF SR-86	GRADE SEPARATION - 2 LANES AT UPRR TRACKS AND SR111	2040	$163,395
LOCAL HIGHWAY	VARIOUS AGENCIES	3ITS07	0	ITS	COUNTYWIDE		ITS LUMP SUM FOR RIVERSIDE COUNTY ARTERIALS	2039	$137,592
LOCAL HIGHWAY	RIVERSIDE COUNTY TRANSPORTATION COMMISSION (RCTC)	3ITS08	0	INTELLIGENT TRANSPORTATION SYSTEM	COUNTYWIDE		ITS INLAND EMPIRE LUMP SUM (GRADE CROSSING IMPROVEMENTS, IE 511, REGIONAL MOBILITY MANAGER, GIS, ETC.)	2039	$77,774
LOCAL HIGHWAY	VARIOUS AGENCIES	3NL04	0	NON-MOTORIZED	COUNTYWIDE		VARIOUS PEDESTRIAN AND BIKEWAY NON-MOTORIZED IMPROVEMENT PROJECTS	2040	$115,079
LOCAL HIGHWAY	MENIFEE	RIV010205B	0	SCOTT RD	I-215	EL CENTRO	WIDEN SCOTT RD FROM 4 TO 6 LANES BETWEEN I-215 AND EL CENTRO	2025	$11,674

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000'S)
County: Riverside									
LOCAL HIGHWAY	RIVERSIDE COUNTY	RIV010205C	0	SCOTT RD	EL CENTRO	SR-79 (WINCHESTER RD)	IN RIVERSIDE COUNTY NEAR MURRIETA RECONSTRUCT AND WIDEN SCOTT ROAD FROM 2 TO 6 LANES BETWEEN EL CENTRO AND SR79 (WINCHESTER RD)	2035	$26,511
LOCAL HIGHWAY	BANNING	RIV180103	0	SUNLAKES BLVD	HIGHLAND HOME RD	SUNSET AVE	SUN LAKES BLVD EASTERLY EXTENSION (APPROX 1.1 MILES) FROM HIGHLAND HOME RD TO LINCOLN ST AND SUNSET AVE, WIDEN TO 4 LANES (2 LANES EACH DIRECTION), RAISED MEDIAN, AND CONSTRUCTION OF TWO BRIDGES.	2027	$21,000
LOCAL HIGHWAY	TBD	RIV180119	0	BARTON DRIVE	CAMINO DEL SOL	GROVE COMMUNITY DR	CONSTRUCT EXTENSION OF 2-LANE LOCAL CONNECTOR ON BARTON DR FROM CAMINO DEL SOL TO GROVE COMMUNITY DR.	2024	$4,000
LOCAL HIGHWAY	TBD	RIV180120	0	CACTUS AVE	MERIDIAN PKWY	BARTON DR	CONSTRUCT EXTENSION OF CACTUS AVE FROM MERIDIAN PKWY TO BARTON DR WITH 4-LANE ARTERIAL WITH CENTER MEDIAN.	2024	$6,800
LOCAL HIGHWAY	TBD	RIV180121	0	SAN GORGONIA AVE	ALESSANDRO BLVD	CACTUS AVE	CONSTRUCT EXTENSION OF SAN GORGONIO DR FROM ALESSANDRO BLVD TO CACTUS AVE WITH 4-LANE ARTERIAL WITH CENTER MEDIAN.	2024	$4,000
LOCAL HIGHWAY	BEAUMONT	RIV180129	0	PENNSYLVANIA AVE / UPRR GS	1ST STREET	6TH STREET	GRADE SEPERATION UNDER CROSSING AT PENNSYLVANIA AVE AND UPRR, INCLUDING WIDENING OF PENNSYLVANIA AVE FROM 1ST ST TO 6TH ST FROM 2 TO 4 LANES TO INCLUDE SIDEWALK IMPROVEMENTS AND TRAFFIC SIGNALIZATION.	2022	$36,000
PASSENGER RAIL	RIVERSIDE COUNTY TRANSPORTATION COMMISSION (RCTC)	3200T008	91/ PERRIS VALLEY LINE	91/ PERRIS VALLEY LINE	PERRIS SOUTH METROLINK STATION	PERRIS SOUTH METROLINK STATION	PERRIS SOUTH METROLINK STATION IMPROVEMENTS - ADDITION OF A SECOND TRACK AND PLATFORM THROUGH STATION, STARTING EAST OF THE SAN JACINTO RIVER; INCLUDING A FOURTH LAYOVER TRACK AT THE SOUTH PERRIS LAYOVER FACILITY.	2030	$18,000
PASSENGER RAIL	RCTC/SCRRA	3CR0701	0	METROLINK COMMUTER RAIL	THROUGHOUT RIVERSIDE, ORANGE COUNTY, & LOS ANGELES COUNTY	THROUGHOUT RIVERSIDE, ORANGE COUNTY, & LOS ANGELES COUNTY	METROLINK COMMUTER RAIL EXISTING LINES SERVICES EXPANSION - RIVERSIDE, 91, AND IEOC LINES	2045	$11,180
PASSENGER RAIL	RIVERSIDE COUNTY TRANSPORTATION COMMISSION (RCTC)	3CR0702	0	PERRIS VALLEY LINE EXTENSION TO SAN JACINTO	CITY OF PERRIS	CITY OF SAN JACINTO	RAPID COMMUTER CORRIDOR FROM PERRIS TO SAN JACINTO	2045	$256,007
PASSENGER RAIL	RIVERSIDE COUNTY TRANSPORTATION COMMISSION (RCTC)	3CR104	0	METROLINK COMMUTER RAIL	COUNTYWIDE	COUNTYWIDE	METROLINK IMPROVEMENTS(TRACK AND ROLLING STOCK)	2035	$10,000

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Riverside									
STATE HIGHWAY	RCTC	3160002	15	I-15	SR74 (PM 22.3)	TO JCT. I-15/I-215 (PM 8.7)	CONSTRUCT 2 HOV LNS (1 LN EA DIR) FROM SR74 (PM 22.3) TO JCT I-15/I-215 (PM 8.7).	2039	$375,664
STATE HIGHWAY	CALIMESA	3200S001	10	SANDALWOOD DRIVE	SHADY BROOK ROAD	CALIMESA BLVD.	IN RIVERSIDE COUNTY IN THE CITY OF CALIMESA - RECONSTRUCTION OF EXISTING INTERCHANGE AT I-10 AT SANDALWOOD DRIVE. IMPROVE EXISTING OVERCROSSING FROM SHADY BROOK ROAD TO CALIMESA BLVD. AND RAMP REALIGNMENT FOR ALL FOUR RAMPS WITH MINOR RAMP WIDENING.	2030	$42,000
STATE HIGHWAY	CALTRANS	3200S002	15	I-15	RANCHO CALIFORNIA RD	TEMECULA PKWY	ON I-15 IN CITY OF TEMECULA: CONSTRUCT SB AUXILIARY FROM WINCHESTER RD ON-RAMP TO RANCHO CALIFORNIA OFF-RAMP, SB AUX LANE FROM RANCHO CALIFORNIA RD ON-RAMP TO TEMECULA PARKWAY OFF-RAMP, AND NB AUX LANE FROM RANCHO CALIFORNIA RD ON-RAMP TO WNCHESTER RD-OFF RAMP.	2027	$26,762
STATE HIGHWAY	CALTRANS	3200S003	15	I-15	TEMECULA PKWY	RANCHO CALIFORNIA RD	CONSTRUCT NB AUXILIARY LANE FROM 0.4 MI N/O TEMECULA PKWY ON-RAMP TO RANCHO CALIFORNIA RD OFF-RAMP	2027	$6,298
STATE HIGHWAY	CALTRANS	3200S006	15	I-15	TEMESCAL CANYON RD	CAJALCO RD	CONSTRUCT NB & SB AUXILIARY LANES FROM 0.25 MI N/O TEMESCAL CANYON RD IC TO 0.17 MI N/O CAJALCO RD IC	2027	$26,609
STATE HIGHWAY	RIVERSIDE COUNTY TRANSPORTATION COMMISSION (RCTC)	3200S010	15	I-15	CAJALCO ROAD	WEIRICK ROAD	CONSTRUCT 1 EXPRESS LN NORTHBOUND FROM BEDFORD CANYON WASH TO CAJALCO ROAD (APPROX. 2000').	2025	$28,000
STATE HIGHWAY	RIVERSIDE COUNTY TRANSPORTATION COMMISSION (RCTC)	3200S011	91	SR-91	GREEN RIVER ROAD	SR-241	CONSTRUCT 1 LN WESTBOUND FROM GREEN RIVER ROAD TO SR-241	2022	$50,000
STATE HIGHWAY	RIVERSIDE COUNTY TRANSPORTATION COMMISSION (RCTC)	3200S012	60	SR-60	I-15	TO I-215/SR-91 INTERCHANGE	CONSTRUCT 4 EXPRESS LNS (2 LN EA DIR) FROM I-15 TO I-215/SR-91 INTERCHANGE.	2033	$381,000
STATE HIGHWAY	RIVERSIDE COUNTY TRANSPORTATION COMMISSION (RCTC)	3200S013	60	SR-60/I-215	SR-91/ SR-60/I-215 INTERCHANGE	GILMAN SPRINGS RD (SR-60) AND VAN BUREN BLVD (I-215)	CONSTRUCT 4 EXPRESS LNS (2 LN EA DIR) FROM SR-91/SR-60/I-215 INTERCHANGE TO SR-60/I-215 INTERCHANGE. CONSTRUCT 2 EXPRESS LNS (1 LN EA DIR) FROM SR-60/I-215 INTERCHANGE TO GILMAN SPRINGS ROAD (SR-60). CONSTRUCT 2 EXPRESS LNS (1 LN EA DIR) FROM SR-60/I-215 INTERCHANGE TO VAN BUREN BLVD (I-215).	2028	$508,000
STATE HIGHWAY	RIVERSIDE COUNTY TRANSPORTATION COMMISSION (RCTC)	3200S014	91	SR-91	I-15	TO I-215/SR-60 INTERCHANGE	CONSTRUCT 2 EXPRESS LNS (1 LN EA DIR) FROM I-15 TO I-215/SR-60 INTERCHANGE.	2030	$220,000

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Riverside									
STATE HIGHWAY	PALM SPRINGS	3A01CV098	111	VISTA CHINO	N. PALM CANYON DR	SUNRISE WAY	WIDEN FROM 4 TO 6 LANES	2031	$8,404
STATE HIGHWAY	CALTRANS	3A04A26	15	I-15	AT BELLEGRAVE AVE	BTWN HAMNER AVE & WINEVILLE RD	ADD SIGNALS AND RAMPS. 0.1 MI.	2030	$5,492
STATE HIGHWAY	MENIFEE	3A04A27	215	I-215 (PM 15.95 TO 16.95)	AT GARBANI RD	BTWN HAUN RD & ANTELOPE RD	CONSTRUCT NEW 4 LANE (2 LNS EAC DIR) AND RAMPS	2030	$60,573
STATE HIGHWAY	JURUPA VALLEY	3A04A29	60	SR-60 (PM 9.06 TO 10.06)	AT RUBIDOUX BLVD	BTWN 30TH & 34TH STS	RECONSTRUCT/WIDEN IC, RAMPS AND CHANNELIZATION IMPROVEMENTS	2030	$28,507
STATE HIGHWAY	EASTVALE	3A04A30	60	SR-60 (PM SBD 9.46 TO 10.46)	AT MILLIKEN AVE	BTWN HARREL AVE & IBERIA	RECONSTRUCT/WIDEN IC, RAMPS, AND CHANNELIZATION IMPROVEMENTS	2020	$4,133
STATE HIGHWAY	RIVERSIDE COUNTY	3A04SH12	79	SR-79	HUNTER RD	DOMENIGONI PKWY	WIDEN FROM 4 TO 6 LANES	2030	$124,803
STATE HIGHWAY	BEAUMONT	3A04WT003	10	I-10 (PM 8.81 TO 9.81)	AT HIGHLAND SPRINGS AVE	BTWN 5TH ST AND SOUTH RAMPS	RECONSTRUCT/WIDEN HIGHLAND SPRINGS AVE IC FROM 4 TO 6 LANES AND RECONSTRUCT/WIDEN RAMPS	2035	$65,458
STATE HIGHWAY	RIVERSIDE COUNTY	3A04WT190	0	SR-74 (ETHANAC)	MATTHEWS RD	SR-79 (WINCHESTER)	WIDEN FROM 2 TO 6 LANES IN THE CITY OF MENIFEE (MATTHEWS TO BRIGGS). WIDEN FROM 4 TO 6 LANES IN RIVERSIDE COUNTY (BRIGGS TO SR-79).	2045	$24,109
STATE HIGHWAY	RIVERSIDE COUNTY	3A04WT191	0	SR-74	I-15	ETHANAC RD	WIDEN FROM 4 TO 6 LANES	2035	$29,799
STATE HIGHWAY	RIVERSIDE COUNTY	3A07186	0	AVE 62	AVE 62 SR-86 IC	BTWN W/O SR111 TO BUCHANAN ST	CONSTRUCT NEW IC AND RAMPS AND WIDEN OC FROM 2 TO 6 LANES	2040	$67,863
STATE HIGHWAY	RIVERSIDE COUNTY	3A07195	111	SR-111	AVE 66 / SR86 IC	BTWN W/O BUCHANAN ST AND E/O SR86	CONSTRUCT NEW IC AND RAMPS AND WIDEN OC FROM 2 TO 6 LANES	2040	$68,423

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Riverside									
STATE HIGHWAY	RIVERSIDE COUNTY TRANSPORTATION COMMISSION (RCTC)	3C01MA01	0	EAST-WEST CORRIDOR	I-15	I-215	CETAP: PROVIDE NEW EAST-WEST TRANSPORTATION CORRIDOR BETWEEN I-15 IN THE WEST, I-215 IN THE EAST, SOUTH OF LAKE MATHEWS IN THE NORTH, AND SR 74 IN THE SOUTH.	2045	$2,367,661
STATE HIGHWAY	RIVERSIDE COUNTY TRANSPORTATION COMMISSION (RCTC)	3ITS0717	0	FREEWAY SERVICE PATROL			RIVERSIDE COUNTY FREEWAY SERVICE PATROL	2025	$30,000
STATE HIGHWAY	COACHELLA	3M01CV03	86	SR-86S (PM 17.81 TO 18.81)	AT AVE 54	BTWN SR-111 RAMP; FILLMORE	CONSTRUCT 4 LANE BRIDGE/INTERCHANGE AND RAMPS ACROSS SR-86S	2035	$92,843
STATE HIGHWAY	RIVERSIDE COUNTY TRANSPORTATION COMMISSION (RCTC)	3M01MA09	71	SR-71	SR-91	SAN BERNARDINO COUNTY LINE	WIDEN TO 3 MF LANES EACH DIRECTION	2030	$177,132
STATE HIGHWAY	JURUPA VALLEY	3M01WT020	60	SR-60 (PM 2.53 TO 3.53)	AT MISSION BLVD	BTWN GRANITE HILL DR & SEVAINE WAY	RECONSTRUCT INTERCHANGE/RAMPS	2035	$65,604
STATE HIGHWAY	RIVERSIDE, CITY OF	3M01WT026	91	SR-91 (PM 12.9 TO 13.1)	AT TYLER ST	BTWN DIANA AVE & INDIANA AVE	RECONSTRUCT/WIDEN IC AND RECONSTRUCT/WIDEN RAMPS	2030	$75,000
STATE HIGHWAY	RIVERSIDE COUNTY TRANSPORTATION COMMISSION (RCTC)	3M04MA05	10	I-10/SR-60 JCT/SPLIT	SR60/I-10 JCT/ SPLIT		CONSTRUCT NEW INTERCHANGE	2030	$282,443
STATE HIGHWAY	BEAUMONT	3M04WT001	10	I-10 (PM 7.07 TO 8.07)	AT SR-79/ BEAUMONT AVE	BTWN 6TH ST AND 1ST ST	RECONSTRUCT/WIDEN SR-79/BEAUMONT AVE IC FROM 4 TO 6 LANES AND RECONSTRUCT/WIDEN RAMPS	2027	$28,130
STATE HIGHWAY	BEAUMONT	3M04WT004	10	I-10 (PM 7.71 TO 8.71)	AT PENNSYLVANIA AVE	BTWN 6TH ST AND 3RD ST	RECONSTRUCT PENNSYLVANIA AVE IC AND RECONSTRUCT/WIDEN RAMPS	2030	$29,435
STATE HIGHWAY	NORCO	3M04WT005	15	I-15 (PM 45.1 TO 46.1)	AT 6TH ST	BTWN HAMNER AVE & SIERRA AVE	RECONSTRUCT INTERCHANGE/RAMPS/CHANNELIZATION IMPROVEMENTS	2030	$23,916

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Riverside									
STATE HIGHWAY	NORCO	3M04WT007	15	I-15 (PM 42.37 TO 43.37)	AT HIDDEN VALLEY PKWY	BTWN HAMNER AVE & BEYOND NB EXIT RAMP	RECONSTRUCT INTERCHANGE/RAMPS/CHANNELIZATION IMPROVEMENTS	2025	$4,403
STATE HIGHWAY	MORENO VALLEY	3M04WT017	60	SR-60 (PM 14.84 TO 15.84)	AT HEACOCK ST	BTWN HEMLOCK AVE & SUNNYMEAD BLVD	WIDEN/RECONSTRUCT HEACOCK IC, RAMPS, AND CHANNELIZATION IMPROVEMENTS. NO ADDITIONAL LANES PLANNED.	2028	$23,873
STATE HIGHWAY	RIVERSIDE, CITY OF	3M04WT018	60	SR-60 (PM 11.23 TO 12.23)	AT MAIN ST	BTWN RUSSELL ST & STODDARD AVE	RECONSTRUCT/WIDEN IC AND RECONSTRUCT/WIDEN RAMPS, CHANNELIZATION IMPROVEMENTS	2030	$20,304
STATE HIGHWAY	PERRIS	3M0708	215	I-215 (PM 30.9)	AT RAMONA EXPWY	BTWN RAMPS	RECONSTRUCT/WIDEN FROM 4 TO 8 LANES, WIDEN SB AND NB EXIT RAMPS AT I-215/RAMONA EXPWY IC AND OC, CONSTRUCT DUAL LEFT-TURN LANES AT THE EXIT RAMPS TEMINI	2035	$86,469
STATE HIGHWAY	MORENO VALLEY	3M0713	60	SR-60 (PM 15.85 TO 16.85)	AT PERRIS BLVD	BTWN SUNNYMEAD BLVD & IRONWOOD	RECONSTRUCT/WIDEN ARTERIAL FROM 4 TO 6 LANES AND RECONSTRUCT/ WIDEN RAMPS	2026	$37,379
STATE HIGHWAY	COACHELLA	3M0715	10	I-10 (PM 58.39 TO 59.39)	AT DILLON RD	BTWN VISTA DEL NORTE AND VISTA DEL SUR	RECONSTRUCT/WIDEN IC RAMPS	2028	$26,000.00
STATE HIGHWAY	COACHELLA	3M0716	86	SR86S (PM 21.02 TO 22.9)	AT DILLON RD	BTWN WEST OF COACHELLA STORM WATER CHANNEL AND AVENUE 47	RECONSTRUCT/WIDEN IC FROM 2 TO 4 LANES AND RECONSTRUCT/WIDEN RAMPS	2027	$26,851
STATE HIGHWAY	TEMECULA	3M0721	15	I-15 (PM 4.48 TO 5.48)	AT I-15/RANCHO CALIFORNIA	BTWN YNEZ RD AND JEFFERSON AVE	RECONFIGURE 4 TO 6 LANE IC AND RAMPS AT I-15 AND RANCHO CALIFORNIA. TYPE OF LANES FOR ARTERIAL WIDENING WILL BE THROUGH LANES.	2035	$59,124
STATE HIGHWAY	RIVERSIDE COUNTY	3M0724	215	I-215 (PM 35.92 TO 36.92)	AT ALESSANDRO BLVD	BTWN BNSF & OLD 215 FRONTAGE ROAD	WIDEN/RECONSTRUCT IC FROM 4 TO 6 LANES AND RECONSTRUCT/WIDEN RAMPS	2045	$30,000
STATE HIGHWAY	WILDOMAR	3M0727	15	I-15 (PM 15.8 TO 16.8)	AT BUNDY CANYON RD	BTWN ORANGE ST AND CHERRY ST	RECONSTRUCT/WIDEN BUNDY CANYON RD IC FROM 2 TO 4 LANES AND RECONSTRUCT RAMPS	2040	$24,112

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Riverside									
STATE HIGHWAY	RIVERSIDE COUNTY	3M0728	15	I-15 (PM 32.60 TO 33.60)	AT TEMESCAL CANYON	NORTH OF LAWSON RD JUST BEYOND AND BTWN RAMPS	RECONSTRUCT/WIDEN TEMESCAL CANYON IC FROM 2 TO 4 LANES AND RECONSTRUCT RAMPS	2040	$30,000
STATE HIGHWAY	RIVERSIDE COUNTY	3M0729	15	I-15 (28.36 TO 29.36)	AT HORSETHIEF CANYON RD	JUST BEYOND AND BTWN RAMPS	RECONSTRUCT/WIDEN IC FROM 2 TO 4 LANES AND RECONSTRUCT RAMPS	2035	$56,079
STATE HIGHWAY	PERRIS	3M0731	215	I-215 (PM 24.7 TO 26.1)	AT ELLIS AVE	BTWN PERRIS VALLEY STORM DRAIN W/O I-215 TO DUNLAP DR E/O I-215	CONSTRUCT NEW 2 LANE IC AND RAMPS (1 LANE)	2040	$130,412
STATE HIGHWAY	NORCO	3M0733	15	I-15 (PM 43.13 TO 44.13)	AT 2ND ST	BTWN HAMNER AVE & VALLEY VIEW AVE	RECONSTRUCT/WIDEN IC FROM 2 TO 4 LANES AND WIDEN RAMPS	2028	$7,863
STATE HIGHWAY	LAKE ELSINORE	3M0734	15	I-15	AT MALAGA RD	BTWN CASINO DR LAKEVIEW TERRACE AND GRAPE ST	CONSTRUCT NEW 4 LANE OC OVER I-15	2028	$35,346
STATE HIGHWAY	LAKE ELSINORE	3M0736	15	I-15 (PM 23.35 TO 24.35)	AT NICHOLS RD	BTWN RAMPS	RECONSTRUCT/WIDEN IC FROM 2 TO 6 LANES AND RECONSTRUCT/WIDEN RAMPS	2025	$47,122
STATE HIGHWAY	LAKE ELSINORE	3M0737	15	I-15	AT LAKE ST	BTWN WALKER CYN RD TEMESCAL CYN RD	RECONSTRUCT/WIDEN IC FROM 2 TO 6 LANES AND RECONSTRUCT/WIDEN RAMPS	2025	$20,275
STATE HIGHWAY	RIVERSIDE COUNTY TRANSPORTATION COMMISSION (RCTC)	3TK04MA12	10	I-10	SAN BERNARDINO COUNTY LINE	JCT I-10/SR60	ON I-10 NEAR BEAUMONT: ADD/CONSTRUCT NEW EASTBOUND TRUCK CLIMBING LANE FROM SAN BERNARDINO COUNTY LINE TO I-10/ SR60 JCT (EA: 35300)	2028	$35,709
STATE HIGHWAY	CALTRANS	RIV010210	10		17.3	19.3	I-10/MORONGO PKWY IC - CONSTRUCT NEW MORONGO PKWY OC (4 THROUGH LANES) AND RAMPS BETWEEN SEMINOLE DR AND MAIN ST. ADDITIONAL IMPROVEMENTS TO EXISTING APACHE TRAIL IC (R17.657) AND MAIN ST IC (R19.398) INCLUDE THE ADDITION OF EB/WB AUX LANES (APACHE TR IC TO MORONGO PKWY IC, THEN TO MAIN ST IC) AND WIDENING OF SEMINOLE DR 2 TO 4 THROUGH LANES (EA: OA650, PPNO: T0061)	2040	$49,500

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000'S)
County: Riverside									
STATE HIGHWAY	RIVERSIDE COUNTY	RIV011232B	215	I-215	ANTELOPE RD.	HAUN RD.	AT I-215/SCOTT RD IC: WIDEN FROM 6 TO 11 LANES (7 THRU AND 4 TURN) BTWN ANTELOPE RD AND HAUN RD - RECONSTRUCT/WIDEN RAMPS - NB EXIT INCLUDING DECELERATION LN; SB ENTRY RAMP (1 TO 2 LNS); ENTRY RAMPS INCLUDE HOV LN; RAMPS INCLUDE EXTENDED ACCELERATION/ DECELERATION LANES, ADD EXTENDED RIGHT-TURN LNS. - PH II.	2038	$58,573
STATE HIGHWAY	RIVERSIDE COUNTY	RIV050531	0	I-15	@ NEW EASTERN BYPASS IC S/O TEMECULA		ON I-15 S/O TEMECULA - CONSTRUCT NEW EASTERN BYPASS/I-15 IC (4 LANES) & RAMPS (1 LANE) AND 4 LANE (2 LNS EACH DIR) EASTERLY CONNECTING ROAD (APPROX 2 MILES)	2045	$90,000
STATE HIGHWAY	EASTVALE	RIV050532	15	SCHLEISMAN RD	LINDSEY CT	WINEVILLE AVE	ON I-15 NEAR THE CITY OF NORCO - CONSTRUCT NEW SCHLEISMAN RD IC (6 THROUGH LANES) AND RAMPS (2 LANES) AND NB/SB AUX LANE BETWEEN SCHLEISMAN RD IC AND LIMONITE RD IC (EA: 0E140K)	2035	$91,481
STATE HIGHWAY	MORENO VALLEY	RIV071241	0	SR-60	GRAHAM ST OC		IN MORENO VALLEY ON GRAHAM ST: CONSTRUCT 4 THROUGH LANE OC (2 LANES EACH DIR) OVER SR60 BETWEEN SUNNYMEAD BLVD AND HEMLOCK AVE, ADD SIGNALS AT HEMLOCK, LEFT-TURN POCKET LANES AT BOTH INTERSECTIONS, AND ADD PEDESTRIAN SIDEWALK (APPROX 1/4 MILES) ON OC BOTH SIDES	2026	$22,000
STATE HIGHWAY	BANNING	RIV180104	10	I-10/HIGHLAND SPRINGS	275' N/O THE W/B OFF/ON RAMPS	250' S/O THE E/B OFF/ON RAMPS	I-10/HIGHLAND SPRINGS IC IMPROVEMENTS - WIDEN FROM 5 TO 7 THRU LANES FROM 275 FT N/O THE W/B OFF/ON RAMPS TO 250 FT S/O THE E/B OFF/ON RAMPS, WIDEN EXISTING 2 LN W/B OFF RAMP TO 4 LNS & 2 LN E/B OFF RAMPS TO 4 LNS, ENTRY RAMPS TO INCLUDE HOV PREFERENCIAL LANE AND EXTENDED ACCELERATION/DECELERATION LANE.	2029	$85,000
TRANSIT	RIVERSIDE TRANSIT AGENCY	3120028	0	40' BUSES (DIRECTLY-OPERATED) EXPANSION	WESTERN RIVERSIDE COUNTY	WESTERN RIVERSIDE COUNTY	40' BUS EXPANSION - EQUIPMENT FOR TRANSIT SERVICE EXPANSION AS POPULATION AND URBAN DEVELOPMENT GROWS THROUGHOUT THE RTA SERVICE AREA THAT WILL IMPROVE FREQUENCY, SCHEDULE ADHERENCE, AND EXTENSIONS OF EXISTING BUS ROUTES.	2028	$21,466
TRANSIT	RIVERSIDE TRANSIT AGENCY	3120029	0	TYPE VII BUSES (CONTRACT-OPERATED) EXPANSION	WESTERN RIVERSIDE COUNTY	WESTERN RIVERSIDE COUNTY	TYPE VII BUS EXPANSION - EQUIPMENT FOR TRANSIT SERVICE EXPANSION AS POPULATION AND URBAN DEVELOPMENT GROWS THROUGHOUT THE RTA SERVICE AREA THAT WILL IMPROVE FREQUENCY, SCHEDULE ADHERENCE, AND EXTENSIONS OF EXISTING BUS ROUTES.	2045	$3,682
TRANSIT	RIVERSIDE TRANSIT AGENCY	3120030	0	40' BUSES (DIRECTLY-OPERATED) RAPLACEMENT	WESTERN RIVERSIDE COUNTY	WESTERN RIVERSIDE COUNTY	40' BUS REPLACEMENTS - EQUIPMENT FOR TRANSIT SERVICE SUSTAINABILITY THROUGHOUT THE RTA SERVICE AREA WITH OPERATIONAL LEVELS FROM 10-MIN. TO 60-MIN. HEADWAYS.	2026	$328,254

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000'S)
County: Riverside									
TRANSIT	RIVERSIDE TRANSIT AGENCY	3120031	0	TYPE VII BUSES (CONTRACT-OPERATED) REPLACEMENT	WESTERN RIVERSIDE COUNTY	WESTERN RIVERSIDE COUNTY	TYPE VII BUS REPLACEMENTS - EQUIPMENT FOR TRANSIT SERVICE SUSTAINABILITY THROUGHOUT THE RTA SERVICE AREA WITH OPERATIONAL LEVELS FROM 10-MIN. TO 60-MIN. HEADWAYS.	2045	$149,830
TRANSIT	RIVERSIDE TRANSIT AGENCY	3120034	0	REGIONAL FLYER VEHICLE FLEET	WESTERN RIVERSIDE COUNTY	WESTERN RIVERSIDE COUNTY	BUSES FOR EXPRESS AND RAPID BUS SERVICE EXPANSION OF RTA.	2030	$17,600
TRANSIT	RIVERSIDE TRANSIT AGENCY	3160043	0	OPERATING & MAINTENANCE FACILITIES/ SUPPORT INFRASTRUCTURE MASTER PLAN AND IMPLEMENTATION	WESTERN RIVERSIDE COUNTY	WESTERN RIVERSIDE COUNTY	PREPARE OPERATING & MAINTENANCE FACILITIES/SUPPORT INFRASTRUCTURE MASTER PLAN TO MEET FUTURE PUBLIC TRANSIT NEEDS OF RTA'S SERVICE AREA. SUPPORT INFRASTRUCTURE INCLUDES BUT IS NOT LIMITED TO A SOLAR POWER PLANT, CHARGING STATIONS, AND RELATED EQUIPMENT TO INTRODUCE ZERO EMISSION BUSES, VANS, AND SUPPORT VEHICLES. IMPLEMENTATION INCLUDES PLANNING, LAND ACQUISITION, ENVIRONMENTAL CLEARANCE, ARCHITECTURAL & ENGINEERING, AND CONSTRUCTION.	2045	$50,000
TRANSIT	RIVERSIDE TRANSIT AGENCY	3160045	0	HIGH QUALITY TRANSIT COORIDOR INFRASTRUCTURE IMPROVEMENTS	WESTERN RIVERSIDE COUNTY	WESTERN RIVERSIDE COUNTY	HIGH QUALITY TRANSIT CORRIDOR INSTRASTRUCTURE FOR RTA'S ADDITIONAL RAPIDLINK ROUTES. PLAN FOR LAND ACQUISITION, ENVIRONMENTAL CLEARANCE, ARCHITECTURAL & ENGINEERING, AND CONSTRUCTION.	2045	$10,000
TRANSIT	RIVERSIDE TRANSIT AGENCY	3160046	0	TYPE II BUSES (DIAL-A-RIDE) EXPANSION	WESTERN RIVERSIDE COUNTY	WESTERN RIVERSIDE COUNTY	EXPANSION EQUIPMENT FOR PARATRANSIT (DIAL-A-RIDE) TRANSIT SERVICE AS POPULATION AND URBAN DEVELOPMENT GROWS THROUGHOUT RTA'S SERVICE AREA.	2045	$6,460
TRANSIT	RIVERSIDE TRANSIT AGENCY	3160047	0	TROLLEY BUS EXPANSION	WESTERN RIVERSIDE COUNTY	WESTERN RIVERSIDE COUNTY	TROLLEY BUS EXPANSION FOR TRANSIT SERVICE IMPROVEMENTS, INCLUDING BUT NOT LIMITED TO, FREQUENCY ENHANCEMENTS, SCHEDULE ADHERENCE, AND EXTENSION OF EXISTING BUS ROUTES	2040	$2,938
TRANSIT	RIVERSIDE TRANSIT AGENCY	3160048	0	NON-REVENUE SUPPORT CARS EXPANSION	WESTERN RIVERSIDE COUNTY	WESTERN RIVERSIDE COUNTY	NON-REVENUE SUPPORT CARS EXPANSION.	2028	$102
TRANSIT	RIVERSIDE TRANSIT AGENCY	3160049	0	NON-REVENUE SUPPORT TRUCKS	WESTERN RIVERSIDE COUNTY	WESTERN RIVERSIDE COUNTY	NON-REVENUE SUPPORT TRUCKS EXPANSION.	2045	$1,876
TRANSIT	RIVERSIDE TRANSIT AGENCY	3160050	0	TYPE II BUSES (DIAL-A-RIDE) REPLACEMENT	WESTERN RIVERSIDE COUNTY	WESTERN RIVERSIDE COUNTY	REPLACEMENT PARTRANSIT (DIAL-A-RIDE) TYPE II BUSES FOR TRANSIT SERVICE SUSTAINABILITY THROUGHOUT THE RTA SERVICE AREA.	2045	$77,778

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Riverside									
TRANSIT	RIVERSIDE TRANSIT AGENCY	3160051	0	TROLLEY BUS REPLACEMENT	WESTERN RIVERSIDE COUNTY	WESTERN RIVERSIDE COUNTY	REPLACEMENT TROLLEY BUSES FOR TRANSIT SUSTAINABILITY THROUGHOUT THE RTA SERVICE AREA WITH OPERATIONAL LEVELS FROM 10-MIN TO 60-MIN HEADWAYS.	2036	$3,526
TRANSIT	RIVERSIDE TRANSIT AGENCY	3160052	0	NON-REVENUE SUPPORT CARS REPLACEMENT	WESTERN RIVERSIDE COUNTY	WESTERN RIVERSIDE COUNTY	NON-REVENUE SUPPORT CARS REPLACEMENT.	2045	$6,120
TRANSIT	RIVERSIDE COUNTY TRANSPORTATION COMMISSION (RCTC)	3160053	0	PARK & RIDE FACILITIES	COUNTYWIDE	COUNTYWIDE	PARK & RIDE FACILITIES IN RIVERSIDE COUNTY	2030	$50,000
TRANSIT	RIVERSIDE COUNTY TRANSPORTATION COMMISSION (RCTC)	3160055	0	TRANSPORTATION DEMAND MANAGEMENT	COUNTYWIDE	COUNTYWIDE	RIVERSIDE COUNTY TRANSPORTATION DEMAND MANAGEMENT: RIDESHARE PROGRAMS, INCENTIVES, VANPOOL PROGRAM (VANPOOL LEASE, ASSET MANAGEMENT, CONSULTANTS, OTHER), PROGRAM OUTREACH, ETC.	2026	$16,000
TRANSIT	CITY OF RIVERSIDE	3160058	0	REPLACEMENT BUSES	CITY OF RIVERSIDE	CITY OF RIVERSIDE	REPLACEMENT CNG BUSES FOR PARATRANSIT SERVICES.	2026	$567
TRANSIT	CITY OF RIVERSIDE	3160059	0	CAPITALIZED PREVENTATIVE MAINTENANCE	CITY OF RIVERSIDE	CITY OF RIVERSIDE	CAPITALIZED PREVENTATIVE MAINTENANCE	2026	$400
TRANSIT	RIVERSIDE TRANSIT AGENCY	3160060	0	HIGH QUALITY TRANSIT CORRIDOR RIVERSIDE/ MORENO VALLEY/ PERRIS	RIVERSIDE	PERRIS	PLANNING AND DEVELOPMENT FOR HIGH QUALITY TRANSIT SERVICE RAPIDLINK SERVICE BETWEEN RIVERSIDE, MORENO VALLEY, AND PERRIS, INCLUDING BUT NOT LIMITED TO, ROLLING STOCK, TRANSIT SIGNAL PRIORITY, AND ENHANCED STOP INFRASTRUCTURE.	2035	$25,000
TRANSIT	RIVERSIDE TRANSIT AGENCY	3160061	0	NON-REVENUE SUPPORT TRUCKS REPLACEMENT	WESTERN RIVERSIDE COUNTY	WESTERN RIVERSIDE COUNTY	NON-REVENUE SUPPORT TRUCKS REPLACEMENT	2045	$4,691
TRANSIT	SUNLINE TRANSIT AGENCY	3160062	0	NEW OPERATIONS AND MAINTENANCE FACILITY AT THOUSAND PALMS DIVISION	THOUSAND PALMS	THOUSAND PALMS	CONSTRUCT NEW FACILITY AT THOUSAND PALMS LOCATION TO ACCOMMODATE EXISTING AND EXPANSION FLEET AS THE CURRENT FACILITY IS NEARING THE END OF ITS USEFUL LIFE.	2025	$45,000

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Riverside									
TRANSIT	SUNLINE TRANSIT AGENCY	3160063	0	WEST COAST CENTER OF EXCELLENCE FACILITY AT DIVISION I IN THOUSAND PALMS, CA	THOUSAND PALMS	THOUSAND PALMS	CONSTRUCT NEW TRAINING FACILLITY TO TRAIN AND EDUCATE STUDENTS IN TRANSIT, HYDROGEN, CNG, AND ADMINISTRATION INDUSTRY.	2025	$7,000
TRANSIT	SUNLINE TRANSIT AGENCY	3160064	0	NEW MAINTENANCE AND OPERATIONS FACILITY AT DIVISION II IN INDIO, CA	INDIO	INDIO	CONSTRUCT NEW OPERATIONS AND MAINTENANCE FACILITY AT THE INDIO DIVISION TO ACCOMMODATE EXISTING AND EXPANSION FLEET. CURRENT FACILITY HAS REACHED ITS USEFUL LIFE AND REPAIRING THE EXISTING FACILITY IS NO LONGER COST EFFECTIVE.	2025	$20,000
TRANSIT	SUNLINE TRANSIT AGENCY	3160065	0	NEW INTELLIGENT TRANSPORTATION SYSTEMS (ITS) PROGRAM	COACHELLA VALLEY	COACHELLA VALLEY	PURCHASE AND IMPLEMENTATION OF NEW ITS EQUIPMENT.	2025	$1,500
TRANSIT	SUNLINE TRANSIT AGENCY	3160066	0	NEW INFORMATION TECHNOLOGY (IT) PROJECT	COACHELLA VALLEY	COACHELLA VALLEY	PURCHASE AND IMPLEMENTATION OF NEW IT EQUIPMENT.	2025	$300
TRANSIT	CORONA	3200T001	0	EXPANSION BUSES	CITY OF CORONA	CITY OF CORONA	PURCHASE OF BUSES FOR EXPANSION AND SERVICE IMPROVEMENTS OF THE CORONA CRUISER FIXED ROUTE SYSTEM. THESE IMPROVEMENTS ARE NECESSARY AS POPULATION AND DEVELOPMENT CONTINUES TO GROW THROUGOUT THE SERVICE AREA. BUSES WILL BE USED FOR EXPANSION OF SERVICE AND SERVICE IMPROVEMENTS TO CURRENT ROUTES. SERVICE IMPROVEMENTS WILL INCLUDE IMPROVED FREQUENCY AND EXTENSIONS OF THE CURRENT ROUTES.	2026	$3,500
TRANSIT	CORONA	3200T002	0	TRANSIT SERVICE EXPANSION	CITY OF CORONA	CITY OF CORONA	EXPANSION OF FIXED ROUTE SERVICE AS POPULATION AND DEVELOPMENT CONTINUES TO GROW THROUGHOUT THE SERVICE AREA. EXPANSION OF SERVICE WILL BE DEPENDENT UPON THE OUTCOME AND RECOMMENDATIONS FROM THE COMPREHENSIVE OPERATIONS ANALYSIS.	2026	$1,500
TRANSIT	CORONA	3200T003	0	TRANSIT SERVICE IMPROVEMENTS	CITY OF CORONA	CITY OF CORONA	SERVICE IMPROVEMENTS TO CURRENT ROUTES WHICH INCLUDES BUT NOT LIMITED TO IMPROVING FREQUENCY, SCHEDULE ADHERENCE, EXTENSION OF EXISTING ROUTES (INCLUDE ADDING/DELETING STOPS WITH MORE FREQUENT STOPS TO THE METROLINK STATION). THESE IMPROVEMENTS WILL BE DEPENDENT UPON THE OUTCOME AND RECOMMENDATIONS FROM THE COMPREHENSIVE OPERATIONS ANALYSIS.	2023	$1,500

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000'S)
County: Riverside									
TRANSIT	CORONA	3200T004	0	TRANSIT SERVICE IMPROVEMENTS	CITY OF CORONA	CITY OF CORONA	EXPANSION AND/OR SERVICES IMPROVEMENTS OF CORONA TRANSIT FIXED ROUTE SERVICE AS POPULATION AND DEVELOPMENT CONTINUES TO GROW THROUGHOUT THE SERVICE AREA. IMPROVEMENTS INCLUDE BUT NOT LIMITED TO IMPROVING FREQUENCY, SCHEDULE ADHERENCE AND EXTENSION OF EXISTING ROUTES (INCLUDE ADDING/DELETING STOPS WITH MORE FREQUENT STOPS TO THE METROLINK STATION) AND EXPANSION OF SERVICE TO INCLUDE ADDITIONAL ROUTE(S). THESE IMPROVEMENTS TO THE TRANSIT SERVICE WILL BE DEPENDENT UPON THE OUTCOME AND RECOMMENDATIONS FROM THE COMPREHENSIVE OPERATIONS ANALYSIS.	2026	$3,000
TRANSIT	RIVERSIDE COUNTY TRANSPORTATION COMMISSION (RCTC)	3200T005	91/ PERRIS VALLEY LINE	91/ PERRIS VALLEY LINE	RIVERSIDE-DOWNTOWN METROLINK STATION	RIVERSIDE-DOWNTOWN METROLINK STATION	RIVERSIDE-DOWNTOWN STATION IMPROVEMENTS - INSTALL AN ADDITIONAL CENTER PLATFORM AND SIDING TRACK, EXTEND THE EXISTING PEDESTRIAN OVERPASS AND CONSTRUCT AN ADDITIONAL ELEVATOR FOR ADA COMPLIANCE. (SCORE PROJECT)	2027	$42,000
TRANSIT	RIVERSIDE COUNTY TRANSPORTATION COMMISSION (RCTC)	3200T006	91/ PERRIS VALLEY LINE	91/ PERRIS VALLEY LINE	MORENO VALLEY/ MARCH FIELD METROLINK STATION	MORENO VALLEY/ MARCH FIELD METROLINK STATION	MORENO VALLEY/ MARCH STATION IMPROVEMENT - STATION UPGRADE WITH ADDITIONAL PLATFORM AND A PEDESTRIAN OVERPASS.	2027	$41,000
TRANSIT	RIVERSIDE COUNTY TRANSPORTATION COMMISSION (RCTC)	3200T007	91/ PERRIS VALLEY LINE	91/ PERRIS VALLEY LINE	VARIOUS METROLINK STATIONS COUNTYWIDE	VARIOUS METROLINK STATIONS COUNTYWIDE	STATE OF GOOD REPAIR IMPROVEMENTS AT RCTC-OWNED STATIONS, INCLUDING BUT NOT LIMITED TO PAVEMENT REHAB, PLATFORM AND PASSENGER DROP OFF ENHANCEMENTS, FACILITY PAINTING PROJECTS, ELEVATOR MAINTENANCE, AND SAFETY RELATED PROJECTS.	2030	$140,000
TRANSIT	RIVERSIDE COUNTY TRANSPORTATION COMMISSION (RCTC)	3200T009	91/ PERRIS VALLEY LINE	91/ PERRIS VALLEY LINE	CP EASTRIDGE (MP 72.2)	CP NUEVO (MP 81.4)	PVL 2ND MAIN TRACK PROJECT INCLUDING APPROX 9 MILES OF SECOND MAIN TRACK FROM CONTROL POINT EASTRIDGE (MP 72.2) TO CONTROL POINT NUEVO (MP 81.4)	2030	$20,000
TRANSIT	RIVERSIDE TRANSIT AGENCY	3200T013	0	SAN JACINTO MOBILITY HUB	0	0	IN WESTERN RIVERSIDE COUNTY FOR RTA: PLANNING, ENVIRONMENTAL CLEARANCE, ENGINEERING AND CONSTRUCTION OF A TRANSIT HUB IN THE DOWNTOWN AREA OF THE CITY OF SAN JACINTO	2035	$200
TRANSIT	SUNLINE TRANSIT AGENCY	3200T014	0	LAND ACQUISTION	COACHELLA VALLEY	COACHELLA VALLEY	ACQUIRE LAND TO MEET AGENCY'S FUTURE GROWTH	2025	$5,000
TRANSIT	SUNLINE TRANSIT AGENCY	3200T015	0	TRANSIT SERVICE IMPROVEMENTS	COACHELLA VALLEY	COACHELLA VALLEY	SERVICE IMPROVEMENTS TO CURRENT AND FUTURE ROUTES WHICH INCLUDES BUT NOT LIMITED TO IMPROVING FREQUENCY, SCHEDULE ADHERENCE, EXTENSION OF EXISTING ROUTES	2045	$7,400

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Riverside									
TRANSIT	SUNLINE TRANSIT AGENCY	3200T016	0	WAREHOUSE REPLACEMENT	THOUSAND PALMS	THOUSAND PALMS	CONSTRUCT NEW PARTS WAREHOUSE BUILDING AND TIRE STORAGE BUILDING AT THOUSAND PALM LOCATION	2025	$2,400
TRANSIT	RIVERSIDE TRANSIT AGENCY	3TC04TR1	0	TRANSIT CENTER IN BANNING/ BEAUMONT/ CABAZON AREA	BANNING/ BEAUMONT/ CABAZON AREA	BANNING/ BEAUMONT/ CABAZON AREA	REGIONAL TRANSIT CENTER FOR MASS TRANSIT SERVICE IN WESTERN RIVERSIDE COUNTY IN THE VICINITY OF I-10 AND I-60 JUNCTION.	2035	$8,000
TRANSIT	RIVERSIDE TRANSIT AGENCY	3TC04TR10	0	TRANSIT CENTER IN LAKE ELSINORE/ CANYON LAKE AREA	LAKE ELSINORE/ CANYON LAKE	LAKE ELSINORE/ CANYON LAKE	REGIONAL TRANSIT CENTER FOR MASS TRANSIT SERVICE IN CENTRAL WESTERN RIVERSIDE COUNTY ALONG I-15 CORRIDOR.	2031	$7,000
TRANSIT	SUNLINE TRANSIT AGENCY	3TC04TR3	0	TRANSIT CENTERS	COACHELLA VALLEY	COACHELLA VALLEY	CONSTRUCT 3 TRANSIT CENTERS (WEST, CENTRAL, AND EAST VALLEY) IN COACHELLA VALLEY. LOCATIONS TO BE DETERMINED.	2025	$10,267
TRANSIT	RIVERSIDE TRANSIT AGENCY	3TC0702	0	ASSOCIATED TRANSIT ENHANCEMENTS	WESTERN RIVERSIDE COUNTY SERVICE AREA	WESTERN RIVERSIDE COUNTY	BUS STOP ENHANCEMENTS WITH SUPPORT EQUIPMENT, RELATED AMENITIES, AND LANDSCAPING TO KEEP PACE WITH NEW TECHNOLOGY IN THE AREAS OF CUSTOMER CONVENIENCES, SAFETY, ENVIRONMENTAL IMPROVEMENTS, ACCESSIBILITY, AND AESTHETIC VALUE.	2045	$17,500
TRANSIT	SUNLINE TRANSIT AGENCY	3TC0703	0	PARK-AND-RIDE LOTS	COACHELLA VALLEY	COACHELLA VALLEY	ACQUIRE PROPERTY AND CONSTRUCT 3 PARK AND RIDE LOTS	2030	$17,805
TRANSIT	SUNLINE TRANSIT AGENCY	3TL0407	0	TRANSFER LOCATION IMPROVEMENT	COACHELLA VALLEY	COACHELLA VALLEY	FACILITY IMPROVEMENT TO ACCOMMODATE ADDITIONAL SERVICE ROUTES BASED ON RECOMMENDATION FROM COMPREHENSIVE OPERATIONAL ANALYSIS	2025	$7,574
TRANSIT	SUNLINE TRANSIT AGENCY	3TL1007	0	PREVENTIVE MAINTENANCE	COACHELLA VALLEY	COACHELLA VALLEY	PURCHASE VEHICLE PARTS AND PAY FOR LABOR COST ASSOCIATED WITH ONGOING MAINTENANCE OF REVENUE VEHICLES	2040	$2,278
TRANSIT	SUNLINE TRANSIT AGENCY	3TL104	0	PARATRANSIT SERVICE IMPROVEMENTS	COACHELLA VALLEY	COACHELLA VALLEY	SERVICE IMPROVEMENTS FOR SENIORS AND PERSONS WITH DISABILITIES.	2025	$23,908
TRANSIT	SUNLINE TRANSIT AGENCY	3TL1107	0	CAPITALIZED PREVENTATIVE MAINTENANCE	COACHELLA VALLEY	COACHELLA VALLEY	EQUIPMENT FOR CONTINUED FACILITY MAINTENANCE, REPAIR AND REPLACEMENT.	2025	$331
TRANSIT	SUNLINE TRANSIT AGENCY	3TL1207	0	MISCELLANEOUS MAINTENANCE EQUIPMENT	COACHELLA VALLEY	COACHELLA VALLEY	PURCHASE VARIOUS MAINTENANCE EQUIPMENT FOR THE MAINTENANCE DEPARTMENT.	2025	$200

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000'S)
County: Riverside									
TRANSIT	SUNLINE TRANSIT AGENCY	3TL1307	0	NON-REVENUE SUPPORT VEHICLES	COACHELLA VALLEY	COACHELLA VALLEY	PURCHASE OF REPLACEMENT AND EXPANSION VEHICLES THAT WILL BE USED AS RELIEF VEHICLES FOR SUNLINE DRIVERS AT THE BEGINNING OR ENDING OF THEIR SHIFTS IN MID-ROUTE.	2025	$200
TRANSIT	RIVERSIDE TRANSIT AGENCY	3TL307	0	TRANSIT CENTER REHABILITATION AND MODERNIZATION	WESTERN RIVERSIDE COUNTY	WESTERN RIVERSIDE COUNTY	MAINTENANCE, UPGRADE, POTENTIAL OF EXPANSION, AND INTRODUCTION OF NEW TECHNOLOGY FOR NINE TRANSIT CENTERS.	2045	$20,000
TRANSIT	SUNLINE TRANSIT AGENCY	3TL504	0	EXPANSION BUS PURCHASES	COACHELLA VALLEY	COACHELLA VALLEY	PURCHASE ADDITIONAL BUSES FOR SERVICE IMPROVEMENTS, INCLUDING SERVICE REALIGNMENT AND SERVICE EXPANSION.	2025	$12,260
TRANSIT	SUNLINE TRANSIT AGENCY	3TL507	0	REPLACEMENT BUS PURCHASES	COACHELLA VALLEY	COACHELLA VALLEY	PURCHASE ADDITIONAL REPLACEMENT BUSES FOR FIXED ROUTE AND PARATRANSIT SERVICES. THE ADDITIONAL VEHICLES WILL CONSIST OF 60FT, 45FT, 40FT, 32 FT, AND 30FT BUSES.	2025	$14,120
TRANSIT	SUNLINE TRANSIT AGENCY	3TL607	0	ASSOCIATED TRANSIT ENHANCEMENTS	COACHELLA VALLEY	COACHELLA VALLEY	PURCHASE MORE AMENITIES FOR INSTALLATION AT BUS STOPS THROUGHOUT THE SERVICE AREA BASED ON RECOMMENDATIONS FROM THE COA.	2025	$6,214
TRANSIT	SUNLINE TRANSIT AGENCY	3TL707	0	GFI FAREBOXES, SMARTCARDS, SECURITY SYSTEMS	COACHELLA VALLEY	COACHELLA VALLEY	INSTALL SECURITY SYSTEMS IN SUNLINE BUSES AND ACQUIRE NEW FAREBOXES WITH SMARTCARD TECHNOLOGY AND CAPABILITIES.	2025	$2,978
TRANSIT	RIVERSIDE TRANSIT AGENCY	3TL807	0	TECHNOLOGY INFRASTRUCTURE UPGRADE AND MODERNIZATION	WESTERN RIVERSIDE COUNTY	WESTERN RIVERSIDE COUNTY	CONSISTENT WITH THE TECHNOLOGY STRATEGIC PLAN, SYSTEM UPGRADES, REAL TIME PASSENGER INFORMATION, FARE COLLECTION, AND OPERATIONS MANAGEMENT TECHNOLOGIES.	2045	$5,000
TRANSIT	SUNLINE TRANSIT AGENCY	3TR04C	0	BUS RAPID TRANSIT	COACHELLA VALLEY	COACHELLA VALLEY	IMPLEMENT BUS RAPID SERVICE/BRT ON HIGHWAY 111 BASED ON RECOMMENDATIONS IN THE COMPREHENSIVE OPERATIONAL ANALYSIS CONDUCTED IN 2005/06. PROJECT WILL ENTAIL COMPLETING FEASIBILITY STUDY AND WORKING WITH THE LOCAL JURISDICTIONS ON VARIOUS ACTIVITIES PRIOR TO IMPLEMENTING PROJECT.	2030	$15,493
TRANSIT	RIVERSIDE TRANSIT AGENCY	RIV051007	0	TRANSIT CENTER IN MORENO VALLEY	MORENO VALLEY	MORENO VALLEY	REGIONAL TRANSIT CENTER FOR MASS TRANSIT SERVICE IN WESTERN RIVERSIDE COUNTY IN THE MORENO VALLEY VICINITY, SOUTH OF SR-60 EAST OF THE I-215 CORRIDOR.	2035	$6,000

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000'S)
County: Riverside									
TRANSIT	SUNLINE TRANSIT AGENCY	3TR04C	0	BUS RAPID TRANSIT	COACHELLA VALLEY	COACHELLA VALLEY	IMPLEMENT BUS RAPID SERVICE/BRT ON HIGHWAY 111 BASED ON RECOMMENDATIONS IN THE COMPREHENSIVE OPERATIONAL ANALYSIS CONDUCTED IN 2005/06. PROJECT WILL ENTAIL COMPLETING FEASIBILITY STUDY AND WORKING WITH THE LOCAL JURISDICTIONS ON VARIOUS ACTIVITIES PRIOR TO IMPLEMENTING PROJECT.	2030	$15,493
TRANSIT	RIVERSIDE TRANSIT AGENCY	RIV051007	0	TRANSIT CENTER IN MORENO VALLEY	MORENO VALLEY	MORENO VALLEY	REGIONAL TRANSIT CENTER FOR MASS TRANSIT SERVICE IN WESTERN RIVERSIDE COUNTY IN THE MORENO VALLEY VICINITY, SOUTH OF SR-60 EAST OF THE I-215 CORRIDOR.	2035	$6,000

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000'S)
County: San Bernardino									
LOCAL HIGHWAY	FONTANA	201141	0	CYPRESS AVENUE	SLOVER AVE	JURUPA AVE	CYPRESS AVENUE FROM SLOVER TO JURUPA AVENUE WIDEN FROM 2-4 LANES	2023	$2,727
LOCAL HIGHWAY	HESPERIA	200211	0	I AVE	MAIN ST	BEAR VALLEY RD	WIDEN I AVE FROM MAIN ST TO BEAR VALLEY RD FROM 2 TO 4 LANES	2035	$12,435
LOCAL HIGHWAY	SAN BERNARDINO, COUNTY OF	200408	0	CUMBERLAND DRIVE	SR-18 NORTH	CUMBERLAND DR	CUMBERLAND DRIVE EXTENSION - SH 18 NORTH TO CUMBERLAND DRIVE -PAVE NEW ROAD - 1 LANE IN EACH DIRECTION	2030	$3,000
LOCAL HIGHWAY	SAN BERNARDINO, COUNTY OF	200409	0	CHERRY AVE	MERRILL AVE	WHITTRAM RD	CHERRY AVE. AT SCRRA RR CROSSING - WIDEN BRIDGE FROM 4-6 LANES ON CHERRY OVER RR CROSSING (FROM MERRILL TO WHITTRAM)	2030	$8,829
LOCAL HIGHWAY	SAN BERNARDINO, COUNTY OF	200414	0	DUNCAN ROAD	WILSON RANCH RD	BALDY MESA	ON DUNCAN ROAD FROM WILSON RANCH ROAD TO BALDY MESA PAVE DIRT ROAD IN 4 ONE MILE SEGMENTS 1 LANE IN EACH DIRECTION	2030	$6,600
LOCAL HIGHWAY	ONTARIO	200804	0	ARCHIBALD AVE	ARCHIBALD AVE	ARCHIBALD AVE @ UPRR (MISSION BLVD)	SOUTH ARCHIBALD AVE GRADE SEPARATION (AT MISSION BLVD). CONSTRUCT GRADE SEPARTION AT EXISTING AT-GRADE CROSSING SOUTH OF ARCHIBALD AVE AND THE UPPR-LOS ANGELES LINE. WIDEN FROM 2 TO 6 LANES	2035	$57,932
LOCAL HIGHWAY	SAN BERNARDINO, COUNTY OF	200837	0	VISTA ROAD	0	0	VISTA ROAD GRADE SEPARATION-WIDEN 2-4 LANES AND CONSTRUCT GRADE SEPARATION (PA&ED ONLY)	2030	$50,000
LOCAL HIGHWAY	RANCHO CUCAMONGA	201134	0	ETIWANDA AVE	ETIWANDA AVE	@SCRRA	CONSTRUCT GRADE SEPARATION FOR ETIWANDA AVE @ SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY TRACKS WITH OVERHEAD ROADWAY	2025	$60,000
LOCAL HIGHWAY	RANCHO CUCAMONGA	201137	0	FOOTHILL BLVD	FOOTHILL BLVD	@ ARCHIBALD AVE	INTERSECTION IMPROVEMENTS AT FOOTHILL BLVD/ARCHIBALD AVE	2020	$7,520
LOCAL HIGHWAY	RANCHO CUCAMONGA	201138	0	YOUNGS CANYON RD	SAN SEVAINE	CHERRY AVE	CONSTRUCT NEW 4-LANE DIVIDED YOUNGS CANYON RD FROM SAN SEVAINE TO CHERRY AVE	2026	$1,899
LOCAL HIGHWAY	VICTORVILLE	201179	0	NATIONAL TRAILS HIGHWAY	I-15	AIR EXPRESSWAY	NATIONAL TRIALS HIGHWAY BETWEEN INTERSTATE 15 & AIR EXPRESSWAY WIDEN FROM 2-4 LANES (1.9 MILES)	2040	$10,000
LOCAL HIGHWAY	ADELANTO	4120001	0	ADELANTO RD	HOLLY RD	CHAMBERLAINE WAY	WIDEN ADELANTO RD FROM HOLLY TO CHAMBERLAINE WAY FROM 2 TO 4 LANES	2025	$12,000

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000'S)
County: San Bernardino									
LOCAL HIGHWAY	ADELANTO	4120008	0	AIR EXPRESSWAY	JONATHAN AVE	LESSING RD	WIDEN AIR EXPY FROM JONATHAN AVE TO LESSING RD FROM 2 TO 4 LANES	2035	$22,229
LOCAL HIGHWAY	ADELANTO	4120009	0	AMETHYST RD	HOLLY RD	RANCHO RD	WIDEN AMETHYST RD FROM HOLLY RD TO RANCHO RD FROM 2 TO 4 LANES	2040	$3,735
LOCAL HIGHWAY	ADELANTO	4120012	0	ASTER RD	PALMDALE RD	OLEANDER RD	WIDEN ASTER RD FROM PALMDALE RD TO OLEANDER RD FROM 0 TO 4 LANES	2040	$24,379
LOCAL HIGHWAY	ADELANTO	4120018	0	BARTLETT AVE	ADELANTO RD	CAUGHLIN RD	WIDEN BARTLETT AVE FROM ADELANTO TO CAUGHLIN RD FROM 2 TO 4 LANES	2040	$19,503
LOCAL HIGHWAY	ADELANTO	4120023	0	BEAVER RD	PALMDALE RD	OLEANDER RD	WIDEN BEAVER RD FROM PALMDALE RD TO OLEANDER RD FROM 0 TO 4 LANES	2040	$17,878
LOCAL HIGHWAY	ADELANTO	4120026	0	BELLFLOWER ST	PALMDALE RD	CALLEJA RD	WIDEN BELLFLOWER ST FROM PALMDALE RD TO CALLEJA RD FROM 0 TO 4 LANES	2040	$17,878
LOCAL HIGHWAY	ADELANTO	4120028	0	CASSIA RD	ADELANTO RD	US-395	WIDEN CASSIA RD FROM ADELANTO ROAD TO US-395 FROM 2 TO 4 LANES	2040	$876
LOCAL HIGHWAY	ADELANTO	4120030	0	CAUGHLIN RD	AIR EXPY	BARTLETT RD	WIDEN CAUGHLIN RD FROM AIR EXPRESSWAY TO BARTLETT RD FROM 2 TO 4 LANES	2040	$17,878
LOCAL HIGHWAY	ADELANTO	4120033	0	CHAMBERLAINE WAY	JONATHAN ST	CAUGHLIN RD	WIDEN CHAMBERLAINE WAY FROM JONATHAN ST TO CAUGHLIN RD FROM 0 TO 4 LANES	2040	$19,503
LOCAL HIGHWAY	ADELANTO	4120036	0	COBALT RD	HOLLY RD	RANCHO RD	WIDEN COLBALT RD FROM HOLLY RD TO RANCHO RD FROM 2 TO 4 LANES	2040	$3,031
LOCAL HIGHWAY	ADELANTO	4120039	0	COLUSA RD	MESA LINDA AVE	CAUGHLIN RD	WIDEN COLUSA RD FROM MESA LINDA AVE TO CAUGHLIN RD FROM 0 TO 4 LANES	2040	$17,878
LOCAL HIGHWAY	ADELANTO	4120048	0	EMERALD RD	HOLLY ST	AIR EXPRESSWAY	WIDEN EMERALD RD FROM HOLLY ST TO AIR EXPRESSWAY FROM 2 TO 4 LANES	2040	$7,592

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: San Bernardino									
LOCAL HIGHWAY	ADELANTO	4120051	0	HOLLY RD	US-395	ASTER RD	WIDEN HOLLY RD FROM US-395 TO ASTER RD FROM 0/2 TO 4 LANES	2040	$14,627
LOCAL HIGHWAY	ADELANTO	4120058	0	KOALA RD	EL MIRAGE RD	OLEANDER ST	WIDEN KOALA RD FROM EL MIRAGE RD TO OLEANDER ST FROM 0 TO 4 LANES	2040	$27,630
LOCAL HIGHWAY	ADELANTO	4120061	0	MOJAVE DR	US-395	LESSING RD	WIDEN MOJAVE DR FROM US-395 TO LESSING RD FROM 0/2 TO 4 LANES	2040	$24,379
LOCAL HIGHWAY	ADELANTO	4120069	0	RACCOON AVE	PALMDALE RD	OLEANDER ST	WIDEN RACCOON AVE FROM PALMDALE RD TO OLEANDER ST FROM 0 TO 4 LANES	2040	$26,004
LOCAL HIGHWAY	ADELANTO	4120074	0	RANCHO RD	AMETHYST RD	RICHARDSON RD	WIDEN RANCHO RD FROM AMETHYST RD TO RICHARDSON RD FROM 0 TO 4 LANES	2040	$29,255
LOCAL HIGHWAY	ADELANTO	4120082	0	SENECA RD	US-395	DAISY RD	WIDEN SENECA RD FROM US-395 TO DAISY RD FROM 2 TO 4 LANES	2040	$5,204
LOCAL HIGHWAY	ADELANTO	4120083	0	SENECA RD	ASTER RD	RICHARDSON RD	WIDEN SENECA RD FROM ASTER RD TO RICHARDSON RD FROM 2 TO 4 LANES	2040	$7,107
LOCAL HIGHWAY	ADELANTO	4120085	0	VERBENA RD	CACTUS AVE	CALLEJA RD	WIDEN VERBENA RD FROM CACTUS AVE TO CALLEJA RD FROM 0/2 TO 4 LANES	2040	$13,002
LOCAL HIGHWAY	ADELANTO	4120088	0	VINTON RD	PALMDALE RD	EL MIRAGE RD	WIDEN VINTON RD FROM PALMDALE RD TO EL MIRAGE FROM 0 TO 4 LANES	2040	$22,754
LOCAL HIGHWAY	APPLE VALLEY	4120095	0	APPLE VALLEY RD	OHNA RD	FALCHION RD	WIDEN APPLE VALLEY RD FROM OHNA RD TO FALCHION RD FROM 0 TO 2 LANES	2025	$6,238
LOCAL HIGHWAY	APPLE VALLEY	4120097	0	YUCCA LOMA RD	WEST TOWN LIMITS	SR-18	WIDEN YUCCA LOMA RD FROM WEST TOWN LIMITS TO SR-18 FROM 2 TO 4 LANES	2030	$9,629
LOCAL HIGHWAY	CHINO	4120100	0	FRANCIS AVE	600' E/O SNYDER AVE	BENSON AVE	WIDEN FRANCIS AVE FROM 600' E/O SNYDER AVE TO BENSON AVE FROM 2 TO 4 LANES	2020	$507

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: San Bernardino									
LOCAL HIGHWAY	CHINO	4120104	0	CENTRAL AVE	RIVERSIDE DR	SR-71	WIDEN CENTRAL AVE FROM RIVERSIDE DR TO SR-71 FROM 4 TO 6 LANES	2025	$7,796
LOCAL HIGHWAY	CHINO	4120107	0	MOUNTAIN AVE	SCHAEFER AVE	EDISON AVE	WIDEN MOUNTAIN AVE FROM SCHAEFER AVE TO EDISON AVE FROM 2 TO 4 LANES	2025	$211
LOCAL HIGHWAY	CHINO	4120108	0	RIVERSIDE DR	WEST CHINO CITY LIMITS	800' E/O RESERVIOR AVE	WIDEN RIVERSIDE DR FROM WEST CHINO CITY LIMITS TO 800' E/O RESERVIOR AVE FROM 4 TO 6 LANES (WB ONLY)	2025	$707
LOCAL HIGHWAY	COLTON	4120110	0	AGUA MANSA RD	RIALTO CHANNEL	RIVERSIDE AVE	WIDEN AGUA MANSA RD FROM RIALTO CHANNEL TO RIVERSIDE AVE FROM 2 TO 4 LANES	2025	$3,539
LOCAL HIGHWAY	COLTON	4120111	0	COLTON AVE	MT. VERNON AVE.	COLTON CITY LIMITS	WIDEN COLTON AV FROM MT. VERNON AVE TO CITY LIMIT FROM 2 TO 4 LANES	2025	$3,632
LOCAL HIGHWAY	COLTON	4120112	0	PEPPER AVE	I-10	SLOVER AVE	WIDEN AND EXTEND PEPPER AVE FROM I-10 TO SLOVER AVE FROM 2 TO 4 LANES	2030	$4,646
LOCAL HIGHWAY	COLTON	4120113	0	C ST	CITY LIMITS W/O RANCHO AVE	PENNSYLVANIA AVE	WIDEN C ST FROM CITY LIMITS W/O RANCHO AVE TO PENNSYLVANIA AVE FROM 2 TO 4 LANES	2025	$1,316
LOCAL HIGHWAY	COLTON	4120114	0	LA CADENA DR	PALM AVE	IOWA AVE	WIDEN LA CADENA DR FROM PALM AVE TO IOWA AVE FROM 4 TO 6 LANES	2030	$3,412
LOCAL HIGHWAY	COLTON	4120115	0	LA CADENA DR	RANCHO AVE	LITTON AVE	WIDEN LA CADENA DR FROM RANCHO AV TO LITTON AVE FROM 4 TO 6 LANES	2030	$4,127
LOCAL HIGHWAY	COLTON	4120116	0	RECHE CYN RD	WASHINGTON ST	COLTON CITY LIMITS	REALIGN RECHE CANYON RD FROM WASHINGTON ST TO COLTON CITY LIMITS TO 4 LANE ROAD	2025	$2,250
LOCAL HIGHWAY	COLTON	4120117	0	RIVERSIDE AVE	RIVERSIDE COUNTY LINE	SANTA ANA RIVER	WIDEN RIVERSIDE AVE FROM RIVERSIDE COUNTY LINE TO SANTA ANA RIVER FROM 4 TO 6 LANES	2030	$10,440
LOCAL HIGHWAY	COLTON	4120119	0	SAN BERNARDINO AVE	COUNTY LIMIT	RANCHO AVE	WIDEN SAN BERNARDINO AVE FROM COUNTY LIMIT TO RANCHO AVE FROM 2 TO 4 LANES	2025	$165

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: San Bernardino									
LOCAL HIGHWAY	COLTON	4120120	0	SAN BERNARDINO AVE	WEST COLTON CITY LIMITS	COUNTY LIMIT	WIDEN SAN BERNARDINO AVE FROM WEST COLTON CITY LIMITS TO COUNTY LIMIT FROM 2 TO 4 LANES	2025	$1,989
LOCAL HIGHWAY	COLTON	4120122	0	WASHINGTON ST	WATERMAN AVE	I-215	WIDEN WASHINGTON ST FROM WATERMAN AVE TO I-215 FROM 4 TO 6 LANES	2025	$6,008
LOCAL HIGHWAY	COLTON	4120123	0	WASHINGTON ST	AQUEDUCT	LA CADENA DR	WIDEN WASHINGTON ST TO FROM AQUEDUCT TO LA CADENA DR FROM 0 TO 4 LANES	2040	$4,199
LOCAL HIGHWAY	FONTANA	4120133	0	LIVE OAK AVE	JURUPA AVE	SLOVER AVE	WIDEN LIVE OAK AVE FROM JURUPA AVE TO SLOVER AVE FROM 2 TO 4 LANES	2030	$2,825
LOCAL HIGHWAY	FONTANA	4120134	0	POPLAR AVE	SLOVER AVE	VALLEY BLVD	WIDEN POPLAR AVE FROM SLOVER AVE TO VALLEY BLVD FROM 0 TO 4 LANES (I-10 OVERCROSSING)	2035	$21,306
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4120136	0	SANTA ANA AVE	MULBERRY AVE	ALMOND AVE	WIDEN SANTA ANA AVE FROM MULLBERRY AVE TO ALMOND AVE FROM 2 TO 4 LANES	2030	$4,347
LOCAL HIGHWAY	LOMA LINDA	4120144	0	EVANS ST	I-10	BARTON RD	WIDEN EVANS ST FROM I-10 TO BARTON RD FROM 0 TO 4 LANES	2040	$126,197
LOCAL HIGHWAY	ONTARIO	4120145	0	AIRPORT DR	ROCHESTER AVE	ETIWANDA AVE	WIDEN AIRPORT DR FROM ROCHESTER AVE TO ETIWANDA AVE FROM 2 TO 4 LANES	2025	$5,350
LOCAL HIGHWAY	ONTARIO	4120147	0	MOUNTAIN AVE	BROOKS ST	6TH ST	WIDEN MOUNTAIN AVE FROM BROOKS ST TO 6TH ST FROM 4 TO 6 LANES	2030	$6,449
LOCAL HIGHWAY	RANCHO CUCAMONGA	4120148	0	EAST AVE	WILSON AVE	NORTH RIM WAY (NEW)	WIDEN EAST ST FROM WILSON AVE TO NORTH RIM WAY (NEW) FROM 2 TO 4 LANES	2025	$847
LOCAL HIGHWAY	RANCHO CUCAMONGA	4120149	0	ETIWANDA AVE	EXISTING TERMINUS	NORTH RIM WAY (NEW)	WIDEN ETIWANDA AVE FROM EXISTING TERMINUS TO NORTH RIM WAY (NEW) FROM 0 TO 2 LANES	2025	$545
LOCAL HIGHWAY	RANCHO CUCAMONGA	4120151	0	VICTORIA AVE	ETIWANDA HIGH SCHOOL	I-15	WIDEN VICTORIA AVE FROM ETIWANDA HIGH SCHOOL TO I-15 FROM 2 TO 4 LANES	2025	$349

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: San Bernardino									
LOCAL HIGHWAY	RANCHO CUCAMONGA	4120152	0	ETIWANDA AVE	MILLER AVE	850' N/O MILLER AVE	WIDEN ETIWANDA AVE FROM MILLER AVE TO 850' N/O MILLER AVE, NORTHBOUND ONLY FROM 3 TO 4 LANES	2025	$369
LOCAL HIGHWAY	RANCHO CUCAMONGA	4120153	0	6TH ST	6TH ST	CUCAMONGA CREEK CHANNEL	WIDEN 6TH ST AT CUCAMONGA CREEK CHANNEL FROM 2 TO 4 LANES (50% RANCHO CUCAMONGA/50% ONTARIO)	2025	$2,128
LOCAL HIGHWAY	RANCHO CUCAMONGA	4120155	0	BASELINE RD	ETIWANDA AVE	SHELBY PL	WIDEN BASELINE RD FROM ETIWANDA AV TO I-15 FROM 4 TO 6 LANES	2025	$1,020
LOCAL HIGHWAY	RANCHO CUCAMONGA	4120156	0	EAST AVE	CHATEAU DR	VICTORIA AVE	WIDEN EAST AVE FROM CHATEAU DR TO VICTORIA AVE FROM 2 TO 4 LANES	2025	$638
LOCAL HIGHWAY	RANCHO CUCAMONGA	4120157	0	ARROW RTE	ETIWANDA DITCH	ARROW RTE @ ETIWANDA DITCH	WIDEN ARROW RTE AT ETIWANDA DITCH FROM 2 TO 4 LANES	2025	$990
LOCAL HIGHWAY	RANCHO CUCAMONGA	4120158	0	HELLMAN AVE	CUCAMONGA CREEK CHANNEL	HELLMAND AVE @ CUCAMONGA CREEK CHANNEL	WIDEN HELLMAN AVE AT CUCAMONGA CREEK CHANNEL (50%RC, 50% ONTARIO) FROM 2 TO 4 LANES	2025	$6,439
LOCAL HIGHWAY	RANCHO CUCAMONGA	4120161	0	ARROW RTE	500' E/O I-15	1300' E/O I-15	WIDEN ARROW RTE FROM 500' FT E/O I-15 TO 1300' E/O I-15 FROM 2 TO 4 LANES	2025	$1,160
LOCAL HIGHWAY	RANCHO CUCAMONGA	4120163	0	ARROW RTE	GROVE ST	BAKER ST	WIDEN ARROW RTE FROM GROVE ST TO BAKER ST FROM 2 TO 4 LANES	2025	$1,574
LOCAL HIGHWAY	RANCHO CUCAMONGA	4120164	0	ETIWANDA AVE	BANYAN	WILSON AVE	WIDEN ETIWANDA AVE FROM BANYAN RD TO WILSON AVE FROM 2 TO 4 LANES	2025	$1,701
LOCAL HIGHWAY	RANCHO CUCAMONGA	4120165	0	CHURCH AVE	ARCHIBALD AVE	HAVEN AVE	WIDEN CHURCH AVE FROM ARCHIBALD AVE TO HAVEN AVE FROM 2 TO 4 LANES	2025	$1,829
LOCAL HIGHWAY	RANCHO CUCAMONGA	4120166	0	FOOTHILL BLVD	ARCHIBALD AVE	HERMOSA AVE	WIDEN FOOTHILL BLVD FROM ARCHIBALD AVE TO HERMOSA AVE FROM 4 TO 6 LANES	2025	$2,270
LOCAL HIGHWAY	RANCHO CUCAMONGA	4120167	0	MILLER RD	ETIWANDA AVE	EAST ST	WIDEN MILLER RD FROM ETIWANDA AVE TO EAST ST FROM 2 TO 4 LANES	2025	$2,518

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: San Bernardino									
LOCAL HIGHWAY	RANCHO CUCAMONGA	4120168	0	FOOTHILL BLVD	VINEYARD AVE	ARCHIBALD AVE	WIDEN FOOTHILL BLVD FROM VINEYARD AVE TO ARCHIBALD AVE FROM 4 TO 6 LANES	2025	$3,588
LOCAL HIGHWAY	RANCHO CUCAMONGA	4120169	0	ETIWANDA AVE	6TH ST	ARROW ROUTE	WIDEN ETIWANDA AVE FROM 6TH ST TO ARROW ROUTE FROM 2 TO 4 LANES	2025	$5,137
LOCAL HIGHWAY	RANCHO CUCAMONGA	4120171	0	WILSON AVE	MILLIKEN AVE	DAY CREEK BLVD	WIDEN WILSON AVE FROM MILLIKEN AVE TO DAY CREEK BLVD FROM 0 TO 4 LANES	2025	$7,174
LOCAL HIGHWAY	RANCHO CUCAMONGA	4120172	0	WILSON AVE	WILSON AVE	DAY CREEK CHANNEL	CONSTRUCT NEW 4-LANE (2 EACH DIRECTION) BRIDGE AT WILSON AND DAY CREEK CHANNEL	2025	$1,793
LOCAL HIGHWAY	REDLANDS	4120173	0	COLTON AVE	WABASH AVE	CRAFTON AVE	WIDEN COLTON AVE FROM WABASH AVE TO CRAFTON AVE FROM 2 TO 4 LANES	2025	$2,394
LOCAL HIGHWAY	REDLANDS	4120175	0	MOUNTAIN VIEW AVE	LUGONIA AVE	SAN BERNARDINO AVE	WIDEN MOUNTAIN VIEW AVE FROM LUGONIA AVE TO SAN BERNARDINO AVE FROM 1 TO 2 LANES (NB ONLY)	2025	$534
LOCAL HIGHWAY	REDLANDS	4120179	0	SAN BERNARDINO AVE	SR-210	ORANGE ST	WIDEN SAN BERNARDINO AVE FROM SR-210 TO ORANGE ST FROM 2 TO 4 LANES	2025	$1,944
LOCAL HIGHWAY	RIALTO	4120181	0	ALDER AVE	BASELINE RD	RENAISSANCE PKWY	WIDEN ALDER AVE FROM BASELINE RD TO RENAISSANCE PKWY FROM 2 TO 4 LANES	2025	$1,827
LOCAL HIGHWAY	RIALTO	4120183	0	CASMALIA ST	0.3 MILES E/O SIERRA AVE	AYALA DR	WIDEN CASMALIA AVE FROM 0.3 MILES E/O SIERRA AVE TO AYALA DR FROM 2 TO 4 LANES	2025	$4,670
LOCAL HIGHWAY	RIALTO	4120184	0	LINDEN RD	BASELINE RD	MIRO WAY	WIDEN LINDEN AVE FROM BASELINE AVE TO MIRO WAY FROM 2 TO 4 LANES	2025	$508
LOCAL HIGHWAY	RIALTO	4120185	0	LOCUST AVE	BASELINE RD	MIRO WAY	WIDEN LOCUST AVE FROM BASELINE AVE TO MIRO WAY FROM 2 TO 4 LANES	2025	$508
LOCAL HIGHWAY	RIALTO	4120187	0	RIVERSIDE AVE	GATEWAY PLAZA	SAN BERNARDINO AVE	WIDEN RIVERSIDE AVE FROM GATEWAY PLAZA TO SAN BERNARDINO AVE FROM 4 TO 6 LANES	2025	$670

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000'S)
County: San Bernardino									
LOCAL HIGHWAY	RIALTO	4120188	0	RIVERSIDE AVE	SIERRA AVE	0.35 MILES S/O SIERRA AVE	WIDEN RIVERSIDE AVE FROM SIERRA AVE TO 0.35 MILES S/O SIERRA AVE FROM 2 TO 6 LANES	2030	$1,663
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	4120190	0	MT VIEW AVE	COULSTON AVE	MISSION CREEK CHANNEL (ZANJA)	WIDEN MT VIEW AVE FROM COULSTON AVE TO MISSION CREEK CHANNEL (ZANJA) FROM 2 TO 4 LANES (SB ONLY)	2025	$350
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	4120191	0	STATE ST	HANFORD ST	N/O CAJON BLVD	WIDEN STATE ST FROM HANFORD ST TO N/O CAJON BLVD FROM 2 TO 4 LANES	2035	$8,336
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4120193	0	VARIOUS LOCATIONS			VARIOUS TRAFFIC SIGNAL PROJECTS THROUGHOUT SAN BERNARDINO COUNTY	2023	$519,912
LOCAL HIGHWAY	VICTORVILLE	4120224	0	EUCALYPTUS ST	AMETHYST RD	0.15 MI W/O COBALT RD	WIDEN EUCALYPTUS ST FROM AMETHYST RD TO 0.15 MILES W/O COBALT RD FROM 0 TO 6 LANES (INCLUDES WASH CROSSING)	2040	$5,900
LOCAL HIGHWAY	VICTORVILLE	4120227	0	3RD AVE	0.2 MILES S/O NISQUALLI RD	SILICA RD	WIDEN 3RD AVE FROM 0.20 MILES S/O NISQUALLI RD TO SILICA RD FROM 2 TO 4 LANES	2040	$600
LOCAL HIGHWAY	VICTORVILLE	4120228	0	3RD AVE	0.25 MI. N/O BEAR VALLEY RD	BEAR VALLEY RD	WIDEN 3RD AVE FROM 0.25 MI. N/O BEAR VALLEY RD TO BEAR VALLEY RD FROM 0 TO 4 LANES	2030	$1,000
LOCAL HIGHWAY	RIALTO	4120231	0	RANDALL AVE	LINDEN AVE	RIVERSIDE AVE	WIDEN RANDALL AVE FROM LINDEN AVE TO RIVERSIDE AVE FROM 2 TO 4 LANES	2025	$3,452
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4120233	0	PIPELINE AVE	0.04 MILES S/O PHILADELPHIA AVE	PHILLIPS BLVD	WIDEN PIPELINE AVE FROM 0.04 MILES S/O PHILADELPHIA AVE TO PHILLIPS BLVD FROM 2 TO 4 LANES	2025	$3,253
LOCAL HIGHWAY	VICTORVILLE	4120235	0	AMETHYST RD	SYCAMORE RD	EUCALYPTUS RD	WIDEN AMETHYST RD FROM SYCAMORE RD TO EUCALYPTUS RD FROM 0 TO 4 LANES	2040	$4,000
LOCAL HIGHWAY	FONTANA	4120236	0	FONTANA AVE	VALLEY BLVD	MERRILL AVE	WIDEN FONTANA AVE FROM VALLEY BLVD TO MERRILL AVE FROM 2 TO 4 LANES	2030	$5,651
LOCAL HIGHWAY	REDLANDS	4120237	0	CRAFTON HILLS PKWY	WABASH AVE	EAST REDLANDS CITY LIMITS	WIDEN CRAFTON HILLS PKWY FROM WABASH AVE TO EAST REDLANDS CITY LIMITS FROM 0 TO 2 LANES	2025	$6,979

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: San Bernardino									
LOCAL HIGHWAY	TWENTYNINE PALMS	4160014	62	SR-62	WEST TWENTYNINE PALMS CITY LIMITS	MORONGO RD	OPERATIONAL IMPROVEMENTS INCLUDING SIGNAL AND INTERSECTION MODIFICATION ON SR-62 FROM WEST TWENTYNINE PALMS CITY LIMITS TO MORONGO RD	2035	$2,623
LOCAL HIGHWAY	ONTARIO	4160019	0	8TH ST	WEST CUCAMONGA CHANNEL	GROVE AVE	WIDEN 8TH ST FROM WEST CUCAMONGA CHANNEL TO GROVE AVE FROM 2 TO 4 LANES	2035	$242
LOCAL HIGHWAY	VICTORVILLE	4160021	0	AMETHYST RD	MOJAVE DR	DOS PALMAS RD	WIDEN AMETHYST RD FROM MOJAVE DR TO DOS PALMAS RD FROM 2 TO 4 LANES	2040	$4,000
LOCAL HIGHWAY	ONTARIO	4160023	0	ARCHIBALD AVE	INLAND EMPIRE BLVD	4TH ST	WIDEN ARCHIBALD AVE FROM INLAND EMPIRE BLVD TO 4TH ST FROM 4 TO 6 LANES	2035	$2,977
LOCAL HIGHWAY	LOMA LINDA	4160024	0	BEAUMONT AVE	BEAUMONT AVE	@ UPRR	CONSTRUCT GRADE SEPARATION FOR BEAUMONT AVE @ UPRR	2030	$29,690
LOCAL HIGHWAY	ONTARIO	4160025	0	BON VIEW AVE	MISSION BLVD	BELMONT AVE	WIDEN BON VIEW AVE FROM MISSION BLVD TO BELMONT AVE FROM 2 TO 4 LANES	2035	$986
LOCAL HIGHWAY	ONTARIO	4160026	0	CAMPUS AVE	WOODLAWN ST	MISSION BLVD	WIDEN CAMPUS AVE FROM WOODLAWN ST TO MISSION BLVD FROM 2 TO 4 LANES	2035	$1,751
LOCAL HIGHWAY	RIALTO	4160027	0	CEDAR AVE	RANDALL AVE	BASELINE RD	WIDEN CEDAR AVE FROM RANDALL AVE TO BASELINE RD FROM 4 TO 6 LANES	2025	$5,096
LOCAL HIGHWAY	FONTANA	4160028	0	CHERRY AVE	SR-210	I-15	WIDEN CHERRY AVE FROM SR-210 TO I-15 FROM 2 TO 6 LANES	2022	$2,625
LOCAL HIGHWAY	RANCHO CUCAMONGA	4160029	0	CHERRY AVE	SOUTH RANCHO CUCAMONGA CITY LIMITS	WILSON AVE	WIDEN CHERRY AVE FROM SOUTH RANCHO CUCAMONGA CITY LIMITS TO WILSON AVE FROM 2 TO 4 LANES	2025	$1,236
LOCAL HIGHWAY	VICTORVILLE	4160031	0	EUCALYPTUS ST	0.15 M W/O COBALT RD	MESA VIEW DR	WIDEN EUCALYPTUS ST FROM 0.15 MILES W/O COBALT RD TO MESA VIEW DR FROM 2 TO 4 LANES	2040	$700
LOCAL HIGHWAY	HESPERIA	4160032	0	EUCALYPTUS ST	EUCALYPTUS ST	AT BNSF RR	CONSTRUCT GRADE SEPARATION FOR EUCALYPTUS ST @ BNSF RR	2040	$29,000

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: San Bernardino									
LOCAL HIGHWAY	HIGHLAND	4160033	0	GREENSPOT RD	BOULDER AVE	VALENCIA CT	WIDEN GREENSPOT RD FROM BOULDER AVE TO VALENCIA CT FROM 4 TO 6 LANES	2025	$1,945
LOCAL HIGHWAY	RANCHO CUCAMONGA	4160034	0	GROVE AVE	SAN BERNARDINO RD	FOOTHILL BLVD	WIDEN GROVE FROM SAN BERNARDINO AVE TO FOOTHILL BLVD FROM 1 TO 2 LANES (EAST SIDE ONLY)	2025	$725
LOCAL HIGHWAY	ONTARIO	4160035	0	GUASTI RD	HOLT BLVD	ARCHIBALD AVE	WIDEN GUASTI RD FROM HOLT BLVD TO ARCHIBALD AVE FROM 2 TO 4 LANES	2035	$1,444
LOCAL HIGHWAY	VICTORVILLE	4160036	0	HOOK BLVD	AMETHYST RD	TOPAZ RD	WIDEN HOOK FROM AMETHYST RD TO TOPAZ RD FROM 2 TO 4 LANES	2040	$2,000
LOCAL HIGHWAY	HESPERIA	4160038	0	I AVE	RANCHERO RD	MAIN ST	WIDEN I AVE FROM RANCHERO RD TO MAIN ST FROM 2 TO 4 LANES	2025	$8,710
LOCAL HIGHWAY	RIALTO	4160039	0	LINDEN AVE	MIRO WAY	RENAISSANCE PKWY	WIDEN LINDEN AVE FROM MIRO WAY TO RENAISSANCE PKWY FROM 0 TO 4 LANES	2025	$2,924
LOCAL HIGHWAY	RIALTO	4160040	0	LOCUST AVE	MIRO WAY	RENAISSANCE PKWY	WIDEN LOCUST AVE FROM MIRO WAY TO RENAISSANCE PKWY FROM 0 TO 4 LANES	2025	$2,680
LOCAL HIGHWAY	RIALTO	4160041	0	MERRILL AVE	0.11 M E/O CACTUS AVE	LILAC AVE	WIDEN MERRILL AVE FROM 0.11 M E/O CACTUS AVE TO LILAC AVE FROM 3 TO 4 LANES (ADD 1 WB LANE)	2030	$166
LOCAL HIGHWAY	ONTARIO	4160044	0	MILLIKEN/HAMNER AVE	SR-60	RIVERSIDE DR	WIDEN MILLIKEN/HAMNER AVE FROM SR-60 TO RIVERSIDE DR FROM 4 TO 6 LANES	2035	$590
LOCAL HIGHWAY	COLTON	4160046	0	MT VERNON	I-10 EB RAMPS	COOLEY DR	WIDEN MT VERNON ACROSS UPRR AND SANTA ANA RIVER FROM 2 TO 4 LANES	2025	$30,000
LOCAL HIGHWAY	ONTARIO	4160050	0	PHILLIPS ST	BENSON AVE	MOUNTAIN AVE	WIDEN PHILLIPS ST FROM BENSON AVE TO MOUNTAIN AVE FROM 2 TO 4 LANES	2035	$1,243
LOCAL HIGHWAY	HESPERIA	4160051	0	RANCHERO RD	DANBURY AVE	ARROWHEAD LAKE RD	WIDEN RANCHERO RD FROM DANBURY AVE TO ARROWHEAD LAKE RD FROM 2 TO 4 LANES	2025	$11,000

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: San Bernardino									
LOCAL HIGHWAY	RIALTO	4160054	0	RIALTO AVE	SYCAMORE AVE	EUCALYPTUS AVE	WIDEN RIALTO AVE FROM SYCAMORE AVE TO EUCALYPTUS AVE FROM 2 TO 4 LANES	2025	$1,015
LOCAL HIGHWAY	RIALTO	4160056	0	RIVERSIDE AVE	0.35 M S/O SIERRA AVE	ALDER AVE	WIDEN RIVERSIDE AVE FROM 0.35 M S/O SIERRA AVE TO ALDER AVE FROM 4 TO 6 LANES	2030	$2,518
LOCAL HIGHWAY	ONTARIO	4160060	0	SAN ANTONIO AVE	PARK ST	PHILLIPS ST	WIDEN SAN ANTONIO AVE FROM PARK ST TO PHILLIPS ST FROM 2 TO 4 LANES	2035	$2,706
LOCAL HIGHWAY	ONTARIO	4160061	0	SAN ANTONIO AVE	IN ONTARIO	ALHAMBRA/LOS ANGELES LINES	CONTRUCT 4 LANE GRADE SEPARATION ON SAN ANTONIO AVE AT ALHAMBRA/LOS ANGELES LINE	2035	$33,343
LOCAL HIGHWAY	ONTARIO	4160063	0	STATE ST	BON VIEW AVE	GROVE AVE	WIDEN STATE ST FROM BON VIEW AVE TO GROVE AVE FROM 2 TO 4 LANES	2035	$1,348
LOCAL HIGHWAY	VICTORVILLE	4160064	0	TOPAZ RD	DOS PALMAS RD	LUNA RD	WIDEN TOPAZ RD FROM DOS PALMAS RD TO LUNA RD FROM 2 TO 4 LANES	2040	$1,000
LOCAL HIGHWAY	VICTORVILLE	4160065	0	TOPAZ RD	0.3 M N/O BEAR VALLEY RD	EUCALYPTUS ST	WIDEN TOPAZ RD FROM 0.3 MI. N/O BEAR VALLEY RD TO EUCALYPTUS ST FROM 2 TO 4 LANES	2040	$1,600
LOCAL HIGHWAY	ONTARIO	4160066	0	TURNER AVE	INLAND EMPIRE BLVD	4TH ST	SPOT WIDEN TURNER AVE FROM INLAND EMPIRE BLVD TO 4TH ST FROM 2 TO 4 LANES IN SOUTHBOUND DIRECTION ONLY	2035	$1,106
LOCAL HIGHWAY	COLTON	4160068	0	VALLEY BLVD	VALLEY BLVD	@ SFRR	CONSTRUCT GRADE SEPARATION FOR VALLEY BLVD @ SFRR	2030	$52,989
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4160069	0	VISTA RD	VISTA RD	@ BNSF	CONSTRUCT GRADE SEPARATION FOR VISTA RD @ BNSF	2035	$48,041
LOCAL HIGHWAY	ONTARIO	4160070	0	WALKER AVE	RIVERSIDE DR	MERRILL AVE	WIDEN WALKER AVE FROM RIVERSIDE DR TO MERRILL AVE FROM 2 TO 4 LANES	2035	$6,735
LOCAL HIGHWAY	YUCCA VALLEY	4160071	0	YUCCA MESA DR	BUENA VISTA DR	SR-62	WIDEN YUCCA MESA DR FROM BUENA VISTA DR TO SR-62 FROM 2 TO 4 LANES	2040	$9,110

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: San Bernardino									
LOCAL HIGHWAY	CALTRANS	4160072	215	WASHINGTON	I-215	WASHINGTON	I-215 & WASHINGTON/MT. VERNON; REPLACEMENT BRIDGE PROJECT TO PROVIDE STANDARD VERTICAL AND HORIZONTAL CLEARANCES FOR THE ULTIMATE I-215 ROADWAY.	2023	$29,252
LOCAL HIGHWAY	RANCHO CUCAMONGA	20020134	0	ARROW ROUTE	ETIWANDA AVE	EAST RANCHO CUCAMONGA CITY LIMITS	WIDEN ARROW ROUTE FROM ETIWANDA TO EAST RANCHO CUCAMONGA CITY LIMIT FROM 2 TO 4 LANES	2035	$1,100
LOCAL HIGHWAY	BARSTOW	20150015	0	MORTON ST	I-15	MORTON ST	I-15 @ MORTON ST; CONSTRUCT NEW INTERCHANGE WITH A 6 LANE BRIDGE OVER I-15; 2 THROUGH LANES EACH DIRECTION; CONSTRUCT NEW 4 LANE ROADWAY FROM IC TO OUTLET CENTER DR	2024	$43,000
LOCAL HIGHWAY	RANCHO CUCAMONGA	4162L004	0	FOOTHILL BLVD	GROVE AVE	SAN BERNARDINO RD	IMPROVE FOOTHILL BLVD (OLD STATE ROUTE 66) BETWEEN GROVE AVE AND SAN BERNARDINO RD: INCLUDES RAISED MEDIANS, SIDEWALKS, STREET LIGHTS, LANDSCAPING.	2025	$6,006
LOCAL HIGHWAY	HESPERIA	4163L001	0	MAPLE AVE	MAIN ST	RANCHERO RD	WIDEN MAPLE AVE FROM MAIN ST TO RANCHERO RD FROM 2 TO 5 LANES	2040	$34,690
LOCAL HIGHWAY	HESPERIA	4163L002	0	MUSCATEL ST	MARIPOSA RD	COTTONWOOD AVE	WIDEN FROM 2 TO 4 LANES FROM MARIPOSA RD TO COTTONWOOD AVE	2034	$25,120
LOCAL HIGHWAY	HESPERIA	4163L003	0	LIME ST	COTTONWOOD AVE	I AVE	WIDEN FROM 2 TO 4 LANES FROM COTTONWOOD AVE TO I AVE	2040	$25,890
LOCAL HIGHWAY	HESPERIA	4163L004	0	LIME ST	LIME ST	AT BNSF RR	CONSTRUCT GRADE SEPARATION FOR LIME ST @BNSF RR	2037	$39,000
LOCAL HIGHWAY	VICTORVILLE	4200L001	0	EUCALYPTUS ST	TOPAZ RD	US-395	WIDEN EUCALYPTUS ST FROM TOPAZ RD TO US-395 FROM 2 TO 4 LANES	2040	$2,000
LOCAL HIGHWAY	APPLE VALLEY	4A01008	0	APPLE VALLEY RD	SR-18	YUCCA LOMA RD	WIDEN APPLE VALLEY RD FROM SR-18 TO YUCCA LOMA RD FROM 2 TO 4 LANES	2025	$28,230
LOCAL HIGHWAY	APPLE VALLEY	4A01011	0	BEAR VALLEY RD	APPLE VALLEY RD	NAVAJO RD	WIDEN BEAR VALLEY RD FROM APPLE VALLEY RD TO NAVAJO RD FROM 4 TO 6 LANES	2030	$8,194
LOCAL HIGHWAY	APPLE VALLEY	4A01013	0	CORWIN RD	SR-18	DALE EVANS PKWY	WIDEN CORWIN RD FROM SR-18 TO DALE EVANS PKWY FROM 2 TO 4 LANES	2025	$15,340

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: San Bernardino									
LOCAL HIGHWAY	APPLE VALLEY	4A01018	0	THUNDERBIRD RD	RANCHERIAS RD	CENTRAL RD	WIDEN THUNDERBIRD RD FROM RANCHERIAS RD TO CENTRAL RD FROM 2 TO 4 LANES	2025	$7,670
LOCAL HIGHWAY	BIG BEAR LAKE	4A01025	0	BIG BEAR BLVD	WEST BIG BEAR CITY LIMITS	EAST BIG BEAR CITY LIMITS	WIDEN BIG BEAR BLVD FROM WEST BIG BEAR CITY LIMITS TO EAST BIG BEAR CITY LIMITS FROM 2 TO 4 LANES	2025	$18,634
LOCAL HIGHWAY	CHINO	4A01026	0	CENTRAL AVE	FRANCIS AVE	RIVERSIDE DR	WIDEN CENTRAL AVE FROM FRANCIS AVE TO RIVERSIDE DR FROM 6 TO 8 LANES	2025	$2,642
LOCAL HIGHWAY	CHINO	4A01028	0	CHINO AVE	CENTRAL AVE	MOUNTAIN AVE	WIDEN CHINO AVE FROM CENTRAL AVE TO MOUNTAIN AVE FROM 2 TO 4 LANES	2025	$6,100
LOCAL HIGHWAY	CHINO	4A01031	0	CHINO AVE	SR-71	EAST END AVE	WIDEN CHINO AVE FROM SR-71 TO EAST END AVE FROM 4 TO 6 LANES	2035	$1,374
LOCAL HIGHWAY	CHINO	4A01032	0	EDISON AVE	CENTRAL AVE	EUCLID AVE	WIDEN EDISON AVE FROM CENTRAL AVE TO EUCLID AVE FROM 4 TO 6 LANES	2025	$4,249
LOCAL HIGHWAY	CHINO	4A01040	0	MERRILL AVE	EUCLID AVE	EAST CHINO CITY LIMIT	WIDEN MERRILL AVE FROM EUCLID AVE TO EAST CHINO CITY LIMIT FROM 2 TO 3 LANES (EASTBOUND ONLY)	2020	$1,159
LOCAL HIGHWAY	CHINO	4A01041	0	MOUNTAIN AVE	PHILADELPHIA ST	RIVERSIDE DR	WIDEN MOUNTAIN AVE FROM PHILADELPHIA ST TO RIVERSIDE DR FROM 4 TO 6 LANES	2025	$1,914
LOCAL HIGHWAY	CHINO	4A01042	0	PHILADELPHIA ST	CENTRAL AVE	BENSON AVE	WIDEN PHILADELPHIA ST FROM CENTRAL AVE TO BENSON AVE FROM 4 TO 6 LANES	2025	$957
LOCAL HIGHWAY	CHINO	4A01043	0	PHILADELPHIA ST	LA COUNTY LINE	CENTRAL AVE	WIDEN PHILADELPHIA ST FROM LA COUNTY LINE TO CENTRAL AVE FROM 2 TO 4 LANES	2025	$3,127
LOCAL HIGHWAY	CHINO	4A01047	0	RIVERSIDE DR	FERN AVE	EUCLID AVE	WIDEN RIVERSIDE DR FROM FERN AVE TO EUCLID AVE FROM 2 TO 6 LANES(EASTBOUND ONLY)	2025	$828
LOCAL HIGHWAY	CHINO	4A01049	0	RIVERSIDE DR	PIPELINE AVE	FERN AVE	WIDEN RIVERSIDE DR FROM PIPELINE AVE TO FERN AVE FROM 4 TO 6 LANES	2025	$5,089

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: San Bernardino									
LOCAL HIGHWAY	CHINO	4A01063	0	EL PRADO RD	CENTRAL AVE	PINE AVE	WIDEN EL PRADO RD FROM CENTRAL AVE TO PINE AVE FROM 2 TO 4 LANES	2025	$1,569
LOCAL HIGHWAY	COLTON	4A01066	0	BARTON RD	SOUTH COLTON CITY LIMITS	WASHINGTON ST	WIDEN BARTON RD FROM SOUTH COLTON CITY LIMITS TO WASHINGTON ST FROM 4 TO 6 LANES	2025	$1,111
LOCAL HIGHWAY	COLTON	4A01082	0	VALLEY BLVD	SYCAMORE AVE	MT. VERNON AVE	WIDEN VALLEY BLVD FROM SYCAMORE AVE TO MT VERNON AVE FROM 4 TO 6 LANES	2025	$4,277
LOCAL HIGHWAY	FONTANA	4A01093	0	CITRUS AVENUE	SUMMIT AVE	I-15	CITRUS AVENUE FROM SUMMIT AVENUE TO I-15 WIDEN FROM 2 TO 4 LANES	2021	$2,866
LOCAL HIGHWAY	FONTANA	4A01099	0	DUNCAN CANYON	CITRUS AVE	SIERRA AVE	DUNCAN CANYON ROAD FROM CITRUS AVENUE TO SIERRA AVENUE CONSTRUCT 4 LANES.	2020	$5,251
LOCAL HIGHWAY	FONTANA	4A01104	0	FRONTAGE RD (I-15)	DUNCAN CANYON RD	RIVERSIDE AVE	CONSTRUCT NEW 4-LANE I-15 FRONTAGE RD FROM DUNCAN CANYON RD TO RIVERSIDE AVE	2025	$5,194
LOCAL HIGHWAY	GRAND TERRACE	4A01139	0	BARTON RD	HONEY HILLS	NE GRAND TERRACE CITY LIMITS	WIDEN BARTON RD FROM HONEY HILL DR TO NE GRAND TERRACE CITY LIMITS FROM 2 TO 4 LANES	2022	$2,534
LOCAL HIGHWAY	GRAND TERRACE	4A01141	0	BARTON RD	I-215	SPRR	WIDEN BARTON RD FROM I-215 TO SOUTHERN PACIFIC RR FROM 2 TO 4 LANES	2025	$1,798
LOCAL HIGHWAY	GRAND TERRACE	4A01146	0	MT VERNON AVE	CANAL ST	NORTH GRAND TERRACE CITY LIMITS	WIDEN MT VERNON AVE FROM CANAL ST TO NORTH GRAND TERRACE CITY LIMITS FROM 2 TO 4 LANES	2020	$579
LOCAL HIGHWAY	HESPERIA	4A01147	0	7TH AVE	RANCHERO RD	BEAR VALLEY RD	WIDEN 7TH AVE FROM RANCHERO RD TO BEAR VALLEY RD FROM 2 TO 4 LANES	2026	$20,182
LOCAL HIGHWAY	HESPERIA	4A01152	0	HESPERIA RD	BEAR VALLEY RD	SULTANA ST	WIDEN HESPERIA RD FROM BEAR VALLEY RD TO SULTANA ST FROM 2 TO 4 LANES	2030	$12,967
LOCAL HIGHWAY	HESPERIA	4A01155	0	LEMON ST	E AVE	I AVE	WIDEN LEMON ST FROM E AVE TO I AVE FROM 2 TO 4 LANES	2040	$32,505

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: San Bernardino									
LOCAL HIGHWAY	HESPERIA	4A01159	0	MAPLE AVE	MARIPOSA RD	MAIN ST	WIDEN MAPLE AVE FROM MARIPOSA RD TO MAIN ST FROM 2 TO 5 LANES	2040	$19,400
LOCAL HIGHWAY	HESPERIA	4A01162	0	MAUNA LOA RD	7TH AVE	3RD AVE	WIDEN MAUNA LOA RD FROM 7TH AVE TO 3RD AVE FROM 2 TO 4 LANES AND CONNECT TO LEMON ST	2035	$3,473
LOCAL HIGHWAY	MONTCLAIR	4A01183	0	MONTE VISTA AVE	SAN BERNARDINO ST	ARROW HWY	WIDEN MONTE VISTA AVE FROM SAN BERNARDINO ST TO ARROW HWY FROM 4 TO 6 LANES	2025	$3,931
LOCAL HIGHWAY	MONTCLAIR	4A01184	0	SAN BERNARDINO ST	LA COUNTY LINE	BENSON AVE	WIDEN SAN BERNARDINO ST FROM LA COUNTY LINE TO BENSON AVE FROM 4 TO 6 LANES	2025	$4,848
LOCAL HIGHWAY	ONTARIO	4A01203	0	FRANCIS ST	BENSON AVE	CAMPUS AVE	WIDEN FRANCIS ST FROM BENSON AVE TO CAMPUS AVE FROM 2 TO 4 LANES	2025	$3,225
LOCAL HIGHWAY	ONTARIO	4A01210	0	HOLT BLVD	BENSON AVE	VINEYARD AVE	WIDEN HOLT BLVD FROM BENSON AVE TO VINEYARD AVE FROM 4 TO 6 LANES	2025	$9,746
LOCAL HIGHWAY	ONTARIO	4A01213	0	JURUPA ST	TURNER AVE	HOFER RANCH RD	WIDEN JURUPA ST FROM TURNER AVE TO HOFER RANCH RD FROM 2 TO 6 LANES	2025	$734
LOCAL HIGHWAY	ONTARIO	4A01222	0	VINEYARD AVE	4TH ST	I-10	WIDEN VINEYARD AVE FROM 4TH ST TO I-10 FROM 4 TO 6 LANES	2019	$1,366
LOCAL HIGHWAY	REDLANDS	4A01237	0	ALABAMA ST	PALMETTO	SAN BERNARDINO AVE	WIDEN ALABAMA ST FROM PALMETTO AVE TO SAN BERNARDINO AVE FROM 2 TO 4	2025	$7,617
LOCAL HIGHWAY	REDLANDS	4A01239	0	CHURCH ST	COLTON AVE	REDLANDS BLVD	WIDEN CHURCH ST FROM COLTON AVE TO REDLANDS BLVD FROM 2 TO 4 LANES	2025	$4,421
LOCAL HIGHWAY	REDLANDS	4A01241	0	CYPRESS AVE	I-10	CITRUS AV	WIDEN CYPRESS AVE FROM I-10 TO CITRUS AV FROM 2 TO 4 LANES	2025	$761
LOCAL HIGHWAY	REDLANDS	4A01243	0	FORD ST	5TH AVE	I-10	WIDEN FORD ST FROM 5TH AVE TO I-10 FROM 2 TO 4 LANES	2025	$2,029

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: San Bernardino									
LOCAL HIGHWAY	REDLANDS	4A01245	0	LIVE OAK CYN RD	SAN TIMOTEO CYN RD	EAST REDLANDS CITY LIMITS	WIDEN LIVE OAK CYN RD FROM SAN TIMOTEO CYN RD TO EAST REDLANDS CITY LIMITS FROM 2 TO 4 LANES	2025	$6,209
LOCAL HIGHWAY	REDLANDS	4A01246	0	LUGONIA AVE	TENESSEE ST	TEXAS ST	WIDEN LUGONIA AVE FROM TENESSEE ST TO TEXAS ST FROM 2 TO 4 LANES	2025	$3,574
LOCAL HIGHWAY	REDLANDS	4A01248	0	ORANGE ST	LUGONIA AVE	NORTH REDLANDS CITY LIMITS	WIDEN ORANGE ST FROM LUGONIA AVE TO NORTH REDLANDS CITY LIMITS FROM 2 TO 4 LANES	2025	$11,747
LOCAL HIGHWAY	REDLANDS	4A01249	0	REDLANDS BLVD	WEST REDLANDS CITY LIMITS	COLTON AVE	WIDEN REDLANDS BLVD FROM WEST REDLANDS CITY LIMITS TO COLTON AVE FROM 4 TO 6 LANES AND WIDEN INTERSECTION AT COLTON AVE	2025	$12,544
LOCAL HIGHWAY	REDLANDS	4A01250	0	SAN BERNARDINO AVE	CHURCH ST	WABASH AVE	WIDEN SAN BERNARDINO AVE FROM CHURCH ST TO WABASH AVE FROM 2 TO 4 LANES	2025	$2,705
LOCAL HIGHWAY	REDLANDS	4A01254	0	SAN TIMOTEO CYN RD	RR CROSSING	LIVE OAK CYN RD	WIDEN SAN TIMOTEO CYN RD FROM RR CROSSING TO LIVE OAK CYN RD FROM 2 TO 4 LANES	2035	$9,579
LOCAL HIGHWAY	RIALTO	4A01258	0	RIVERSIDE AVE	AGUA MANSA RD	SLOVER AVE	WIDEN RIVERSIDE AVE FROM AGUA MANSA RD TO SLOVER AVE FROM 4 TO 6 LANES	2030	$4,109
LOCAL HIGHWAY	RIALTO	4A01259	0	RIVERSIDE AVE	0.25 MILES S/O VALLEY BLVD	SLOVER AVE	WIDEN RIVERSIDE AVE FROM 0.25 MILES S/O VALLEY BLVD TO SLOVER AVE FROM 2 TO 3 LANES (SOUTHBOUND)	2025	$260
LOCAL HIGHWAY	REDLANDS	4A01262B	0	5TH AVE	CRAFTON AVE	WABASH AVE	WIDEN 5TH AVE FROM CRAFTON AVE TO WABASH AVE FROM 2 TO 4 LANES	2025	$3,608
LOCAL HIGHWAY	CHINO	4A01266	0	CENTRAL AVE	PHILLIPS BLVD	STATE ST	WIDEN CENTRAL AVE FROM PHILLIPS BLVD TO STATE ST FROM 4 TO 6 LANES	2025	$2,093
LOCAL HIGHWAY	MONTCLAIR	4A01267	0	CENTRAL AVE	MONTCLAIR CITY LIMIT	CHINO CITY LIMIT	WIDEN CENTRAL AVE FROM MONTCLAIR CITY LIMIT TO CHINO CITY LIMIT FROM 4 TO 6 LANES	2035	$1,428
LOCAL HIGHWAY	ADELANTO	4A01270	0	EL MIRAGE RD	ADELANTO RD	LA COUNTY LINE	WIDEN EL MIRAGE RD FROM ADELANTO RD TO LA COUNTY LINE FROM 2 TO 4 LANES	2040	$56,884

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000'S)
County: San Bernardino									
LOCAL HIGHWAY	CHINO	4A01272	0	FRANCIS AVE	0.11 MILES W/O EAST END	0.13 MILES E/O TELEPHONE AVE	WIDEN FRANCIS AVE FROM 0.11 MILES W/O EAST END TO 0.13 MILES E/O TELEPHONE AVE FROM 2 TO 4 LANES	2020	$5,255
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A01276	0	MISSION BLVD	LA COUNTY LINE	PIPE LINE AVE	WIDEN MISSION BLVD FROM LA COUNTY LINE TO PIPE LINE AVE FROM 2 TO 6 LANES	2025	$1,029
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A01278	0	PHELAN RD	SHEEP CREEK RD	BALDY MESA RD	WIDEN PHELAN RD FROM SHEEP CREEK RD TO BALDY MESA RD FROM 2 TO 6 LANES	2025	$24,797
LOCAL HIGHWAY	REDLANDS	4A01281	0	SAN BERNARDINO AVE	ALABAMA ST	CALIFORNIA ST	WIDEN SAN BERNARDINO AVE FROM ALABAMA ST TO CALIFORNIA ST FROM 2 TO 4 LANES	2025	$5,050
LOCAL HIGHWAY	FONTANA	4A01285	0	SLOVER AVE	LARCH AVE	SPRUCE AVE	WIDEN SLOVER AVE FROM LARCH AVE TO SPRUCE AVE FROM 2 TO 4 LANES	2025	$4,709
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	4A01292	0	WATERMAN AVE	5TH ST	BASELINE AVE	WIDEN WATERMAN AVE FROM 5TH ST TO BASELINE AVE FROM 4 TO 6 LANES	2030	$8,209
LOCAL HIGHWAY	TWENTYNINE PALMS	4A01293	0	LEAR AV/SUNFAIR RD	POLELINE RD	MARINE CORPS AIR STATION	CONSTRUCT NEW 4-LANE LEAR AVE/SUNFAIR RD FROM POLELINE RD TO MARINE CORPS AIR STATION	2025	$19,708
LOCAL HIGHWAY	UPLAND	4A01296	0	CENTRAL AVE	FOOTHILL BLVD	BENSON AVE	WIDEN CENTRAL AVE FROM FOOTHILL BLVD TO BENSON AVE FROM 0 TO 4 LANES	2020	$14,361
LOCAL HIGHWAY	UPLAND	4A01297	0	CENTRAL AVE	SOUTH UPLAND CITY LIMITS	ARROW ROUTE	WIDEN CENTRAL AVE FROM SOUTH UPLAND CITY LIMITS TO ARROW ROUTE FROM 4 TO 6 LANES EACH DIR	2025	$3,765
LOCAL HIGHWAY	VICTORVILLE	4A01310	0	BALDY MESA RD	PALMDALE RD	LA MESA RD	WIDEN BALDY MESA RD FROM PALMDALE RD TO LA MESA RD FROM 2 TO 4 LANES	2040	$6,000
LOCAL HIGHWAY	VICTORVILLE	4A01325	0	HOOK BLVD	US-395	TOPAZ RD	WIDEN HOOK BLVD FROM US 395 TO 0.4 MILES WEST OF TOPAZ RD FROM 0 TO 4 LANES	2040	$4,000
LOCAL HIGHWAY	VICTORVILLE	4A01343	0	OTTAWA ST	MARIPOSA RD	3RD AVE	WIDEN OTTAWA ST FROM MARIPOSA RD TO THIRD AVE FROM 0 TO 4 LANES	2045	$8,000

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: San Bernardino									
LOCAL HIGHWAY	VICTORVILLE	4A01354	0	SENECA RD	US-395	TOPAZ RD	WIDEN SENECA RD FROM US-395 TO TOPAZ RD FROM 0 TO 4 LANES	2040	$4,000
LOCAL HIGHWAY	VICTORVILLE	4A01362	0	RANCHO RD	NATIONAL TRAILS HWY	0.4 MILES W/O NATIONAL TRAILS HWY	WIDEN RANCHO RD FROM NATIONAL TRAILS HIGHWAY TO 0.4 MILES W/O NATIONAL TRAILS HWY FROM 0 TO 4 LANES	2040	$1,600
LOCAL HIGHWAY	YUCAIPA	4A01366	0	5TH ST	YUCAIPA BLVD	COUNTY LINE RD	WIDEN 5TH ST FROM YUCAIPA BLVD TO COUNTY LINE RD FROM 2 TO 4 LANES	2025	$5,000
LOCAL HIGHWAY	YUCAIPA	4A01367	0	CALIFORNIA ST	WILDWOOD CYN RD	COUNTY LINE RD	WIDEN CALIFORNIA ST FROM WILDWOOD CYN RD TO COUNTY LINE RD FROM 2 TO 4 LANES	2025	$1,635
LOCAL HIGHWAY	YUCAIPA	4A01368	0	CALIMESA BLVD	OAK GLEN RD	COUNTY LINE RD	WIDEN CALIMESA BLVD FROM OAK GLEN RD TO COUNTY LINE RD FROM 2 TO 4 LANES	2025	$3,004
LOCAL HIGHWAY	YUCAIPA	4A01370	0	COUNTY LINE RD	CALIMESA BLVD	BRYANT ST	WIDEN COUNTY LINE RD FROM CALIMESA BLVD TO BRYANT ST FROM 2 TO 4 LANES	2025	$2,537
LOCAL HIGHWAY	YUCAIPA	4A01371	0	LIVE OAK CYN RD	WEST CITY LIMIT	I-10	WIDEN LIVE OAK CYN RD FROM WEST CITY LIMIT TO I-10 FROM 2 TO 4 LANES	2025	$1,627
LOCAL HIGHWAY	YUCAIPA	4A01376A	0	WILDWOOD CYN RD	CALIMESA BLVD	COLORADO ST	WIDEN WILDWOOD CYN RD FROM CALIMESA BLVD TO COLORADO ST FROM 2 TO 4 LANES	2025	$1,448
LOCAL HIGHWAY	YUCAIPA	4A01376B	0	WILDWOOD CYN RD	COLORADO ST	HOLMES ST	WIDEN WILDWOOD CYN RD FROM COLORADO ST TO HOLMES ST FROM 2 TO 4 LANES	2025	$5,097
LOCAL HIGHWAY	CHINO	4A04035	0	EUCLID AVE	KIMBALL AVE	PINE AVE	WIDEN EUCLID AVE FROM KIMBALL AVE TO PINE AVE FROM 4 TO 8 LANES	2020	$2,430
LOCAL HIGHWAY	CHINO	4A04036	0	EUCLID AVE	PINE AVE.	SR-71	WIDEN EUCLID AVE FROM PINE AVE TO SR-71 FROM 2/4 TO 8 LANES	2035	$16,765
LOCAL HIGHWAY	CHINO	4A04038	0	HELLMAN AVE	KIMBALL AVE	CHINO CORONA RD	WIDEN HELLMAN AVE FROM KIMBALL AVE TO CHINO CORONA RD FROM 2 TO 4 LANES	2025	$4,581

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: San Bernardino									
LOCAL HIGHWAY	CHINO	4A04045	0	PINE AVE	EUCLID AVE	HELLMAN AVE	WIDEN PINE AVE FROM EUCLID AVE TO HELLMAN AVE FROM 2 TO 6 LANES	2025	$5,368
LOCAL HIGHWAY	COLTON	4A04067	0	FAIRWAY DR	SPERRY DR	COLTON CITY LIMITS	WIDEN FAIRWAY DR FROM SPERRY DR TO COLTON CITY LIMITS FROM 2 TO 4 LANES	2025	$1,497
LOCAL HIGHWAY	COLTON	4A04071	0	MT VERNON AVE	LA CADENA DR	I-10 EB RAMPS	WIDEN MT VERNON AVE FROM LA CADENA DR TO EASTBOUND I-10 RAMPS FROM 4 TO 6 LANES	2025	$2,305
LOCAL HIGHWAY	FONTANA	4A04084	0	CASA GRANDE	LYTLE CREEK RD	MANGO AVE	CASA GRANDE AVENUE FROM LYTLE CREEK ROAD TO MANGO AVENUE CONSTRUCT 4 LANES	2021	$11,464
LOCAL HIGHWAY	FONTANA	4A04098	0	CYPRESS AVE	SOUTH HIGHLAND AVE	SIERRA LAKES PKWY	WIDEN CYPRESS AVE FROM SOUTH HIGHLAND AVE TO SIERRA LAKES PKWY FROM 0 TO 4 LANES	2030	$10,761
LOCAL HIGHWAY	FONTANA	4A04102	0	FOOTHILL BLVD	HEMLOCK AVE	ALMERIA AVE	WIDEN FOOTHILL BLVD FROM HEMLOCK AVE TO ALMERIA AVE FROM 4 TO 6 LANES	2023	$8,014
LOCAL HIGHWAY	FONTANA	4A04108	0	JURUPA AVENUE	TAMARIND AVE	ALDER AVE	JURUPA AVENUE FROM TAMARIND AVENUE TO ALDER AVENUE WIDEN FROM 2 TO 4 LANES	2020	$958
LOCAL HIGHWAY	FONTANA	4A04110	0	LIVE OAK RD	VALLEY BLVD	MERRILL AVE	WIDEN LIVE OAK RD FROM VALLEY BLVD TO MERRILL AVE FROM 2 TO 4 LANES	2030	$5,687
LOCAL HIGHWAY	FONTANA	4A04114	0	MERRILL AVE	CATAWBA AVE	FONTANA AVE	WIDEN MERRILL AVE FROM CATAWBA AVE TO FONTANA AVE FROM 2 TO 4 LANES	2025	$1,484
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A04115	0	MULBERRY AVE	VALLEY BLVD	SAN BERNARDINO AVE	WIDEN MULBERRY AVE FROM VALLEY BLVD TO SAN BERNARDINO AVE FROM 2 TO 4 LANES	2025	$964
LOCAL HIGHWAY	FONTANA	4A04122	0	SIERRA AVE	SAN BERNARDINO AVE	FOOTHILL BLVD	WIDEN SIERRA AVE FROM SAN BERNARDINO AVE TO FOOTHILL BLVD FROM 4 TO 6 LANES	2030	$21,091
LOCAL HIGHWAY	FONTANA	4A04123	0	SIERRA AVE	SLOVER AVE	VALLEY BLVD	WIDEN SIERRA AVE FROM SLOVER AVE TO VALLEY BLVD FROM 6 TO 8 LANES	2025	$1,187

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: San Bernardino									
LOCAL HIGHWAY	FONTANA	4A04127	0	SIERRA LAKES PARKWAY	BEECH AVE	CITRUS AVE	SIERRA LAKES PARKWAY FROM BEECH AVENUE TO CITRUS AVENUE WIDEN FROM 2 TO 4 LANES.	2021	$4,290
LOCAL HIGHWAY	ONTARIO	4A04189	0	ARCHIBALD AVE	EDISON AVE	SOUTH ONTARIO CITY LIMITS	WIDEN ARCHIBALD AVE FROM EDISON AVE TO SOUTH ONTARIO CITY LIMITS FROM 2 TO 6 LANES	2025	$7,298
LOCAL HIGHWAY	ONTARIO	4A04190	0	ARCHIBALD AVE	RIVERSIDE AVE	EDISON AVE	WIDEN ARCHIBALD AVE FROM RIVERSIDE AVE TO EDISON AVE FROM 2 TO 6 LANES	2025	$6,787
LOCAL HIGHWAY	ONTARIO	4A04192	0	BELLEGRAVE AVE	SUMNER AVE	MILLIKEN AVE	WIDEN BELLEGRAVE AVE FROM SUMNER AVE TO MILLIKEN AVE (HAMNER AVE) FROM 2 TO 4 LANES	2025	$11,869
LOCAL HIGHWAY	ONTARIO	4A04193	0	CAMPUS AVE	RIVERSIDE DR	MERRILL AVE	WIDEN CAMPUS AVE FROM RIVERSIDE DR TO MERRILL AVE FROM 2 TO 4 LANES	2025	$5,680
LOCAL HIGHWAY	ONTARIO	4A04194	0	CHINO AVE	EUCLID AVE	MILLIKEN BLVD	WIDEN CHINO AVE FROM EUCLID TO MILLIKEN BLVD FROM 2 TO 4 LANES	2025	$15,211
LOCAL HIGHWAY	ONTARIO	4A04196	0	EDISON AVE	MILL CREEK AVE	MILLIKEN AVE	WIDEN EDISON AVE FROM MILL CREEK AVE TO MILLIKEN AVE FROM 2 TO 8 LANES	2025	$3,598
LOCAL HIGHWAY	ONTARIO	4A04197	0	EDISON AVE	EUCLID AVE	WALKER AVE	WIDEN EDISON AVE FROM EUCLID AVE TO WALKER AVE FROM 2 TO 8 LANES	2025	$9,363
LOCAL HIGHWAY	ONTARIO	4A04198	0	EDISON AVE	VINEYARD AVE	MILL CREEK AVE	WIDEN EDISON AVE FROM VINEYARD AVE TO MILL CREEK AVE FROM 2 TO 8 LANES	2025	$23,471
LOCAL HIGHWAY	ONTARIO	4A04199	0	EDISON AVE	WALKER AVE	VINEYARD AVE	WIDEN EDISON AVE FROM WALKER AVE TO VINEYARD AVE FROM 2 TO 8 LANES	2025	$3,445
LOCAL HIGHWAY	ONTARIO	4A04200	0	EUCALYPTUS AVE	EUCLID AVE	MILLIKEN AVE	WIDEN EUCALYPTUS AVE FROM EUCLID AVE TO MILLIKEN AVE (HAMNER AVE) FROM 2 TO 4 LANES	2035	$3,716
LOCAL HIGHWAY	ONTARIO	4A04201	0	EUCLID AVE	RIVERSIDE DR	MERRILL AVE	WIDEN EUCLID AVE FROM RIVERSIDE DR TO MERRILL AVE FROM 2 TO 4 LANES (NORTHBOUND ONLY)	2035	$15,281

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: San Bernardino									
LOCAL HIGHWAY	ONTARIO	4A04206	0	GROVE AVE	RIVERSIDE DR	MERRILL AVE	WIDEN GROVE AVE FROM RIVERSIDE DR TO MERRILL AVE FROM 2 TO 4 LANES	2035	$12,695
LOCAL HIGHWAY	ONTARIO	4A04208	0	HAVEN AVE	RIVERSIDE DR	BELLEGRAVE AVE	WIDEN HAVEN AVE FROM RIVERSIDE DR TO BELLEGRAVE AVE FROM 2 TO 4 LANES	2035	$5,443
LOCAL HIGHWAY	ONTARIO	4A04214	0	MILL CREEK AVE	RIVERSIDE DR	BELLGRAVE AVE	WIDEN MILL CREEK AVE FROM RIVERSIDE DR TO BELLGRAVE AVE 2-4 LANES	2025	$3,977
LOCAL HIGHWAY	ONTARIO	4A04215	0	MILLIKEN AVE	EDISON AVE	SOUTH ONTARIO CITY LIMITS	WIDEN MILLIKEN AVE (HAMNER AVE) FROM EDISON AVE TO SOUTH ONTARIO CITY LIMITS FROM 2 TO 3 LANES (SB ONLY)	2025	$1,893
LOCAL HIGHWAY	ONTARIO	4A04216	0	MILLIKEN AVE	RIVERSIDE AVE	EDISON AVE	WIDEN MILLIKEN AVE (HAMNER AVE) FROM RIVERSIDE AVE TO EDISON AVE FROM 1 TO 4 LANES (SB ONLY)	2025	$4,543
LOCAL HIGHWAY	ONTARIO	4A04218	0	ONTARIO/HELLMAN AVE	RIVERSIDE DR	BELLGRAVE AVE	WIDEN ONTARIO/HELLMAN AVE FROM RIVERSIDE DR TO BELLGRAVE FROM 0 TO 2/4 LANES	2030	$5,747
LOCAL HIGHWAY	ONTARIO	4A04219	0	RIVERSIDE DR	EUCLID AVE	MILLIKEN AVE	WIDEN RIVERSIDE DR FROM EUCLID AVE TO MILLIKEN AVE FROM 2 TO 4 LANES	2030	$6,349
LOCAL HIGHWAY	ONTARIO	4A04220	0	SCHAEFER AVE	EUCLID AVE	HAVEN AVE	WIDEN SCHAEFER AVE FROM EUCLID AVE TO HAVEN AVE FROM 0 TO 4 LANES	2030	$4,981
LOCAL HIGHWAY	ONTARIO	4A04223	0	VINEYARD AVE	RIVERSIDE DR	MERRILL AVE	WIDEN VINEYARD AVE FROM RIVERSIDE DR TO MERILL AVE FROM 0 TO 6 LANES	2025	$6,624
LOCAL HIGHWAY	REDLANDS	4A04240	0	CITRUS AVE	DEARBORN ST	WABASH AVE	WIDEN CITRUS AVE FROM DEARBORN ST TO WABASH AVE FROM 2 TO 4 LANES	2025	$1,166
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A04401	0	MULBERRY AVE	JURUPA AVE	SLOVER AVE	WIDEN MULBERRY AVE FROM JURUPA AVE TO SLOVER AVE FROM 2 TO 4 LANES	2025	$580
LOCAL HIGHWAY	ADELANTO	4A04406	0	ADELANTO RD	CHAMBERLAINE WAY	COLUSA RD	CONSTRUCT 4-LANE ADELANTO RD FROM CHAMBERLAINE WAY TO COLUSA RD	2040	$14,627

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: San Bernardino									
LOCAL HIGHWAY	ADELANTO	4A04409	0	KOALA RD	PALMDALE RD	HOLLY RD	CONSTRUCT 4-LANE KOALA RD FROM PALMDALE RD TO HOLLY RD	2040	$6,501
LOCAL HIGHWAY	ADELANTO	4A04410	0	KOALA RD	HOLLY RD	EL MIRAGE RD	WIDEN KOALA RD FROM HOLLY RD TO EL MIRAGE RD FROM 2 TO 4 LANES	2040	$11,671
LOCAL HIGHWAY	YUCAIPA	4A04415	0	14TH ST	YUCAIPA BLVD	OAK GLEN RD	WIDEN 14TH ST FROM YUCAIPA BLVD TO OAK GLEN RD FROM 2 TO 4 LANES	2025	$4,000
LOCAL HIGHWAY	YUCAIPA	4A04417	0	BRYANT ST	NORTH YUCAIPA CITY LIMITS	COUNTY LINE RD	WIDEN BRYANT ST FROM NORTH YUCAIPA CITY LIMITS TO COUNTY LINE RD FROM 2 TO 4 LANES	2025	$7,914
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	4A07003	0	WATERMAN AV/I-10	HOSPITALITY LN	REDLANDS BLVD	REPLACE I-10 BRIDGE TO WIDEN WATERMAN AVE FROM HOSPITALITY LN TO REDLANDS BLVD FROM 4 TO 6 LANES	2030	$35,628
LOCAL HIGHWAY	APPLE VALLEY	4A07006	0	FALCHION RD	I-15	DALE EVANS PKWY	WIDEN FALCHION RD FROM I-15 TO DALE EVANS PKWY FROM 0 TO 4 LANES	2030	$23,752
LOCAL HIGHWAY	APPLE VALLEY	4A07007	0	DALE EVANS PKWY	THUNDERBIRD RD	I-15	WIDEN DALE EVANS PKWY FROM THUNDERBIRD RD TO I-15 FROM 2 TO 4 LANES	2030	$22,802
LOCAL HIGHWAY	APPLE VALLEY	4A07010	0	DEL ORO RD	APPLE VALLEY RD	CENTRAL RD	WIDEN DEL ORO RD FROM APPLEY VALLEY RD TO CENTRAL RD FROM 0 TO 2 LANES	2030	$19,952
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07013	0	SUNBURST AVE	SR-62	CRESTVIEW DR	WIDEN SUNBURN AVE FROM SR-62 TO CRESTVIEW DR FROM 2 TO 4 LANES; ADJUST VERTICAL PROFILE SAFETY	2030	$17,814
LOCAL HIGHWAY	APPLE VALLEY	4A07015	0	CENTRAL RD	BEAR VALLEY RD	WAALEW RD	WIDEN CENTRAL RD FROM BEAR VALLEY RD TO WAALEW RD FROM 2 TO 4 LANES	2025	$15,340
LOCAL HIGHWAY	REDLANDS	4A07017	0	ALABAMA ST	LUGONIA AVE	BARTON RD	WIDEN ALABAMA ST FROM LUGONIA AVE TO BARTON RD FROM 4 TO 6 LANES	2025	$26,264
LOCAL HIGHWAY	HIGHLAND	4A07019	0	GREENSPOT RD BRANCH	SANTA ANA RIVER	SR-38	CONSTRUCT NEW STREET, BRANCH OFF FROM GREENSPOT RD TO CONNECT TO SR-38 FROM 0 TO 2/4 LANES WITHIN CITY LIMIT INCLUDING BRIDGE OVER MILL CREEK	2025	$61,790

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: San Bernardino									
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07020	0	NATIONAL TRAILS HIGHWAY	SAN BERNARDINO COUNTY		SAFETY UPGRADES TO NATIONAL TRAILS HIGHWAY IN SAN BERNARDINO COUNTY	2025	$12,000
LOCAL HIGHWAY	YUCAIPA	4A07022	0	WILDWOOD CYN RD	OUTER HWY I-10	CALIMESA BLVD NEW RD	WIDEN WILDWOOD CYN RD FROM OUTER HWY I-10 ST TO CALIMESA BLVD FROM 2 TO 4 LANES	2025	$12,682
LOCAL HIGHWAY	VICTORVILLE	4A07023	0	PALMDALE RD	US 395	I-15	WIDEN PALMDALE RD FROM US 395 TO I-15 FROM 4 TO 6 LANES	2040	$8,800
LOCAL HIGHWAY	FONTANA	4A07024	0	ARROW BLVD	HICKORY AVE	ALMERIA AVE	WIDEN ARROW BLVD FROM HICKORY AVE TO ALMERIA AVE FROM 2 TO 4 LANES	2025	$6,327
LOCAL HIGHWAY	VICTORVILLE	4A07025	0	NATIONAL TRAILS HWY	MOJAVE RIVER	NATIONAL TRAILS HWY @ MOJAVE RIVER	WIDEN NATIONAL TRAILS HIGHWAY BRIDGE OVER MOJAVE RIVER (REPLACE EXISTING BRIDGE) WIDEN 2 FROM TO 4 LANES	2040	$19,500
LOCAL HIGHWAY	APPLE VALLEY	4A07026	0	SITTING BULL RD	APPLE VALLEY RD	NAVAJO RD	WIDEN SITTING BULL RD FROM APPLE VALLEY RD TO NAVAJO RD FROM 2 TO 4 LANES	2030	$12,826
LOCAL HIGHWAY	GRAND TERRACE	4A07027	0	COMMERCE WAY	900' N/O PICO ST	MAIN ST	EXTEND COMMERCE WAY FROM 900' N/O PICO ST TO MAIN ST FROM 0 TO 4 LANES	2020	$14,388
LOCAL HIGHWAY	APPLE VALLEY	4A07029	0	WAALEW RD	CORWIN RD	CENTRAL AVE	WIDEN WAALEW RD FROM CORWIN RD TO CENTRAL AVE RD FROM 2 TO 4 LANES	2025	$10,653
LOCAL HIGHWAY	APPLE VALLEY	4A07032	0	RANCHERIAS RD	RINCON RD	CORWIN RD	WIDEN RANCHERIAS RD FROM RINCON RD TO CORWIN RD FROM 2 TO 4 LANES	2030	$11,223
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07033	0	SAN BERNARDINO AVE	ALDER AVE	LAUREL AVE	WIDEN SAN BERNARDINO AVE FROM ALDER AVE TO LAUREL AVE FROM 2 TO 4 LANES	2025	$524
LOCAL HIGHWAY	FONTANA	4A07034	0	SIERRA LAKES PKWY	CHERRY AVE	CATAWBA AVE	WIDEN SIERRA LAKES PKWY FROM CHERRY AVE TO CATAWBA AVE WIDEN FROM 2 TO 4 LANES	2030	$10,118
LOCAL HIGHWAY	FONTANA	4A07040	0	CHERRY AVE	VALLEY BLVD	FOOTHILL BLVD	WIDEN CHERRY AVE FROM VALLEY BLVD TO FOOTHILL BLVD FROM 4 TO 6 LANES	2025	$8,264

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: San Bernardino									
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07043	0	SPRING VALLEY PKWY	HUERTA RD	DRIFTWOOD DR	WIDEN SPRING VALLEY PKWY FROM HUERTA RD TO DRIFTWOOD DR FROM 2 TO 4 LANES	2025	$7,425
LOCAL HIGHWAY	FONTANA	4A07045	0	LYTLE CREEK RD	SUMMIT AVE	DUNCAN AVE	WIDEN LYTLE CREEK RD FROM SUMMIT AVE TO DUNCAN AVE FROM 0 TO 4 LANES	2030	$8,071
LOCAL HIGHWAY	FONTANA	4A07048	0	CERES AVE	MANGO AVE	CATAWBA AVE	WIDEN CERES AVE FROM MANGO AVE TO CATAWBA AVE FROM 2 TO 4 LANES	2025	$6,512
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07051	0	WILSON RANCH RD	DUNCAN RD	PALMDALE RD	PAVE WILSON RANCH RD FROM DUNCAN RD TO PALMDALE RD FROM 0 TO 2 LANES	2023	$6,000
LOCAL HIGHWAY	CHINO	4A07052	0	KIMBALL AVE	EUCLID AVE	HELLMAN AVE	WIDEN KIMBALL AVE FROM EUCLID AVE TO HELLMAN AVE FROM 2 TO 4 LANES	2025	$6,285
LOCAL HIGHWAY	FONTANA	4A07055	0	MERRILL AVE	CHERRY AVE	CATAWBA AVE	WIDEN MERRILL AVE FROM CHERRY AVE AV TO CATAWBA AVE FROM 2 TO 4 LANES	2025	$6,117
LOCAL HIGHWAY	FONTANA	4A07056	0	SOUTH HIGHLAND AVE	SAN SEVAINE RD	CITRUS AVE	WIDEN SOUTH HIGHLAND AVE FROM SAN SEVAINE RD TO CITRUS AVE FROM 2 TO 4 LANES	2020	$4,000
LOCAL HIGHWAY	APPLE VALLEY	4A07058	0	ROUNDUP WAY	KIOWA RD	CENTRAL AVE	WIDEN ROUNDUP WAY FROM KIOWA RD TO CENTRAL AVE FROM 2 TO 4 LANES	2025	$5,752
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	4A07060	0	KENDALL DR	PALM AVE	CAJON BLVD	WIDEN KENDALL DR FROM PALM AVE TO CAJON BLVD FROM 2 TO 4 LANES	2025	$5,216
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07061	0	RANDALL AVE	CHERRY AVE	POPLAR AVE	WIDEN RANDALL AVE FROM CHERRY AVE TO POPLAR AVE FROM 2 TO 4 LANES	2025	$2,790
LOCAL HIGHWAY	HIGHLAND	4A07062	0	9TH ST	EUCALYPTUS DR	VICTORIA AVE	WIDEN 9TH ST FROM EUCALYPTUS DR TO VICTORIA AVE FROM 2 TO 4 LANES AND CONSTRUCT SHOULDER IMPROVEMENTS	2022	$624
LOCAL HIGHWAY	APPLE VALLEY	4A07063	0	DEEP CREEK RD	BEAR VALLEY RD	SITTING BULL RD	WIDEN DEEP CREEK RD FROM BEAR VALLEY RD TO SITTING BULL RD FROM 0 TO 4 LANES	2030	$6,176

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: San Bernardino									
LOCAL HIGHWAY	APPLE VALLEY	4A07069	0	DEEP CREEK RD	TUSSING RANCH RD	BEAR VALLEY RD	WIDEN DEEP CREEK RD FROM TUSSING RANCH RD TO BEAR VALLEY RD FROM 2 TO 4 LANES	2030	$5,700
LOCAL HIGHWAY	APPLE VALLEY	4A07070	0	KIOWA RD	OCOTILLO RD	YUCCA LOMA RD	WIDEN KIOWA RD FROM OCOTILLO RD TO YUCCA LOMA RD FROM 2 TO 4 LANES	2030	$11,401
LOCAL HIGHWAY	APPLE VALLEY	4A07071	0	NAVAJO RD	SR-18	THUNDERBIRD RD	WIDEN NAVAJO RD FROM SR-18 TO THUNDERBIRD RD FROM 2 TO 4 LANES	2020	$4,800
LOCAL HIGHWAY	VICTORVILLE	4A07075	0	SMOKETREE RD	TOPAZ RD	AMARGOSA RD	WIDEN SMOKETREE RD FROM TOPAZ RD TO AMARGOSA RD FROM 0 TO 4 LANES (INCLUDES WASH CROSSING)	2040	$3,600
LOCAL HIGHWAY	FONTANA	4A07077	0	WALNUT AVE	I-15	SAN SEVAINE RD	WIDEN WALNUT AVE FROM I-15 TO SAN SEVAINE RD FROM 2 TO 4 LANES	2030	$5,058
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07079	0	SAN BERNARDINO AVE	LAUREL AVE	RIALTO CITY LIMITS	WIDEN SAN BERNARDINO AVE FROM LAUREL AVE TO RIALTO CITY LIMITS FROM 2 TO 4 LANES	2023	$3,067
LOCAL HIGHWAY	APPLE VALLEY	4A07080	0	BEAR VALLEY RD	NAVAJO RD	JOSHUA RD	WIDEN BEAR VALLEY RD FROM NAVAJO RD TO JOSHUA RD FROM 2 TO 4 LANES	2030	$5,350
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	4A07081	0	COULSTON AVE	TIPPECANOE AVE	MOUNTAIN VIEW AVE	WIDEN COULSTON AVE AV FROM TIPPECANOE AVE TO MOUNTAIN VIEW AVE FROM 2 TO 4 LANES	2030	$5,016
LOCAL HIGHWAY	FONTANA	4A07083	0	BASELINE AVE	MANGO AVE	MAPLE AVE	WIDEN BASELINE AVE FROM MANGO AVE TO MAPLE AVE FROM 2 TO 6 LANES	2030	$4,742
LOCAL HIGHWAY	FONTANA	4A07084	0	SAN SEVAINE RD	SOUTH HIGHLAND AVE	SUMMIT AVE	SAN SEVAINE RD FROM BASELINE AVE TO SUMMIT AVE WIDEN FROM 2 TO 4 LANES	2020	$4,000
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07087	0	EL RIVINO RD	CEDAR AVE	AGUA MANSA RD	WIDEN EL RIVINO RD FROM CEDAR AVE TO AGUA MANSA RD FROM 2 TO 4 LANES	2023	$4,185
LOCAL HIGHWAY	APPLE VALLEY	4A07091	0	CENTRAL RD	ROUNDUP WAY	N/ POPPY RD	WIDEN CENTRAL RD FROM ROUNDUP WAY TO N/ POPPY RD FROM 2 TO 4 LANES	2025	$4,314

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000'S)
County: San Bernardino									
LOCAL HIGHWAY	VICTORVILLE	4A07092	0	LA MESA RD	WHITE RD	MESA VIEW DR	WIDEN LA MESA RD FROM WHITE RD TO MESA VIEW DR FROM 0 TO 4 LANES	2040	$14,000
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	4A07094	0	ELECTRIC AVE	MT. VIEW AVE	NORTHPARK BLVD	WIDEN ELECTRIC AVE FROM MT VIEW AVE TO NORTHPARK BLVD FROM 2 TO 4 LANES	2030	$4,560
LOCAL HIGHWAY	VICTORVILLE	4A07096	0	BELLFLOWER ST	PALMDALE RD	SYCAMORE ST	WIDEN BELLFLOWER RD FROM PALMDALE RD TO SYCAMORE ST FROM 0 TO 4 LANES	2040	$18,000
LOCAL HIGHWAY	RIALTO	4A07101	0	SAN BERNARDINO AVE	LILAC AVE	SYCAMORE AVE	WIDEN SAN BERNARDINO AVE FROM LILAC AVE TO SYCAMORE AVE FROM 2 TO 4 LANES	2030	$1,805
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07104	0	BEECH AVE	RANDALL AVE	ARROW RTE	WIDEN BEECH AVE FROM RANDALL AVE TO ARROW ROUTE FROM 2 TO 4 LANES	2025	$3,476
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07107	0	PHILLIPS BLVD	YORBA AVE	BENSON AVE	WIDEN PHILLIPS BLVD FROM YORBA AV TO BENSON AV FROM 2 TO 4 LANES	2025	$4,079
LOCAL HIGHWAY	FONTANA	4A07109	0	SAN BERNARDINO AVE	ETIWANDA AVE	CHERRY AVE	WIDEN SAN BERNARDINO AVE FROM ETIWANDA AVE TO CHERRY AVE FROM 4 TO 6 LANES	2025	$3,578
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07111	0	JURUPA AVE	CEDAR AVE	LILAC AVE	WIDEN JURUPA AVE FROM CEDAR AVE TO LILAC AVE FROM 2 TO 4 LANES	2025	$570
LOCAL HIGHWAY	REDLANDS	4A07112	0	NEVADA ST	LUGONIA AVE	PALMETTO AVE	WIDEN NEVADA ST FROM LUGONIA AVE TO PALMETTO AVE FROM 2 TO 4 LANES	2025	$3,595
LOCAL HIGHWAY	VICTORVILLE	4A07113	0	SENECA RD	TOPAZ RD	AMARGOSA RD	WIDEN SENECA RD FROM TOPAZ RD TO AMARGOSA RD FROM 2 TO 4 LANES	2040	$6,000
LOCAL HIGHWAY	CHINO HILLS	4A07116	0	PINE AVE	SR-71	CHINO CREEK	WIDEN PINE AVE FROM SR-71 TO CHINO CREEK (NORTH SIDE ONLY) IN CONJUNCTION WITH CHINO PROJECT ID 200207	2025	$3,250
LOCAL HIGHWAY	RIALTO	4A07120	0	MERRILL AVE	LINDEN AVE	0.12 MILES E/O LINDEN AVE	WIDEN MERRILL AVE FROM LINDEN AVE TO 0.12 MILES E/O LINDEN AVE FROM 3 TO 4 LANES	2030	$143

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: San Bernardino									
LOCAL HIGHWAY	RIALTO	4A07121	0	BASELINE RD	MAPLE AVE	LINDEN AVE	WIDEN AND RECONSTRUCT BASELINE AVE FROM MAPLE AVE TO LINDEN AVE FROM 3 TO 4 LANES	2025	$250
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07124	0	PHILLIPS BLVD	ROSWELL AVE	YORBA AVE	WIDEN PHILLIPS BLVD FROM ROSWELL AVE TO YORBA AVE FROM 2 TO 4 LANES	2025	$3,026
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07125	0	DEVORE RD	I-215	KENWOOD DR	WIDEN DEVORE RD FROM I-215 TO KENWOOD DR FROM 2 TO 4 LANES	2023	$3,609
LOCAL HIGHWAY	HESPERIA	4A07129	0	HESPERIA RD	YUCCA ST	WALNUT AVE	CONSTRUCT GRADE SEPARATION CONNECTION TO MAIN ST	2035	$6,252
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07130	0	DALEY CANYON AT SR-18	DALEY CANYON RD	DALEY CANYON RD @ SR-18	INTERSECTION IMPROVEMENTS FOR DALEY CANYON RD @ SR-18	2025	$3,000
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07131	0	MIDWAY AVE	SR-18	SR-247	PAVE DIRT ROAD MIDWAY AVE FROM SR-18 TO SR-247 AS 2-LANE ROAD	2025	$3,196
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07132	0	SANTA ANA AVE	CEDAR AVE	CACTUS AVE	WIDEN SANTA ANA AVE FROM CEDAR AVE TO CACTUS AVE FROM 2 TO 4 LANES	2023	$2,268
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07133	0	EAST END AVE	CHINO AVE	WALNUT AVE	WIDEN EAST END AVE FROM CHINO AVE TO WALNUT AVE FROM 2 TO 4 LANES	2030	$3,448
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	4A07135	0	RIALTO AVE	LENA RD	TIPPECANOE AVE	WIDEN RIALTO AVE AV FROM LENA RD TO TIPPECANOE AVE AV FROM 2 TO 4 LANES	2030	$3,420
LOCAL HIGHWAY	HIGHLAND	4A07136	0	HIGHLAND AVE	CHURCH ST	BOULDER AVE	WIDEN HIGHLAND AVE FROM CHURCH ST TO BOULDER AVE FROM 2 TO 4 LANES	2025	$3,335
LOCAL HIGHWAY	ONTARIO	4A07138	0	PHILADELPHIA ST	VINEYARD AVE	CUCAMONGA CREEK	WIDEN PHILADELPHIA ST FROM VINEYARD AVE TO CUCAMONGA CREEK FROM 2 TO 4 LANES, INCLUDING BRIDGE OVER CUCAMONGA CREEK	2030	$1,865
LOCAL HIGHWAY	FONTANA	4A07140	0	VALLEY BOULEVARD	SIERRA AVE	ALDER AVE	VALLEY BOULEVARD FROM SIERRA AVENUE TO ALDER AVENUE WIDEN FROM 4-6 LANES	2021	$2,416

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: San Bernardino									
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07143	0	CALABASH AVE	WHITTRAM AVE	FOOTHILL BLVD	WIDEN CALABASH AVE FROM WHITTRAM AVE TO FOOTHILL BLVD FROM 2 TO 4 LANES	2025	$1,740
LOCAL HIGHWAY	FONTANA	4A07145	0	BANANA AVE	JURUPA AVE	SLOVER AVE	WIDEN BANANA AVE FROM JURUPA AVE TO SLOVER AVE FROM 2 TO 4 LANES	2030	$1,787
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07146	0	EAST END AVE	PHILADELPHIA AVE	PHILLIPS BLVD	WIDEN EAST END AV FROM PHILADELPHIA AVE TO PHILLIPS BLVD FROM 2 TO 4 LANES	2030	$3,207
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	4A07148	0	RANCHO RD	COLTON CITY LIMITS	5TH ST	WIDEN RANCHO RD FROM COLTON CITY LIMITS TO 5TH ST FROM 2 TO 4 LANES	2025	$3,428
LOCAL HIGHWAY	VICTORVILLE	4A07149	0	AMARGOSA RD	AIR EXPRESSWAY	VILLAGE DR	WIDEN AMARGOSA RD FROM AIR EXPRESSWAY TO VILLAGE DR FROM 0 TO 4 LANES (INCLUDES WASH CROSSING)	2040	$6,000
LOCAL HIGHWAY	HIGHLAND	4A07150	0	CONE CAMP RD	GREENSPOT RD	SOUTH HIGHLAND CITY LIMIT	CONSTRUCT NEW STREET FOR CONE CAMP RD FROM GREENSPOT RD TO SOUTH HIGHLAND CITY LIMIT FROM 0 TO 2 LANES	2035	$4,044
LOCAL HIGHWAY	CHINO	4A07151	0	RAMONA AVE	PHILADELPHIA AVE	PHILLIPS BLVD	WIDEN RAMONA AVE AV FROM PHILADELPHIA AVE TO PHILLIPS BLVD FROM 2 TO 4 LANES	2025	$2,805
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	4A07152	0	TIPPECANOE AVE	MILL ST	HARRIMAN PL	WIDEN TIPPECANOE AVE FROM MILL ST TO HARRIMAN FROM 4 TO 6 LANES	2030	$29,690
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07153	0	SANTA ANA AVE	TAMARIND AVE	LOCUST AVE	WIDEN SANTA ANA AVE FROM TAMARIND AVE TO LOCUST AVE FROM 2 TO 4 LANES	2030	$3,030
LOCAL HIGHWAY	REDLANDS	4A07154	0	PALMETTO AVE	CALIFORNIA ST	ALABAMA ST	WIDEN PALMETTO AVE FROM CALIFORNIA ST TO ALABAMA ST FROM 2 TO 4 LANES	2025	$2,732
LOCAL HIGHWAY	VICTORVILLE	4A07156	0	BEAR VALLEY RD	US-395	MONTE VISTA RD	WIDEN BEAR VALLEY FROM US-395 TO MONTE VISTA RD FROM 2 TO 6 LANES	2040	$8,000
LOCAL HIGHWAY	FONTANA	4A07157	0	BEECH AVE	VALLEY BLVD	RANDALL AVE	WIDEN BEECH AVE FROM VALLEY BLVD TO RANDALL AVE FROM 2 TO 4 LANES	2025	$2,683

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: San Bernardino									
LOCAL HIGHWAY	FONTANA	4A07158	0	SANTA ANA AVE	ALMOND AVE	REDWOOD AVE	WIDEN SANTA ANA AVE FROM ALMOND AVE TO REDWOOD AVE FROM 2 TO 4 LANES	2035	$3,186
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07159	0	SANTA ANA AVE	LOCUST AVE	CEDAR AVE	WIDEN SANTA ANA AVE FROM LOCUST AVE AVE TO CEDAR AVE FROM 2 TO 4 LANES	2023	$1,744
LOCAL HIGHWAY	APPLE VALLEY	4A07161	0	FALCHION RD	DALE EVANS PKWY	NAVAJO RD	WIDEN FALCHION RD FROM DALE EVANS PKWY TO NAVAJO RD FROM 0 TO 6 LANES	2030	$2,850
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07162	0	FLORIDA ST	GREENSPOT RD	GARNET ST	WIDEN FLORIDA ST FROM GREENSPOT RD TO GARNET ST FROM 2 TO 4 LANES	2025	$415
LOCAL HIGHWAY	VICTORVILLE	4A07164	0	TOPAZ RD	HOPLAND ST	DOS PALMAS RD	WIDEN TOPAZ RD FROM HOPLAND ST TO DOS PALMAS RD FROM 0 TO 4 LANES	2045	$12,000
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07165	0	JURUPA AVE	LOCUST AVE	CEDAR AVE	WIDEN JURUPA AVE FROM LOCUST AVE TO CEDAR AVE FROM 2 TO 4 LANES	2025	$2,228
LOCAL HIGHWAY	FONTANA	4A07167	0	SUMMIT AVE	CHERRY AVE	SAN SEVAINE RD	WIDEN SUMMIT AVE FROM CHERRY AVE TO SAN SEVAINE RD WIDEN FROM 2 TO 4 LANES	2030	$2,371
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07169	0	GARNET ST	NEWPORT AVE	FLORIDA ST	WIDEN GARNET ST FROM NEWPORT AVE TO FLORIDA ST FROM 2 TO 4 LANES	2035	$4,393
LOCAL HIGHWAY	ONTARIO	4A07174	0	8TH ST	8TH ST	CUCAMONGA CREEK	WIDEN 2-LANE BRIDGE ON EIGHTH ST OVER CUCAMONGA CREEK TO 4 LANES	2035	$1,437
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	4A07176	0	G ST	MILL ST	RIALTO AVE	WIDEN G ST FROM MILL ST TO RIALTO AVE FROM 2 TO 4 LANES	2030	$2,730
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	4A07177	0	LITTLE LEAGUE DR	KENDALL DR	BELMONT AVE	WIDEN LITTLE LEAGUE DR FROM KENDALL DR TO BELMONT AVE (INCLUDING CULVERT) FROM 2 TO 4 LANES	2030	$5,938
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	4A07178	0	RIALTO AVE	SIERRA WAY	WATERMAN AVE	WIDEN RIALTO AVE FROM SIERRA WAY TO WATERMAN AVE FROM 2 TO 4 LANES	2025	$2,449

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: San Bernardino									
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07182	0	MISSION BLVD	CENTRAL AVE	BENSON AVE	WIDEN MISSION BLVD FROM CENTRAL TO BENSON AVE FROM 4 TO 6 LANES	2025	$1,521
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07183	0	LOCUST AVE	JURUPA AVE	SANTA ANA AVE	WIDEN LOCUST AVE FROM JURUPA AVE TO SANTA ANA AVE FROM 2 TO 4 LANES	2035	$2,856
LOCAL HIGHWAY	REDLANDS	4A07184	0	CALIFORNIA ST	REDLANDS BLVD	PALMETTO AVE	WIDEN CALIFORNIA ST FROM REDLANDS BLVD TO PALMETTO AVE FROM 5 TO 6 LANES (ADD NB LANE FOR 3 LANES IN EACH DIRECTION)	2025	$47,937
LOCAL HIGHWAY	FONTANA	4A07185	0	BEECH AVE	ARROW ROUTE	FOOTHILL BLVD	WIDEN BEECH AVE FROM ARROW ROUTE TO FOOTHILL BLVD FROM 2 TO 4 LANES	2025	$1,824
LOCAL HIGHWAY	FONTANA	4A07187	0	LIVE OAK AVE	ARROW ROUTE	FOOTHILL BLVD	WIDEN LIVE OAK AVE FROM ARROW ROUTE TO FOOTHILL BLVD FROM 2 TO 4 LANES	2030	$1,789
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07188	0	LOCUST AVE	SAN BERNARDINO AVE	RANDALL AVE	WIDEN LOCUST AVE FROM SAN BERNARDINO AVE TO RANDALL AVE FROM 2 TO 4 LANES	2035	$2,372
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07189	0	LOCUST AVE	VALLEY BLVD	SAN BERNARDINO AVE	WIDEN LOCUST AVE FROM VALLEY BLVD TO SAN BERNARDINO AVE FROM 2 TO 4 LANES	2035	$1,949
LOCAL HIGHWAY	COLTON	4A07192	0	C ST	JACKSON AVE	TEJON AVE	WIDEN C ST FROM JACKSON TO TEJON AVE FROM 2 TO 4 LANES	2030	$2,088
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07193	0	LOCUST AVE	SANTA ANA AVE	SLOVER AVE	WIDEN LOCUST AVE FROM SANTA ANA AVE TO SLOVER AVE FROM 2 TO 4 LANES	2035	$2,290
LOCAL HIGHWAY	BIG BEAR LAKE	4A07195	0	BIG BEAR BLVD	WEST BIG BEAR CITY LIMITS	EAST BIG BEAR CITY LIMITS	INTERSECTION SIGNALIZATION AND SYNCHRONIZATION ON BG BEAR BLVD FROM WEST CITY LIMITS TO EAST CITY LIMITS	2025	$1,600
LOCAL HIGHWAY	LOMA LINDA	4A07196	0	VAN LEUVEN ST	EVANS ST	ORANGE GROVE ST	CONSTRUCT NEW 2 LANE ROAD ON VAN LEUVEN AVE FROM EVANS ST TO ORANGE GROVE ST	2030	$1,900
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07197	0	OLIVE ST	JACKSON AVE	RANCHO AVE	WIDEN OLIVE ST FROM JACKSON AVE TO RANCHO AVE FROM 2 TO 4 LANES	2025	$1,654

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: San Bernardino									
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	4A07198	0	PERRIS HILL PARK RD	21ST ST	PACIFIC ST	WIDEN PERRIS HILL PARK RD FROM 21ST ST TO PACIFIC ST FROM 2 TO 4 LANES	2025	$1,959
LOCAL HIGHWAY	RIALTO	4A07199	0	RIALTO AVE	OLIVE AVE	SYCAMORE AVE	WIDEN RIALTO AVE FROM OLIVE AVE TO SYCAMORE AVE FROM 2 TO 4 LANES	2025	$345
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07202	0	MONTE VISTA AVE	PHILLIPS BLVD	STATE ST	WIDEN MONTE VISTA AVE FROM PHILLIPS BLVD TO STATE ST FROM 2 TO 4 LANES	2025	$849
LOCAL HIGHWAY	CHINO	4A07205	0	CHINO AVE	MOUNTAIN AVE	CYPRESS AVE	WIDEN CHINO AVE FROM MOUNTAIN AVE TO CYPRESS AVE FROM 2 TO 4 LANES	2025	$1,500
LOCAL HIGHWAY	ONTARIO	4A07208	0	FRANCIS ST	FRANCIS ST	CUCAMONGA CREEK	CONSTRUCT BRIDGE ON FRANCIS ST OVER CUCAMONGA CREEK-SIDEWALK ONLY	2025	$1,023
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07209	0	EMERALD RD	PALMDALE RD	SENECA RD	WIDEN EMERALD RD FROM PALMDALE RD TO SENECA RD FROM 2 TO 4 LANES	2025	$1,485
LOCAL HIGHWAY	ONTARIO	4A07215	0	MISSION BLVD	MISSION BLVD	WEST CUCAMONGA CREEK	CONSTRUCT BRIDGE ON MISSION BLVD OVER WEST CUCAMONGA CREEK AND WIDEN FROM 4 TO 6 LANES	2025	$342
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07216	0	PIPELINE AVE	CHINO AVE	RIVERSIDE DR	WIDEN PIPELINE AV FROM CHINO AVE TO RIVERSIDE DR FROM 2 TO 4 LANES	2025	$1,101
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07218	0	VALLEY BLVD	COMMERCE DR	ALMOND AVE	WIDEN VALLEY BLVD FROM COMMERCE DR TO ALMOND AVE FROM 4/5 TO 6 LANES (3 LANES EACH DIRECTION)	2025	$1,316
LOCAL HIGHWAY	VICTORVILLE	4A07221	0	MONTE VISTA RD	PALMDALE RD	BEAR VALLEY RD	WIDEN MONTE VISTA RD FROM PALMDALE RD TO BEAR VALLEY RD FROM 2 TO 4 LANES	2045	$5,000
LOCAL HIGHWAY	FONTANA	4A07222	0	RANDALL AVE	ALDER AVE	CEDAR AVE	WIDEN RANDALL AVE FROM ALDER AVE TO CEDAR AVE FROM 2 TO 4 LANES	2025	$1,342
LOCAL HIGHWAY	VICTORVILLE	4A07223	0	AMETHYST RD	RANCHO RD	MOJAVE DR	WIDEN AMETHYST RD FROM RANCHO RD TO MOJAVE DR FROM 0 TO 4 LANES	2040	$8,000

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: San Bernardino									
LOCAL HIGHWAY	VICTORVILLE	4A07224	0	LA MESA RD	CAUGHLIN RD	WHITE RD	WIDEN LA MESA RD FROM CAUGHLIN RD TO WHITE RD FRM 0 TO 4 LANES	2025	$4,000
LOCAL HIGHWAY	COLTON	4A07226	0	AGUA MANSA RD	80 METERS W/O RANCHO AVE	73 METERS E/O RANCHO AVE	WIDEN AGUA MANSA RD FROM 80 METERS W/O RANCHO AVE TO 73 METERS E/O RANCHO AVE FROM 2 TO 4 LANES	2030	$890
LOCAL HIGHWAY	ONTARIO	4A07227	0	FRANCIS ST	FRANCIS ST	WEST CUCAMONGA CREEK	CONSTRUCT 4-LANE BRIDGE ON FRANCIS ST OVER WEST CUCAMONGA CREEK	2025	$108
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	4A07230	0	5TH ST	PEDLEY RD	TIPPECANOE AVE	WIDEN 5TH ST FROM PEDLEY RD TO TIPPECANOE AVE FROM 2 TO 4 LANES	2025	$1,258
LOCAL HIGHWAY	HIGHLAND	4A07231	0	LANKERSHIM AVE	660' N/O BASE LINE	1200' N/O 9TH ST	CONSTRUCT NEW 2-LANE ROAD ON LANKERSHIM AVE FROM 660' N/O BASE LINE RD TO 1200' N/O 9TH ST	2032	$1,395
LOCAL HIGHWAY	ONTARIO	4A07233	0	MISSION BLVD	BENSON AVE	MILLIKEN AVE	WIDEN MISSION BLVD FROM BENSON TO MILLIKEN AVE FROM 4 TO 6 LANES	2035	$13,600
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07235	0	WABASH AVE	.30 MILES S/O 7TH ST	.13M N/O 7TH ST	WIDEN WABASH AVE FROM 0.30 MILES S/O 7TH ST TO 0.13 MILES N/O 7TH ST FROM 2 TO 4 LANES	2025	$107
LOCAL HIGHWAY	RIALTO	4A07237	0	RIVERSIDE AVE	LOCUST AVE	0.1 MILES S/O CEDAR AVE	WIDEN RIVERSIDE AVE FROM LOCUST AVE TO 0.1 MILES S/O CEDAR AVE FROM 3 TO 6 LANES	2030	$3,741
LOCAL HIGHWAY	VICTORVILLE	4A07239	0	NATIONAL TRAILS HWY	MOJAVE RIVER	1.6 MI. N/O MOJAVE RIVER	WIDEN NATIONAL TRAILS HWY FROM AIR EXPRESSWAY TO 1.6 MILES N/O MOJAVE RIVER - 2 TO 4 LANES	2045	$4,400
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07240	0	SAN BERNARDINO AVE	WABASH AVE	OPAL AVE	WIDEN SAN BERNARDINO AV FROM WABASH AVE TO OPAL AVE FROM 2 TO 4 LANES	2025	$790
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	4A07243	0	MILL ST	PEPPER AVE	MERIDIAN AVE	WIDEN MILL ST FROM PEPPER AVE TO MERIDIAN AVE FROM 2 TO 4 LANES	2030	$1,140
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	4A07244	0	PINE AVE	KENDALL DR	BELMONT AVE	WIDEN PINE AVE FROM KENDALL DR TO BELMONT AVE FROM 2 TO 4 LANES	2035	$1,334

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: San Bernardino									
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	4A07247	0	PALM AVE	CAJON BLVD	I-215	WIDEN PALM AVE FROM CAJON BLVD TO I-215 FROM 2 TO 4 LANES	2025	$972
LOCAL HIGHWAY	YUCAIPA	4A07248	0	AVE E	14TH ST	BRYANT ST	WIDEN AVE E FROM 14TH ST TO BRYANT ST FROM 2 LANES TO 4 LANES	2025	$952
LOCAL HIGHWAY	VICTORVILLE	4A07249	0	EUCALYPTUS ST	AMARGOSA RD	AMETHYST RD	WIDEN EUCALYPTUS ST FROM AMARGOSA RD TO AMETHYST RD FROM 0 TO 6 LANES	2040	$2,100
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07251	0	ALDER AVE	VALLEY BLVD	SAN BERNARDINO	WIDEN ALDER AVE FROM VALLEY BLVD TO SAN BERNARDINO AVE FROM 2 TO 4 LANES	2025	$433
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07252	0	PHILLIPS BLVD	EAST END AVE	ROSWELL AVE	WIDEN PHILLIPS BLVD FROM EAST END AVE TO ROSWELL AVE FROM 2 TO 4 LANES	2025	$379
LOCAL HIGHWAY	REDLANDS	4A07253	0	WABASH AVE	COLTON AVE	SAN BERNARDINO AVE	WIDEN WABASH AVE FROM COLTON AVE TO SAN BERNARDINO AVE FROM 2 TO 4 LANES	2025	$2,203
LOCAL HIGHWAY	REDLANDS	4A07255	0	LUGONIA AVE	CALIFORNIA ST	TENNESEE ST	WIDEN LUGONIA AVE FROM CALIFORNIA ST TO TENNESEE ST FROM 2 TO 4 LANES	2035	$3,754
LOCAL HIGHWAY	FONTANA	4A07259	0	SLOVER AVE	TAMARIND AVE	EAST FONTANA CITY LIMITS	WIDEN SLOVER AVE FROM TAMARIND AVE AV TO EAST FONTANA CITY LIMITS WIDEN FROM 4 TO 6 LANES	2030	$949
LOCAL HIGHWAY	ONTARIO	4A07260	0	CONSTRUCT A BRIDGE ON 6TH ST OVER CUCAMONGA CREEK	6TH ST	CUCAMONGA CREEK	CONSTRUCT BRIDGE ON 6TH ST OVER CUCAMONGA CREEK-SIDEWALK ONLY	2025	$740
LOCAL HIGHWAY	REDLANDS	4A07261	0	HIGHLAND AVE	CAJON ST	FORD ST	WIDEN HIGHLAND AVE FROM CAJON ST TO FORD ST FROM 2 TO 4 LANES	2035	$5,557
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	4A07264	0	MT VIEW AVE	THOMPSON PL	ELECTRIC AVE	WIDEN MT VIEW AVE FROM THOMPSON PL TO ELECTRIC AVE FROM 2 TO 4 LANES	2030	$912
LOCAL HIGHWAY	ONTARIO	4A07266	0	PHILADELPHIA ST	CAMPUS AVE	750' E/O GROVE AVE	WIDEN PHILADELPHIA ST FROM CAMPUS AVE TO 750' E/O GROVE AVE FROM 2 TO 4 LANES	2030	$1,082

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: San Bernardino									
LOCAL HIGHWAY	ONTARIO	4A07267	0	RIVERSIDE DR	RIVERSIDE DR	CUCAMONGA CREEK	CONSTRUCT BRIDGE ON RIVERSIDE DR OVER CUCAMONGA CREEK AND WIDEN FROM 4 TO 6 LANES	2035	$731
LOCAL HIGHWAY	FONTANA	4A07273	0	VALLEY BOULEVARD	CHERRY AVE	BEECH AVE	VALLEY BOULEVARD FROM CHERRY AVENUE TO BEECH AVENUE WIDEN FROM 4-6 LANES	2021	$2,418
LOCAL HIGHWAY	FONTANA	4A07274	0	VALLEY BOULEVARD	BEECH AVE	CITRUS AVE	VALLEY BOULEVARD FROM BEECH AVENUE TO CITRUS AVENUE WIDEN FROM 4-6 LANES	2021	$2,418
LOCAL HIGHWAY	HIGHLAND	4A07275	0	PACIFIC ST	2 LOTS W/O COLE AVE	PALM AVE	WIDEN PACIFIC ST FROM 2 LOTS W/O COLE AVE TO PALM AVE FROM 2 TO 4 LANES	2030	$1,147
LOCAL HIGHWAY	ONTARIO	4A07277	0	ARCHIBALD AVE	ARCHIBALD AVE	UPPER DEEK CREEK	WIDEN 4-LANE BRIDGE ON ARCHIBALD AVE OVER UPPER DEER CREEK TO 6 LANES	2025	$686
LOCAL HIGHWAY	ONTARIO	4A07278	0	ARCHIBALD AVE	ARCHIBALD AVE	UPPER DEEK CREEK SPILLWAY	WIDEN 4-LANE BRIDGE ON ARCHIBALD AVE OVER UPPER DEER CREEK SPILLWAY TO 6 LANES	2025	$960
LOCAL HIGHWAY	CHINO	4A07279	0	PIPELINE AVE	RIVERSIDE DR	WALNUT AVE	WIDEN PIPELINE AV FROM RIVERSIDE DR AV TO WALNUT AVE AV FROM 2 TO 4 LANES	2025	$1,025
LOCAL HIGHWAY	VICTORVILLE	4A07282	0	RANCHO RD	AMETHYST RD	EL EVADO RD	WIDEN RANCHO RD FROM AMETHYST RD TO EL EVADO RD FROM 0 TO 4 LANES	2040	$4,000
LOCAL HIGHWAY	VICTORVILLE	4A07283	0	TOPAZ RD	EUCALYPTUS	SMOKETREE RD	WIDEN TOPAZ RD FROM EUCALYPTUS RD TO SMOKETREE RD FROM 0 TO 4 LANES	2040	$4,000
LOCAL HIGHWAY	VICTORVILLE	4A07285	0	BALDY MESA RD	LA MESA RD	OLIVINE RD	WIDEN BALDY MESA RD FROM LA MESA RD TO OLIVINE RD FROM 0 TO 4 LANES	2040	$2,000
LOCAL HIGHWAY	VICTORVILLE	4A07286	0	EUCALYPTUS ST	MESA VIEW DR	BELLFLOWER RD	WIDEN EUCALYPTUS ST FROM MESA VIEW DR TO BELLFLOWER RD FROM 0 TO 4 LANES (VICTORVILLE PORTION ONLY)	2040	$4,000
LOCAL HIGHWAY	VICTORVILLE	4A07288	0	LA MESA RD	MESA VIEW DR	CANTINA RD	WIDEN LA MESA RD FROM MESA VIEW DR TO CANTINA RD FROM 0 TO 4 LANES (VICTORVILLE PORTION ONLY)	2040	$1,300

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: San Bernardino									
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	4A07292	0	5TH ST	WARM CREEK	PEDLEY AVE	WIDEN 5TH ST FROM WARM CREEK TO PEDLEY AVE FROM 2 TO 4 LANES	2030	$1,363
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07294	0	BENSON AVE	HOWARD ST	STATE ST	WIDEN BENSON AVE FROM HOWARD ST TO STATE ST FROM 2 TO 4 LANES	2025	$527
LOCAL HIGHWAY	REDLANDS	4A07295	0	GREENSPOT RD	0.19 MILES N/O FLORIDA ST	FLORIDA ST	WIDEN GREENSPOT RD FROM 0.19 M N/O FLORIDA ST TO FLORIDA ST FROM 2 TO 4 LANES	2035	$599
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07298	0	BENSON AVE	PHILLIPS BLVD	HOWARD ST	WIDEN BENSON AVE FROM PHILLIPS BLVD TO HOWARD ST FROM 2 TO 4 LANES	2025	$577
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07299	0	JURUPA AVE	LILAC AVE	WILLOW AVE	WIDEN JURUPA AVE FROM LILAC AVE TO WILLOW AVE FROM 2 TO 4 LANES	2025	$540
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07300	0	DEVORE RD	KENWOOD DR	FOOTHILL DR	WIDEN DEVORE RD FROM KENWOOD DR TO FOOTHILL DR FROM 2 TO 4 LANES	2023	$654
LOCAL HIGHWAY	CHINO	4A07303	0	PIPELINE AVE	WALNUT AVE	0.25 MILES N/O WALNUT AVE	WIDEN PIPELINE AVE FROM WALNUT AVE TO 0.25 MILES N/O WALNUT AVE FROM 2 TO 4 LANES	2025	$506
LOCAL HIGHWAY	YUCAIPA	4A07304	0	BRYANT ST	NORTH YUCAIPA CITY LIMITS	SR-38	WIDEN BRYANT ST FROM NORTH YUCAIPA CITY LIMITS TO SR-38 FROM 2 TO 4 LANES	2023	$568
LOCAL HIGHWAY	VICTORVILLE	4A07307	0	EL EVADO RD	HOPLAND RD	PALMDALE RD (SR-18)	WIDEN EL EVADO RD FROM HOPLAND RD TO PALMDALE RD (SR-18) FROM 2 TO 4 LANES	2040	$2,000
LOCAL HIGHWAY	VICTORVILLE	4A07309	0	HOPLAND ST	US-395	0.25 MILES W/O COBALT RD	WIDEN HOPLAND ST FROM US-395 TO 0.25 MILES W/O COBALT RD FROM 0 TO 4 LANES	2035	$5,000
LOCAL HIGHWAY	COLTON	4A07313	0	RECHE CYN RD	S. CRYSTAL RIDGE	RIVERSIDE COUNTY LINE	WIDEN RECHE CANYON RD FROM SOUTH CRYSTAL RIDGE TO RIVERSIDE COUNTY LINE FROM 2 TO 4 LANES	2025	$2,738
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07314	0	GARNET ST	SR-38	NEWPORT AVE	WIDEN GARNET ST FROM SR-38 TO NEWPORT AVE FROM 2 TO 4 LANES	2035	$532

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: San Bernardino									
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07315	0	LOCUST AVE	7TH ST	11TH ST	WIDEN LOCUST AVE FROM 7TH ST TO 11TH ST FROM 2 TO 4 LANES	2035	$757
LOCAL HIGHWAY	ONTARIO	4A07317	0	MISSION BLVD	MISSION BLVD	CUCAMONGA CREEK	WIDEN BRIDGE ON MISSION BLVD OVER CUCAMONGA CREEK FROM 4 TO 6 LANES	2025	$1,003
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07320	0	GARNET ST	MENTONE AVE	SR-38	WIDEN GARNET ST FROM MENTONE AVE TO SR-38 FROM 2 TO 4 LANES	2035	$597
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07321	0	WABASH AVE	6TH AVE	5TH AVE	WIDEN WABASH AVE FROM 6TH AVE TO 5TH AVE FROM 2 TO 4 LANES	2023	$350
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07322	0	ALDER AVE	JURUPA AVE	0.12 MILES N/O JURUPA AVE	WIDEN ALDER AVE FROM JURUPA AVE TO 0.12 MILES N/O JURUPA AVE FROM 2 TO 4 LANES	2023	$403
LOCAL HIGHWAY	ONTARIO	4A07326	0	ARCHIBALD AVE	ARCHIBALD AVE	LOWER DEER CREEK	WIDEN 1-LANE BRIDGE ON ARCHIBALD AVE OVER LOWER DEER CREEK TO 6 LANES	2025	$203
LOCAL HIGHWAY	ONTARIO	4A07327	0	HOLT BLVD	HOLT BLVD	CUCAMONGA CREEK	WIDEN 4-LANE BRIDGE ON HOLT BLVD OVER CUCAMONGA CREEK TO 6 LANES	2025	$1,524
LOCAL HIGHWAY	CHINO	4A07329	0	MOUNTAIN AVE	BICKMORE AVE	EL PRADO RD	WIDEN MOUNTAIN AVE FROM BICKMORE AVE TO EL PRADO RD FROM 2 TO 4 LANES	2020	$347
LOCAL HIGHWAY	VICTORVILLE	4A07331	0	CIVIC DR	MOJAVE DR	ROY RODGERS DR	WIDEN CIVIC DR FROM MOJAVE DR TO ROY ROGERS DR FROM 0 TO 4 LANES	2040	$2,000
LOCAL HIGHWAY	VICTORVILLE	4A07332	0	MARIPOSA RD	0.3 MILES S/O YATES RD	PALMDALE RD	WIDEN MARIPOSA RD FROM 0.3 MILES S/O YATES RD TO PALMDALE RD FROM 2 TO 4 LANES	2040	$1,800
LOCAL HIGHWAY	CHINO	4A07333	0	EAST END AVE	PHILADELPHIA/ CHINO AVE	WALNUT AVE/ SCHAEFER AVE	WIDEN EAST END AVE FROM PHILADELPHIA ST TO WALNUT AVE AND CHINO AVE TO SCHAEFER AVE FROM 2 TO 4 LANES	2030	$367
LOCAL HIGHWAY	VICTORVILLE	4A07348	0	MONTE VISTA RD	BEAR VALLEY RD	SYCAMORE RD	WIDEN MONTE VISTA RD (ASTER RD) FROM BEAR VALLEY RD TO SYCAMORE RD FROM 0 TO 4 LANES	2040	$2,000

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000'S)
County: San Bernardino									
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07349	0	ALDER AVE	TAYLOR ST	VALLEY BLVD	WIDEN ALDER AVE FROM TAYLOR ST TO VALLEY BLVD FROM 2 TO 4 LANES	2025	$231
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07352	0	GARNET ST	.08 MILES S/O MENTONE AVE	MENTONE AVE	WIDEN GARNET ST FROM 0.08 MILES S/O MENTONE AVE TO MENTONE AVE FROM 2 TO 4 LANES	2035	$596
LOCAL HIGHWAY	VICTORVILLE	4A07355	0	BEAR VALLEY RD	0.5 MILES W/O I-15	US-395	WIDEN BEAR VALLEY RD FROM 0.5 MILES E/O I-15 TO US-395 FROM 4 TO 6 LANES	2040	$5,000
LOCAL HIGHWAY	GRAND TERRACE	4A07356	0	MAIN ST	SANTA FE RR	SOUTHERN PACIFIC RR	WIDEN MAIN ST (WB ONLY) FROM SFRR TO SPRR FROM 1 TO 2 LANES	2027	$226
LOCAL HIGHWAY	VICTORVILLE	4A07359	0	STODDARD WELLS RD	DANTE ST	I-15	WIDEN STODDARD WELLS FROM DANTE ST TO I-15, FROM 2 TO 4 LANES	2040	$1,200
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07363	0	WALNUT AVE	0.10 MILES S/O ROSWELL AVE	ROSWELL AVE	WIDEN WALNUT AVE FROM 0.10 MILES S/O ROSWELL AVE TO ROSWELL AVE FROM 2 TO 4 LANES	2035	$496
LOCAL HIGHWAY	VICTORVILLE	4A07376	0	RANCHO RD	EL EVADO RD	0.4 MILES W/O NATIONAL TRAIL HWY	WIDEN RANCHO RD FROM EL EVADO RD TO 0.4 MILES W/O NATIONAL TRAILS HIGHWAY FROM 2 TO 4 LANES	2040	$3,300
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	4A07380	0	DEL ROSA AVE	DEL ROSA DR	SAN BERNARDINO CITY LIMITS	WIDEN DEL ROSA AVE FROM DEL ROSA DR TO SAN BERNARDINO CITY LIMITS FROM 2 TO 4 LANES	2025	$96
LOCAL HIGHWAY	REDLANDS	4A07381	0	WABASH AVE	REDLANDS CITY LIMITS	I-10	WIDEN WABASH AVE FROM REDLANDS CITY LIMITS TO I-10 FROM 2 TO 4 LANES	2025	$108
LOCAL HIGHWAY	VICTORVILLE	4A07387	0	HOPLAND ST	0.25 MILES W/O COBALT RD	EL EVADO RD	WIDEN HOPLAND ST FROM 0.25 MILES W/O COBALT RD TO EL EVADO RD FROM 2 TO 4 LANES	2040	$3,500
LOCAL HIGHWAY	VICTORVILLE	4A07388	0	MOJAVE DR	I-15	US-395	WIDEN MOJAVE DR FROM I-15 TO US-395 FROM 4 TO 6 LANES	2040	$9,600
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4A07390	0	PHILLIPS BLVD	LA COUNTY LINE	EAST END AVE	WIDEN PHILLIPS BLVD FROM LA COUNTY LINE TO EAST END AVE FROM 2 TO 4 LANES	2025	$102

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000'S)
County: San Bernardino									
LOCAL HIGHWAY	FONTANA	4A1005	0	CYPRESS AVENUE	DUNCAN CANYON RD	FRONTAGE RD	CYPRESS AVENUE FROM DUNCAN CANYON ROAD TO FRONTAGE ROAD (I-15)-CONSTRUCT NEW 2 LANE ROAD	2021	$3,200
LOCAL HIGHWAY	FONTANA	4A1006	0	DUNCAN CANYON	I-15	CITRUS AVE	DUNCAN CANYON ROAD FROM I-15 TO CITRUS AVENUE-WIDEN FROM 2-4 LANES	2019	$1,312
LOCAL HIGHWAY	FONTANA	4A1007	0	VALLEY BOULEVARD	CITRUS AVE	SIERRA AVE	VALLEY BOULEVARD FROM CITRUS AVENUE TO SIERRA AVENUE WIDEN FROM 4-6 LANES	2021	$2,418
LOCAL HIGHWAY	ONTARIO	4G0104/ 4G0112	0	CAMPUS AVE	CAMPUS AVE	UPRR ALHAMBRA/LOS ANGELES LINES	WIDEN GRADE SEPARATION @ UPRR ALHAMBRA/LOS ANGELES LINES FROM 2 TO 4 LANES	2032	$32,769
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4G0167	0	SHADOW MOUNTAIN RD	HELENDALE RD	NATIONAL TRAILS HWY	EXTEND SHADOW MOUNTAIN ROAD AND CONSTRUCT 4-LANE ROAD INCLUDING BRIDGE OVER MOJAVE RIVER AND GRADE SEPARATION OVER RR FROM HELENDALE RD TO NATIONAL TRAILS HWY	2025	$53,264
LOCAL HIGHWAY	GRAND TERRACE	4G04027	0	MAIN ST	MAIN ST	SAN BERNARDINO LINE	GRADE SEPARATION AT MAIN ST IN GRAND TERRACE ON THE SAN BERNARDINO LINE	2030	$23,977
LOCAL HIGHWAY	SAN BERNARDINO COUNTY	4G07420	0	NATIONAL TRAILS HWY	NATIONAL TRAILS HWY	NATIONAL TRAILS HWY @ ORO GRANDE GRADE SEPARATION	REPLACE GRADE SEPARATION AND WIDEN UNDERPASS AT NATIONAL TRAILS HWY AND ORO GRANDE GRADE SEPARATION FROM 2-4 LANES	2025	$30,893
LOCAL HIGHWAY	MONTCLAIR	4G07421	0	CENTRAL AVE	CENTRAL AVE	ALHAMBRA/LOS ANGELES LINES	WIDEN CENTRAL AVE GRADE SEPARATION ON THE ALHAMBRA AND LOS ANGELES LINES FROM 4 TO 6 LANES	2035	$8,239
LOCAL HIGHWAY	SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY (SBCTA)	4RL04	0	RIDESHARE	COUNTYWIDE	COUNTYWIDE	RIDESHARE PROGRAM ASSISTANCE	2045	$1,600
LOCAL HIGHWAY	SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY (SBCTA)	4TL204	0	SENIOR & DISABLED ASSISTANCE	COUNTYWIDE	COUNTYWIDE	SENIOR & DISABLED ASSISTANCE	2045	$139,079
LOCAL HIGHWAY	FONTANA	SBD031218	0	ALDER AVENUE	BASELINE RD	FOOTHILL BLVD	ALDER AVENUE BASELINE TO FOOTHILL BOULEVARD WIDEN 2 LANES TO 4 LANES W/TURN LANES	2021	$2,624

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: San Bernardino									
LOCAL HIGHWAY	FONTANA	SBD031227A	0	JURUPA AVENUE	MULBERRY AVE	CHERRY AVE	JURUPA AVE: MULBERRY TO CHERRY; CONSTRUCT 6 LANE ROAD.	2023	$5,000
LOCAL HIGHWAY	FONTANA	SBD031227B	0	JURUPA AVENUE	CHERRY AVE	HEMLOCK RD	JURUPA AVE: CHERRY TO HEMLOCK; CONSTRUCT 6 LANE ROAD.	2023	$4,500
LOCAL HIGHWAY	FONTANA	SBD031228	0	ETIWANDA AVENUE	RIVERSIDE COUNTY LINE	I-10	ETIWANDA AVENUE RIVERSIDE COUNTY LINE TO INTERSTATE 10 WIDEN FROM 4 TO 6 LANES	2020	$2,635
LOCAL HIGHWAY	FONTANA	SBD031233	0	ARROW BOULEVARD	ALDER AVE	MAPLE AVE	ARROW BOULEVARD ALDER TO MAPLE AVENUE WIDEN 2 LANES TO 4 LANES	2020	$5,830
LOCAL HIGHWAY	FONTANA	SBD031235	0	ARROW HIGHWAY	ALMERIA AVE	CITRUS AVE	ARROW HIGHWAY ALMERIA TO CITRUS AVENUE WIDEN 2 LANES TO 4 LANES	2023	$1,265
LOCAL HIGHWAY	FONTANA	SBD031246A	0	FOOTHILL BOULEVARD	CYPRESS AVE	SIERRA AVE	FOOTHILL BLVD: CYPRESS TO SIERRA; WIDEN 4-6 LANES	2025	$3,000
LOCAL HIGHWAY	FONTANA	SBD031254	0	MERRILL	ALDER AVE	MAPLE AVE	MERRILL AVENUE ALDER TO MAPLE AVENUE WIDEN FROM 2 TO 4 LANES	2022	$2,065
LOCAL HIGHWAY	VICTORVILLE	SBD031422	0	3RD AVE	NISQUALLI RD	GREEN TREE BLVD	WIDEN 3RD AVE NISQUALLI RD TO GREEN TREE BLVD FROM 2 LANES TO 4 LANES	2040	$2,000
LOCAL HIGHWAY	ONTARIO	SBD590004	0	FRANCIS ST	BON VIEW AVE	GROVE AVE	WIDEN FRANCIS ST FROM BON VIEW AVE TO GROVE AVE FROM 2 TO 4 LANES (STORM DRAIN FROM BON VIEW TO PARCO)	2018	$9,600
LOCAL HIGHWAY	SAN BERNARDINO, CITY OF	SBD59023	0	CAMPUS PARKWAY	KENDALL DR	I-215	CAMPUS PKWY-PEPPER/LINDEN DRIVE EXTENSION FROM KENDALL TO I-215 FWY - CONSTRUCT (4) LANE ROADWAY - BETWEEN KENDALL DRIVE AND I-215, PARTIAL DIAMOND INTERCHANGE FOR N/B (2,000 FT)	2025	$22,000
PASSENGER RAIL	SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY (SBCTA)	4120194	0	REDLANDS RAIL PHASE II	RIALTO/E ST	UNIVERSITY OF REDLANDS	REDLANDS PASSENGER RAIL - ADD A SECOND TRACK/ADDITIONAL PASSING TRACK THROUGHOUT THE CORRIDOR OF PHASE 1 PROJECT	2045	$217,912
PASSENGER RAIL	SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY (SBCTA)	4122001	0	METROLINK SAN BERNARDINO LINE	CP LILAC	CP RANCHO	DOUBLE TRACKING OF METROLINK SAN BERNARINO LINE BETWEEN CP LILAC AND CP RANCHO IN SAN BERNARDINO COUNTY	2025	$64,971

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: San Bernardino									
PASSENGER RAIL	SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY (SBCTA)	4122002	0	METROLINK SAN BERNARDINO LINE	CP CENTRAL	CP ARCHIBALD	DOUBLE TRACKING OF METROLINK SAN BERNARINO LINE BETWEEN CP CENTRAL AND CP ARCHIBALD IN SAN BERNARDINO COUNTY	2030	$112,228
PASSENGER RAIL	SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY (SBCTA)	4160042	0	METROLINK SAN BERNARDINO LINE	LOS ANGELES COUNTY LINE	REDLANDS	DOUBLE TRACKING OF REMAINING SINGLE TRACK SEGMENTS OF METROLINK SAN BERNARDINO LINE	2045	$487,581
PASSENGER RAIL	SANBAG/SCRRA	4CR04	0	METROLINK COMMUTER RAIL	COUNTYWIDE	COUNTYWIDE	SERVICE EXPANSION; SB LINE 50 DAILY TRAINS; RIVERSIDE LINE 46 DAILY TRAINS; IEOC LINE 28 DAILY TRAINS	2030	$21,884
STATE HIGHWAY	RANCHO CUCAMONGA	200152	15	I-15	ARROW ROUTE	FOOTHILL BLVD	I-15 @ ARROW ROUTE - CONSTRUCT NEW INTERCHANGE BETWEEN ARROW ROUTE AND FOOTHILL BLVD	2040	$148,501
STATE HIGHWAY	SBCTA	200452	395	US-395	CHAMBERLAINE WAY	1.8 MI S/O DESERT FLOWER RD	US-395 (HESPERIA, VICTORVILLE, & ADELANTO) FROM CHAMBERLAINE WAY TO 1.8 MI S/O DESERT FLOWER ROAD -INTERIM WIDENING-WIDEN FROM 2-4 LANES AND ADD LEFT TURN CHANNELIZATION AT INTERSECTIONS (EA 0F632 | PHASE II | SEG 9)	2025	$24,000
STATE HIGHWAY	SBCTA	200453	395	US-395	I-15	SR-18	US-395 (HESPERIA, VICTORVILLE, & ADELANTO) FROM 0.16 MI N/O INTERSTATE ROUTE 15 JUNCTION TO SR18 - INTERIM WIDENING - WIDEN FROM 2-4 LANES AND ADD LEFT TURN CHANNELIZATION AT INTERSECTIONS (EA 0F633 | PHASE III | SEG 1-4)(PA&ED ONLY)	2025	$58,000
STATE HIGHWAY	SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY (SBCTA)	4120198	10	I-10	I-10	MT VERNON AVE	I-10 @ MT VERNON AVE INTERCHANGE IMPROVEMENTS	2035	$38,500
STATE HIGHWAY	SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY (SBCTA)	4120199	10	I-10	I-10	MOUNTAIN VIEW AVE	I-10 @ MOUNTAIN VIEW AVE INTERCHANGE IMPROVEMENTS	2045	$37,800
STATE HIGHWAY	SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY (SBCTA)	4120200	10	I-10	I-10	ALDER AVE	I-10 @ ALDER AVE NEW INTERCHANGE	2035	$99,000
STATE HIGHWAY	SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY (SBCTA)	4120202	60	SR-60	SR-60	RAMONA AVE	SR-60 @ RAMONA AVE INTERCHANGE RECONSTRUCTION	2027	$30,000

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: San Bernardino									
STATE HIGHWAY	SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY (SBCTA)	4122007	15	I-15	I15/215 INTERCHANGE	US-395	I-15 EXPRESS LANES - ADD 2 EXPRESS LANES IN EACH DIRECTION FROM I-215 TO US-395 (SEGMENT 4)	2040	$687,994
STATE HIGHWAY	SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY (SBCTA)	4160001	10	I-10	I-15	I-10 @ I-15	EXPRESS LANE DIRECT CONNECTORS FROM SB I-15 TO WB I-10 AND REVERSE; NB I-15 TO WB I-10 AND REVERSE AND WB I-10 TO SB I-15 AND REVERSE	2040	$764,117
STATE HIGHWAY	ONTARIO	4160002	10	I-10	I-10	VINEYARD AVE	WIDEN INTERCHANGE FOR I-10 @ VINEYARD AVE FROM 4 TO 6 LANES, WIDEN ON/OFF RAMPS FROM 2 TO 4 LANES	2030	$3,000
STATE HIGHWAY	UPLAND	4160003	10	I-10	I-10	EUCLID AVE	I-10 @ EUCLID AVE INTERCHANGE RECONSTRUCTION	2030	$10,692
STATE HIGHWAY	SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY (SBCTA)	4160004	10	I-10	I-10	GROVE AVE/4TH ST	I-10 @ GROVE AVE/4TH ST NEW INTERCHANGE	2045	$199,000
STATE HIGHWAY	SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY (SBCTA)	4160005	15	I-15	SR-210	I-15/I-215 INTERCHANGE	I-15 EXPRESS LANES - ADD 1 EXPRESS LANE IN EACH DIRECTION FROM SR-210 TO DUNCAN CANYON RD AND 2 EXPRESS LANES IN EACH DIRECTION FROM DUNCAN CANYON TO I-215 (SEGMENT 3)	2026	$164,884
STATE HIGHWAY	HESPERIA	4160006	15	I-15	I-15	EUCALYPTUS AVE	CONSTRUCT NEW INTERCHANGE AT I-15 @ EUCALYPTUS	2040	$65,900
STATE HIGHWAY	HESPERIA	4160007	15	I-15	I-15	MUSCATEL ST	CONSTRUCT 6 LANE INTERCHANGE FOR I-15 @ MUSCATEL ST	2030	$65,900
STATE HIGHWAY	SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY (SBCTA)	4160008	15	I-15	US-395	HIGH DESERT CORRIDOR	I-15 EXPRESS LANES - ADD 1 EXPRESS LANE IN EACH DIRECTION FROM US-395 TO HIGH DESERT CORRIDOR (SEGMENT 5)	2045	$194,662
STATE HIGHWAY	ONTARIO	4160009	60	SR-60	SR-60	GROVE AVE	RECONSTRUCT SR-60 @ GROVE AVE INTERCHANGE	2040	$51,000

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: San Bernardino									
STATE HIGHWAY	ONTARIO	4160010	60	SR-60	SR-60	VINEYARD AVE	SR-60 @ VINEYARD AVE INTERCHANGE RECONSTRUCTION	2040	$51,000
STATE HIGHWAY	SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY (SBCTA)	4160011	60	SR-60	SR-60	CENTRAL AVE	SR-60 @ CENTRAL AVE - ULTIMATE INTERCHANGE IMPROVEMENTS - POSSIBLE RAMP WIDENING AND AUXILIARY LANES	2045	$24,000
STATE HIGHWAY	SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY (SBCTA)	4160012	60	SR-60	SR-60	EUCLID AVE	SR-60 @ EUCLID AVE INTERCHANGE IMPROVEMENTS	2045	$12,000
STATE HIGHWAY	CALTRANS	4160013	62	SR-62	EAST YUCCA VALLEY TOWN LIMITS	WEST TWENTYNINE PALMS CITY LIMITS	OPERATIONAL IMPROVEMENTS INCLUDING SIGNAL AND INTERSECTION MODIFICATION ON SR-62 FROM EAST YUCCA VALLEY TOWN LIMITS TO WEST TWENTYNINE PALMS CITY LIMITS	2035	$768
STATE HIGHWAY	CALTRANS	4160015	62	SR-62	RIVERSIDE COUNTY LINE	WEST YUCCA VALLEY TOWN LIMITS	WIDEN SR-62 FROM RIVERSIDE COUNTY LINE TO YUCCA VALLEY TOWN LIMITS FROM 4 TO 6 LANES	2030	$36,446
STATE HIGHWAY	YUCCA VALLEY	4160016	62	SR-62	SR-247	EAST YUCCA VALLEY TOWN LIMITS	OPERATIONAL IMPROVEMENTS INCLUDING SIGNAL AND INTERSECTION MODIFICATIONS ON SR-62 FROM SR-247 TO EAST YUCCA VALLEY TOWN LIMITS	2035	$1,463
STATE HIGHWAY	SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY (SBCTA)	4160017	210	SR-210	I-215	I-10	SR-210 FROM I-215 TO I-10 - ADD HOV LANE	2045	$178,780
STATE HIGHWAY	CALTRANS	4160018	247	SR-247	NORTH YUCCA VALLEY TOWN LIMITS	RECHE RD	WIDEN SR-247 FROM NORTH YUCCA VALLEY TOWN LIMITS TO RECHE RD FROM 2 TO 4 LANES	2040	$26,492
STATE HIGHWAY	CALTRANS	4200S001	395	US-395	1.8 MI S/O DESERT FLOWER RD	FARMINGTON RD	WIDEN US-395 FROM 1.8 MI S/O DESERT FLOWER RD TO FAMINGTON RD	2025	$459,978
STATE HIGHWAY	YUCCA VALLEY	4A01383	62	SR-62 (TWENTY-NINE PALMS HWY)	WEST YUCCA VALLEY TOWN LIMITS	SR-247	WIDEN SR-62 FROM WEST YUCCA VALLEY CITY LIMITS TO SR-247 FROM 4 TO 6 LANES (PM 8.75-12.5)	2030	$26,051
STATE HIGHWAY	CHINO	4A01384	83	SR-83 (EUCLID)	MERRILL AVE	KIMBALL AVE	WIDEN SR-83 FROM MERRILL AVE TO KIMBALL AVE FROM 4 TO 8 LANES	2029	$1,761

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: San Bernardino									
STATE HIGHWAY	YUCCA VALLEY	4A01386	247	SR-247 (OLD WOMAN SPRINGS RD)	NORTH YUCCA VALLEY TOWN LIMITS	SR-62	WIDEN SR-247 FROM NORTH YUCCA VALLEY TOWN LIMITS TO SR-62 FROM 2 TO 4 LANES (EA:34430) (PM	2035	$20,599
STATE HIGHWAY	CALTRANS	4A01900	18	SR-18	LOS ANGELES COUNTY LINE	US-395	WIDEN SR-18 FROM LA COUNTY LINE TO US-395 FROM 2 TO 4 LANES (PM 116-100.9)	2030	$58,588
STATE HIGHWAY	CALTRANS	4A04902	18	SR-18	0.8 MILES W/O ORCHARD DR (PM 79.9)	2.1 MILES W/O ORCHARD DR (PM 81.2)	CONSTRUCT PASSING LANES ON SR-18 FROM 0.8 MILES W/O ORCHARD DR TO 2.1 MILES W/O ORCHARD DR	2030	$17,283
STATE HIGHWAY	CALTRANS	4H01008	215	I-215	SR-210	I-15	I-215 FROM SR-210 TO I-15; ADD 1 HOV LANE EACH DIRECTION	2035	$249,151
STATE HIGHWAY	SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY (SBCTA)	4M01027	10	I-10	I-10	CALIFORNIA ST	I-10 @ CALIFORNIA ST INTERCHANGE IMPROVEMENTS	2045	$58,500
STATE HIGHWAY	SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY (SBCTA)	4M01041	15	I-15	I-15	SIERRA AVE	I-15 @ SIERRA AVE INTERCHANGE IMPROVEMENTS	2030	$12,700
STATE HIGHWAY	SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY (SBCTA)	4M01043	215	I-215	I-215	MT VERNON/ WASHINGTON AVE	I-215 @ MT. VERNON/WASHINGTON ST INTERCHANGE RECONSTRUCTION	2045	$109,048
STATE HIGHWAY	SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY (SBCTA)	4M01044	215	I-215	I-215	PALM AVE	I-215 @ PALM AVE INTERCHANGE IMPROVEMENTS	2045	$17,878
STATE HIGHWAY	SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY (SBCTA)	4M01045	215	I-215	I-215	CAMPUS PKWY	I-215 @ CAMPUS PKWY NEW INTERCHANGE	2045	$60,000

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: San Bernardino									
STATE HIGHWAY	SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY (SBCTA)	4M01047	210	SR-210	SR-210	DEL ROSA AVE	SR-210 @ DEL ROSA AVE INTERCHANGE IMPROVEMENTS	2045	$38,000
STATE HIGHWAY	SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY (SBCTA)	4M01049	210	SR-210	SR-210	WATERMAN AVE	SR-210 @ WATERMAN AVE INTERCHANGE IMPROVEMENTS	2045	$53,800
STATE HIGHWAY	YUCAIPA	4M04033	10	I-10	I-10	WILDWOOD AVE	I-10 @ WILDWOOD CYN INTERCHANGE IMPROVEMENTS	2035	$48,626
STATE HIGHWAY	VICTORVILLE	4M07004	15	I-15	I-15	BEAR VALLEY RD	INTERCHANGE IMPROVEMENTS FOR I-15 @ BEAR VALLEY RD	2045	$45,323
STATE HIGHWAY	SAN BERNARDINO ASSOCIATED GOVERNMENTS (SANBAG)	4M07007	210	SR-210	SR-210	BASELINE AVE	SR-210 @ BASELINE AVE INTERCHANGE IMPROVEMENTS	2020	$15,600
STATE HIGHWAY	HESPERIA	4M07014	15	I-15	I-15	MOJAVE ST	I-15 @ MOJAVE ST NEW INTERCHANGE	2040	$45,000
STATE HIGHWAY	CALTRANS	4M07035	138	SR-138	SR-18	PHELAN RD	WIDEN SR-138 FROM SR-18 TO PHELAN RD FROM 2 TO 4 LANES (PHASE II)	2030	$92,738
STATE HIGHWAY	HIGHLAND	4M0801	210	SR-210	SR-210	VICTORIA AVE	SR-210 @ VICTORIA AVE - CONSTRUCT NEW INTERCHANGE	2040	$168,602
STATE HIGHWAY	CALTRANS	4M0802	395	US-395	SR-18 (PALMDALE RD)	CHAMBERLAINE WAY	WIDEN US-395 FROM SR-18 (PALMDALE RD) TO CHAMBERLAINE WAY FROM 4 TO 8 LANES	2025	$48,552
STATE HIGHWAY	SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY (SBCTA)	4M0803	215	I-215	SR-60	I-10	I-215 BI-COUNTY IMPROVEMENT PROJECT - ADD 1 MAINLINE LANE IN EACH DIRECTION FROM SR-60 TO I-10	2045	$347,326
STATE HIGHWAY	VICTORVILLE	4M1006	15	I-15	I-15	BOULDER RD/ DALE EVANS PKWY	I-15 @ BOULDER RD/DALE EVANS PKWY INTERCHANGE RECONSTRUCTION	2045	$50,000

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: San Bernardino									
STATE HIGHWAY	SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY (SBCTA)	4PL07019	60	SR-60	SR-60	MOUNTAIN AVE	SR-60 @ MOUNTAIN AVE INTERCHANGE RECONSTRUCTION	2027	$15,000
STATE HIGHWAY	CALTRANS	4PL07026	18	SR-18	ALSO SBD-189-0.0/0.37: NR RIM FOREST FROM JCT RTE 18/189	0.5 KM EAST	RECONSTRUCT SLOPES ON SR-189 AND EXTEND RETAINING WALL ON SR-18	2030	$9,010
STATE HIGHWAY	SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY (SBCTA)	SBD031269	10	I-10	I-10	BEECH AVE	I-10 @ BEECH AVENUE - CONSTRUCT NEW INTERCHANGE WITH 4-LANE OVERCROSSING	2035	$114,000
TRANSIT	SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY (SBCTA)	4120204	0	SIERRA AVE	RIVERSIDE AVE	SLOVER AVE	EXPRESS BUS ON SIERRA AVE FROM RIVERSIDE AVE TO SLOVER AVE	2045	$15,881
TRANSIT	SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY (SBCTA)	4120205	0	FOOTHILL	SIERRA AVE	SAN BERNARDINO TRANSIT CENTER	EXPRESS BUS ON FOOTHILL BLVD FROM SIERRA AVE TO SAN BERNARDINO TRANSIT CENTER	2045	$15,968
TRANSIT	SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY (SBCTA)	4120206	0	HAVEN AVE	CHAFFEY COLLEGE	EASTVALE	EXPRESS BUS ON HAVEN FROM CHAFFEY COLLEGE TO EASTVALE	2045	$21,836
TRANSIT	SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY (SBCTA)	4120209	0	RIVERSIDE AVE	AYALA AVE	RIVERSIDE TRANSIT CENTER	EXPRESS BUS ON RIVERSIDE AVE FROM AYALA AVE TO RIVERSIDE TRANSIT CENTER	2045	$33,747
TRANSIT	SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY (SBCTA)	4120211	0	GRAND/EDISON AVE	CHINO HILLS PKWY	EASTVALE	EXPRESS BUS FROM CHINO HILLS PKWY TO EASTVALE	2045	$35,732
TRANSIT	SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY (SBCTA)	4120215	0	EUCLID	FOOHILL BLVD	CORONA TRANSIT CENTER	EXPRESS BUS EUCLID AVE FROM FOOTHILL BLVD TO CORONA TRANSIT CENTER	2045	$152,695

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: San Bernardino									
TRANSIT	SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY (SBCTA)	4120219	0	FOOTHILL/SAN BERNARDINO	SAN MANUEL CASINO	KAISER HOSPITAL	FULL BRT - SAN BERANRDINO, SAN MANUEL CASINO IN HIGHLAND TO KAISER HOSPITAL IN FONTANA	2045	$422,223
TRANSIT	SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY (SBCTA)	4120222	0	GOLD LINE PHASE 2B TO MONTCLAIR	COUNTY LINE	MONTCLAIR	LIGHT RAIL EXTENDED FROM COUNTY LINE TO MONTCLAIR (PHASE 2B)	2028	$100,400
TRANSIT	OMNITRANS	4160043	0	MID-VALLEY VEHICLE MAINTENANCE FACILITY	RANCHO CUCAMONGA	RANCHO CUCAMONGA	VEHICLE STORAGE AND MAINTENANCE FACILITY FOR ACCESS/BRT VEHICLES	2035	$5,000
TRANSIT	OMNITRANS	4160047	0	NEW FAIR MEDIA TECHNOLOGY IMPLEMENTATION	SYSTEMWIDE	SYSTEMWIDE	IMPLEMENT REGIONALLY COMPATIBLE SMART FARE MEDIA SYSTEM	2030	$3,000
TRANSIT	SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY (SBCTA)	4160048	0	ONTARIO AIRPORT SHUTTLE	RANCHO CUCAMONGA METROLINK STATION	ONTARIO AIRPORT	DIRECT SHUTTLE BUS CONNECTION FROM RANCHO CUCAMONGA METROLINK STATION TO ONTARIO AIRPORT	2020	$4,000
TRANSIT	SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY (SBCTA)	4160049	0	PASSENGER RAIL SERVICE TO ONTARIO AIRPORT	METROLINK SAN BERNARDINO LINE	ONTARIO AIRPORT	PASSENGER RAIL SERVICE FROM SAN BERNARDINO TO METROLINK LINE TO ONTARIO AIRPORT	2045	$1,202,699
TRANSIT	OMNITRANS	4160059	0	ROOFTOP SOLAR PROJECT	EAST VALLEY FACILITY AT RIALTO	SYSTEMWIDE	IMPLEMENT ROOFTOP SOLAR AT OMNITRANS OPERATIONS AND MAINTENANCE FACILITIES IN MONTCLAIR AND SAN BERNARDINO AND AT THE DOWNTOWN SAN BERNARDINO TRANSIT CENTER AT E STREET AND RIALTO STREET	2025	$5,000
TRANSIT	OMNITRANS	4160062	0	SAN BERNARDINO TRANSIT CENTER PHASE II	F ST AND RIALTO AVE	E ST AND RIALTO AVE	DOWNTOWN TRANSIT CENTER ENHANCEMENTS - ADDITIONAL 7;000 SF BUILDING	2035	$7,500
TRANSIT	SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY (SBCTA)	4120213A	0	WEST VALLEY CONNECTOR (PHASE II)	VICTORIA GARDENS	SIERRA AVE	WEST VALLEY CONNECTOR BRT PHASE II FROM VICTORIA GARDENS TO SIERRA AVE (ENG ONLY)	2035	$30,000
TRANSIT	SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY (SBCTA)	4TL104	0	LOCAL TRANSIT SERVICE	COUNTYWIDE	COUNTYWIDE	COUNTYWIDE LOCAL TRANSIT SERVICE OPERATIONS	2045	$2,747,786

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Various									
LOCAL HIGHWAY	VARIOUS AGENCIES	7120001	0	ARTERIAL OPERATIONS & MAINTENANCE	REGIONWIDE		ADDITIONAL O&M AND PRESERVATION - REGIONALLY SIGNIFICANT LOCAL STREETS & ROADS	2045	$25,000,000
OTHER		720004					PEV REBATE PROGRAM	2045	$2,000,000
OTHER		720005					SAFETY INITIATIVES	2045	$5,000,000
OTHER		720006					MOBILITY EQUITY FUND	2045	$2,000,000
OTHER		720007					HOUSING SUPPORTIVE INFRASTRUCTURE (EIFD FUNDED)	2045	$3,000,000
OTHER		720008					POOLED INCENTIVES	2045	$2,000,000
OTHER	VARIOUS AGENCIES	7120004	0	ACTIVE TRANSPORTATION	REGIONWIDE		ADDITIONAL ACTIVE TRANSPORTATION INVESTMENTS	2045	$6,000,000
OTHER	VARIOUS AGENCIES	7120004	0	ACTIVE TRANSPORTATION	REGIONWIDE		INCREASED ACTIVE TRANSPORTATION FUNDING (COMPLETE STREETS; NEW MOBILITY; CURBSPACE MANAGEMENT INITIATIVES)	2045	$7,000,000
OTHER	VARIOUS AGENCIES	7120004	0	ACTIVE TRANSPORTATION	REGIONWIDE		ADVANCED MITIGATION/OTHER	2045	$1,000,000
OTHER	VARIOUS AGENCIES	7120006	0	TRANSPORTATION DEMAND MANAGEMENT	REGIONWIDE		ADDITIONAL TDM INVESTMENTS	2045	$5,000,000
OTHER	VARIOUS AGENCIES	7120014	0	EAST-WEST FREIGHT CORRIDOR	I-710	"JUST WEST OF I-605"	EAST-WEST FREIGHT CORRIDOR SEGMENT 1*	2045	$2,413,086
OTHER	VARIOUS AGENCIES	7120015	0	EAST-WEST FREIGHT CORRIDOR	"JUST WEST OF I-605"	"JUST EAST OF SR-57"	EAST-WEST FREIGHT CORRIDOR SEGMENT 2*	2045	$9,102,359

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Various									
OTHER	VARIOUS AGENCIES	7120016	0	EAST-WEST FREIGHT CORRIDOR	"JUST EAST OF SR-57"	I-15	EAST-WEST FREIGHT CORRIDOR SEGMENT 3*	2045	$3,777,816
OTHER	VARIOUS AGENCIES	7120017	0	I-15 FREIGHT CORRIDOR	0	0	I-15 FREIGHT CORRIDOR (INITIAL SEGMENT)*	2045	$856,570
OTHER		7160001					GOODS MOVEMENT - ITS STRATEGY	2045	$3,000,000
OTHER		7160002					FREIGHT ARTERIAL O&M	2045	$7,000,000
OTHER		7160003					ZERO-EMISSION GOODS MOVEMENT	2045	$3,000,000
OTHER	VARIOUS AGENCIES	7160004	0				REGIONAL PEV CHARGER PROGRAM	2040	$300,000
OTHER		1O0705		INTERMODAL FACILITIES			INTERMODAL FACILITIES (SCIG & ICTF)	2016	$1,000,000
OTHER	VARIOUS AGENCIES	REG0701		HIGHWAY OPERATIONS & MAINTENANCE	REGIONWIDE		STATE HIGHWAY PRESERVATION/MAINTENANCE AND OPERATIONS PROJECTS (INCLUDES SHOPP, HIGHWAY BRIDGE PROGRAM, EMERGENCY RELIEF, PUBLIC LAND HIGHWAYS, HAZARD ELIMINATION AND SAFETY, SAFE ROUTES TO SCHOOLS, HIGH RISK RURAL ROADS, AND SECTION 130 STP RAILROAD PROG	2045	SEE FINANCIAL PLAN STATE HIGHWAY OPERATIONS AND MAINTENANCE COST
OTHER	VARIOUS AGENCIES	REG0702		TRANSIT OPERATIONS & MAINTENANCE	REGIONWIDE		TRANSIT PRESERVATION/MAINTENANCE, REHABILITATION/REPLACEMENT AND OPERATIONS PROJECTS (SEE FINANCIAL PLAN TRANSIT OPERATIONS AND MAINTENANCE COST FOR PROJECT COST)	2045	SEE FINANCIAL PLAN TRANSIT OPERATIONS AND MAINTENANCE COST

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000'S)
County: Various									
OTHER	VARIOUS AGENCIES	REG0703		ARTERIAL OPERATIONS & MAINTENANCE	REGIONWIDE		ARTERIAL PRESERVATION/MAINTENANCE AND OPERATIONS PROJECTS (SEE FINANCIAL PLAN LOCAL STREETS AND ROADS OPERATIONS AND MAINTENANCE COST FOR PROJECT COST)	2045	SEE FINANCIAL PLAN REGIONALLY SIGNIFICANT LOCAL STREETS AND ROADS OPERATIONS AND MAINTENANCE COST
OTHER	VARIOUS AGENCIES	REG0704		OTHER PROGRAMS	REGIONWIDE		RECREATIONAL TRAILS, SCENIC BYWAYS, TRANSPORTATION COMMUNITY AND SYSTEM PRESERVATION PROGRAM PROJECTS (SEE FINANCIAL PLAN OTHER COST FOR PROJECT COST)	2045	SEE FINANCIAL PLAN OTHER COST
OTHER		RRC0701		REGIONAL RAIL CAPACITY PROGRAM	REGIONWIDE		RAIL PACKAGE - RAIL CAPACITY EXPANSION	2040	$3,092,400
OTHER		RRC0702		REGIONAL RAIL CAPACITY PROGRAM	REGIONWIDE		RAIL PACKAGE - GRADE SEPARATIONS	2040	$4,535,610
OTHER		RRC0703		GOODS MOVEMENT TECHNOLOGY DEMONSTRATION AND INITIAL DEPLOYMENT	REGIONWIDE		NEAR-TERM ZERO-EMISSION TRUCK TECHNOLOGY DEMONSTRATION AND INITIAL DEPLOYMENT. DEMONSTRATION BY 2013; INITIAL DEPLOYMENT BY 2015.	2021	$35,000
PASSENGER RAIL	VARIOUS AGENCIES	720001	0	0	0	0	THE SOUTHERN CALIFORNIA OPTIMIZED RAIL EXPANSION (SCORE) PROGRAM EXPANDS CAPACITY OF THE ENTIRE METROLINK SYSTEM TO ACCOMMODATE SERVICE THAT IS MORE REGULAR AND FREQUENT, THROUGHOUT THE ENTIRE SERVICE DAY (FROM MORNING TO LATE EVENING). CAPITAL INVESTMENTS INCLUDE ADDITIONAL TRACK (E.G., SIDINGS, DOUBLE TRACK, TRIPLE TRACK, AND QUADRUPLE TRACK SEGMENTS), IMPROVED SIGNALING, EXPANDED AND LOWER EMISSIONS FLEET, UPGRADED AND ENLARGED MAINTENANCE FACILITIES, GRADE CROSSING TREATMENTS AND SEPARATIONS, FENCING AND SAFETY FEATURES, FEATURES TO SUPPORT READINESS FOR QUIET ZONES, AND REQUIRED ASSET REHABILITATION TO SUSTAIN CAPACITY.	2035	$10,540,272
PASSENGER RAIL	VARIOUS AGENCIES	720002	0	0	0	0	SCORE PROGRAM OPERATING COSTS FOR YEAR 2045	2035	$3,212,056

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Various									
PASSENGER RAIL		720003	0	VICTORVILLE TO LAS VEGAS HSR	0	0	VIRGIN TRAINS USA, FORMERLY XPRESSWEST, TO CONSTRUCT AND OPERATE HIGH SPEED RAIL SERVICE FROM VICTORVILLE TO LAS VEGAS ALONG THE I-15 CORRIDOR.	2024	$1,560,000
PASSENGER RAIL	CHSRA	7120010	0	CALIFORNIA HIGH-SPEED RAIL	REGIONWIDE		CALIFORNIA HIGH-SPEED RAIL - PHASE 1 (INCLUDES METROLINK AND LOSSAN CORRIDOR SPEED UPGRADES)	2033	$34,648,921
PASSENGER RAIL		1TR1013	0	CALIFORNIA HIGH-SPEED RAIL			CALIFORNIA HIGH-SPEED RAIL PHASE 2 - ENV/PE	2025	$85,000
STATE HIGHWAY	VARIOUS AGENCIES	7120003	0	HIGHWAY OPERATIONS & MAINTENANCE	REGIONWIDE		ADDITIONAL O&M AND PRESERVATION - HIGHWAYS	2045	$2,500,000
STATE HIGHWAY	VARIOUS AGENCIES	7120005	0	TRANSPORTATION SYSTEMS MANAGEMENT	REGIONWIDE		ADDITIONAL TSM/ITS IMPROVEMENTS	2045	$5,000,000
STATE HIGHWAY	VARIOUS AGENCIES	7120013	0	REGIONAL EXPRESS/HOT LANE NETWORK	REGIONWIDE		REGIONAL EXPRESS/HOT LANE NETWORK	2045	$5,749,604
TRANSIT	VARIOUS AGENCIES	7120002	0	TRANSIT OPERATIONS & MAINTENANCE	REGIONWIDE		ADDITIONAL O&M AND PRESERVATION - TRANSIT	2045	$2,500,000
TRANSIT	VARIOUS AGENCIES	7120007	0	EXPAND BUS SERVICE	REGIONWIDE		EXPAND BUS SERVICE: HIGH QUALITY TRANSIT CORRIDORS	2045	$6,000,000
TRANSIT	VARIOUS AGENCIES	7120012	0	CLEAN BUSES	REGIONWIDE		CARB ZERO EMISSION BUS ACCELERATION	2045	$1,000,000

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000'S)
County: Ventura									
LOCAL HIGHWAY	VENTURA COUNTY	5160003	0	CHANNEL ISLANDS BOULEVARD	RICE AVENUE	OXNARD CITY LIMIT	WIDEN FROM 2 TO 4 LANES	2032	$3,448
LOCAL HIGHWAY	VENTURA COUNTY	5160004	0	OLIVAS PARK DRIVE	TELEPHONE ROAD	VICTORIA AVENUE	WIDEN FROM 2 TO 4 LANES	2032	$8,345
LOCAL HIGHWAY	CAMARILLO	5160006	0	PONDEROSA DRIVE	LAS POSAS	SPRINGVILLE	WIDEN FROM 2 TO 4 LANES	2016	$3,000
LOCAL HIGHWAY	VENTURA COUNTY	5160008	118	LOS ANGELES AVENUE	ROUTE 232	SANTA CLARA AVENUE	WIDEN FROM 2 LANES TO 4 LANES	2034	$42,000
LOCAL HIGHWAY	VENTURA COUNTY	5160009	0	CENTRAL AVENUE	CAMARILLO CITY LIMIT	SANTA CLARA AVENUE	WIDEN FROM 2 LANES TO 4 LANES	2034	$6,400
LOCAL HIGHWAY	OXNARD	5A0401	0	VICTORIA AVE	AT GONZALES RD	GONZALES ROAD	CONSTRUCT 4 LANE FLYOVER WITH LEFT TURN POCKETS	2026	$20,000
LOCAL HIGHWAY	OXNARD	5A0402	0	ROSE AVE	AT GONZALES RD	GONZALES ROAD	CONSTRUCT 4 LANE FLYOVER WITH LEFT TURN POCKETS	2032	$20,000
LOCAL HIGHWAY	VENTURA COUNTY	5A0707	0	GRIMES CANYON ROAD	AT SR118	AT SR 118	REALIGN HITCH BLVD WITH GRIMES CANYON RD AND INTERSECTION IMPROVEMENTS	2032	$4,222
LOCAL HIGHWAY	VENTURA COUNTY	5A0708	0	HARBOR BLVD	AT GOZALES ROAD	GONZALES ROAD	ADD 2ND SOUTHBOUND THROUGH LANE AND 2ND NORTHBOUND THROUGH LANE	2032	$2,600
LOCAL HIGHWAY	VENTURA COUNTY	5A0711	0	RICE AVENUE	AT CHANNEL ISLANDS BLVD	CHANNEL ISLANDS BLVD	ADD 3RD NORTHBOUND THROUGH LANE AND 3RD SOUTHBOUND THROUGH LANE AND SOUTHBOUND RIGHT-TURN LANE	2024	$1,300
LOCAL HIGHWAY	OJAI	5A0713	0	TOPA TOPA ST	FOX ST	MONTGOMERY ST	GAP CLOSURE EXTENSION	2025	$780
LOCAL HIGHWAY	OJAI	5A0715	0	HERMOSA RD	AT SR 150	SR 150	INTERSECTION IMPROVEMENTS	2024	$300

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000'S)
County: Ventura									
LOCAL HIGHWAY	VENTURA COUNTY	5A0716	118	SOMIS RD/SR118/ DONLON DR INTERSECTION IMPROVEMENTS	DONLON ROAD	SR 34 (SOMIS RD)	WIDEN INTERSECTION, ADD TURN LANES, REALIGN DONLON ROAD (COUNTY PORTION ONLY) (REALIGNMENT PORTION COMPLETE IN 2013). ADDING EB RIGHT/LEFT TURN LANES, NB LEFT/RIGHT TURN LANES, WB INCREASING FROM 1 TO 2 LEFT TURN LANES.	2017	$2,100
LOCAL HIGHWAY	VENTURA COUNTY	5A0719	0	SANTA CLARA AVENUE WIDENING IMPROVEMENT	N/O OXNARD CITY LIMITS	SR 118	WIDEN FROM TWO TO FOUR LANES (FROM 1 TO 2 LANES EACH DIRECTION)	2034	$27,000
LOCAL HIGHWAY	VENTURA COUNTY	5A0721	0	PLEASANT VALLEY ROAD WIDENING IMPROVEMENT	DODGE RD	LAS POSAS ROAD	WIDEN FROM TWO TO FOUR LANES (TOTAL OF BOTH DIRECTIONS)	2034	$596,123
LOCAL HIGHWAY	VENTURA COUNTY	5A0722	0	VICTORIA AVENUE WIDENING IMPROVEMENT - A	GONZALES ROAD	VENTURA CITY LIMITS	WIDEN FROM FOUR LANES TO SIX LANES (TOTAL OF BOTH DIRECTIONS -INCLUDING BRIDGE)	2031	$16,500
LOCAL HIGHWAY	SAN BUENAVENTURA	5A0723	0	OLIVAS PARK DRIVE	PERKIN AVE	AUTO CENTER DRIVE	CONSTRUCT 4-LANE (TOTAL OF BOTH DIRECTIONS) EXTENSION	2026	$22,000
LOCAL HIGHWAY	OXNARD	5A0726	0	VICTORIA AVENUE WIDENING IMPROVEMENT - B	GONZALES ROAD	OXNARD CITY LIMITS	WIDEN FROM FOUR LANES TO SIX LANES (TOTAL OF BOTH DIRECTIONS)	2034	$8,437
LOCAL HIGHWAY	SIMI VALLEY	5A0728	0	TAPO CANYON RD	WALNUT STREET	LOST CANYON RD.	WIDEN TAPO CANYON ROAD TO ADD AN ADDITIONAL LANE IN EACH DIRECTION (FROM 2 TO 4 LANES) AND A DIVIDED CENTER MEDIAN.	2026	$4,500
LOCAL HIGHWAY	SIMI VALLEY	5A0730	0	LOS ANGELES AVENUE	"SEGMENT 1: 200' E/O ORCHID AVENUE SEGMENT 2: 200' E/O OF SEQUOIA AVENUE"	"SEGMENT 1: 100' W/O SYCAMORE DRIVE SEMENT 2: 100' W/O OF DARRAH AVENUE"	WIDEN SOUTH SIDE OF LOS ANGELES AVENUE BY ADDING A LANE (FROM 4 TO 5 LANES BOTH DIRECTIONS - CURRENTLY 2 LANES EACH DIRECTION)	2024	$2,750
LOCAL HIGHWAY	SIMI VALLEY	5A0734	0	STEARNS STREET	COCHRAN STREET	LEEDS STREET	WIDENING OF STEARNS STREET TO ADD A LANE IN EACH DIRECTION (FROM 2 TO 4 LANES)	2026	$1,500
LOCAL HIGHWAY	SIMI VALLEY	5A0735	0	LOS ANGELES AVENUE	APPROXIMATELY 1250' E/O SYCAMORE DRIVE	APPROXIMATELY 1000' E/O SYCAMORE DRIVE	WIDEN TAPO CHANNEL BRIDGE AT LOS ANGELES AVENUE (15' ON THE NORTH SIDE & 20' ON THE SOUTH SIDE). THIS INCLUDES ADDITION OF ONE LANE IN EACH DIRECTION (FROM 4 TO 6 LANES BOTH DIRECTIONS), RELOCATION OF THE EXISITING UTILITIES & MODIFICATIONS TO UPSTREAM & DOWNSTREAM OF THE CHANNEL.	2024	$1,100

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000'S)
County: Ventura									
LOCAL HIGHWAY	SIMI VALLEY	5A0736	0	TBD	BETWEEN FLANAGAN DRIVE	AND EVENING SKY DR.	PROVIDES THE MISSING LINK (A 60' ROAD WITH TWO LANES) BETWEEN TWO STREETS (FLANAGAN DR. & EVENING SKY DR.). FROM 0 TO 2 LANES.	2026	$800
LOCAL HIGHWAY	SIMI VALLEY	5A0738	0	TAPO STREET	WALNUT STREET	PRESIDIO DR.	WIDENING OF TAPO STREET TO ADD A LANE IN EACH DIRECTION (FROM 2 TO 4 LANES)	2026	$650
LOCAL HIGHWAY	MOORPARK	5A0742	0	NORTHHILLS PARKWAY	W/B SR-118 OFF-RAMP AT PRINCETON	CITY WESTERLY LIMITS AT SR-118	CONSTRUCT 4-LANE FREEWAY (TOTAL OF BOTH DIRECTIONS) CONNECTION ON NEW ALIGNMENT	2034	$10,664
LOCAL HIGHWAY	MOORPARK	5A0743	0	PRINCETON AVENUE	SR-118 OFFRAMP AT PRINCETON AVE	SPRING ROAD	WIDEN, REALIGN AND RECONSTRUCT FROM 2 LANES TO 2 LANES PLUS CENTER TURN LANE AND BIKE LANES	2020	$8,000
LOCAL HIGHWAY	OJAI	5A0746	0	PEARL ST	FOX ST	BALD ST	GAP CLOSURE EXTENSION	2026	$1,515
LOCAL HIGHWAY	VENTURA COUNTY TRANSPORTATION COMMISSION (VCTC)	5AL04	0	MISC. ARTERIAL IMPROVEMENTS (NON-CAPACITY)	COUNTYWIDE	COUNTYWIDE	MISC. ARTERIAL IMPROVEMENTS (NON-CAPACITY)	2039	$129,409
LOCAL HIGHWAY	VENTURA COUNTY TRANSPORTATION COMMISSION (VCTC)	5AL07	0	ARTERIAL IMPROVEMENTS	COUNTYWIDE	COUNTYWIDE	ARTERIAL IMPROVEMENTS LUMP SUM	2040	$467,179
LOCAL HIGHWAY	OXNARD	5G0403	0	VINEYARD AVE	OXNARD BLVD	SAINT MARY'S DRIVE	CONSTRUCT 6 LANE TOTAL OF BOTH DIRECTIONS) GRADE SEPARATION OVER UPRR TRACKS	2032	$20,000
LOCAL HIGHWAY	OXNARD	5G0404	0	ROSE AVE	AT SR-34 (E. FIFTH ST)	SR 34	CONSTRUCT 4 LANE GRADE SEPARATION WITH LEFT TURN POCKETS	2032	$27,000
LOCAL HIGHWAY	OXNARD	5G0405	0	GONZALES RD	SR-1 (OXNARD BLVD)	UPRR TRACKS	CONSTRUCT 6 LANE IN BOTH DIRECTIONS GRADE SEPARATION AT SR-1 (OXNARD BLVD) AND UPRR TRACKS WITH LEFT TURN POCKETS	2032	$21,001
LOCAL HIGHWAY	SIMI VALLEY	5G0701	0	LOS ANGELES AVENUE	UPRR	UPRR TRACKS	LA STREET GRADE SEPARATION. GRADE-SEPARATE LA AVENUE (MP 437.0) IN SIMI VALLEY. REALIGN 0.30-MILE-LONG CURVE SOUTH OF LOS ANGELES STREET, CONSTRUCT LOS ANGELES AVENUE OVERPASS, CONSTRUCT 0.48 MILE OF NEW TRACK TO FRA CLASS 5 STANDARDS.	2032	$93,000
LOCAL HIGHWAY	VENTURA COUNTY TRANSPORTATION COMMISSION (VCTC)	5GL04	0	GRADE SEPARATION	COUNTYWIDE	COUNTYWIDE	GRADE SEPARATION IMPROVEMENTS	2031	$147,271

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Ventura									
LOCAL HIGHWAY	VENTURA COUNTY TRANSPORTATION COMMISSION (VCTC)	5N011	0	ALONG SP BRANCH RAIL LINE	MONTALVO	LOS ANGELES COUNTY LINE	SANTA PAULA BRANCH RECREATIONAL TRAIL	2030	$48,618
LOCAL HIGHWAY	VENTURA COUNTY TRANSPORTATION COMMISSION (VCTC)	5O0701	0	PLANTING/ LANDSCAPING	COUNTYWIDE	COUNTYWIDE	MISC. PLANTING AND LANDSCAPING	2039	$31,134
LOCAL HIGHWAY	VENTURA COUNTY TRANSPORTATION COMMISSION (VCTC)	5O0703	0	MISC. TRANSPORTATION ENHANCEMENTS	COUNTYWIDE	COUNTYWIDE	ACTIVE TRANSPORTATION PROGRAM PROJECTS	2039	$14,379
LOCAL HIGHWAY	VENTURA COUNTY TRANSPORTATION COMMISSION (VCTC)	5TDL04	0	TDM	COUNTYWIDE	COUNTYWIDE	MISC. TDM (NON-MOTORIZED, TELECOMMUTE, ETC.)	2039	$31,453
OTHER	PORT OF HUENEME	5163O002	0	0	0	0	STACKED PROJECT (STRUCTURE FOR TRANSFER OF AUTOMOBILES CREATING KEY ECONOMIC DEVELOPMENT) WILL ENTAIL A 3 STORY TALL PARKING LIKE STRUCTURE FOR A LAST/FIRST POINT OF REST FOR AUTOMOBILE EXPORTS/ IMPORTS. IT WILL INCREASE PORT CAPACITY BY 33%, INCREASE EFFICIENCY WITH ITS TECHNOLOGY AND ELECTRICAL UPGRADES WITH SOLAR POWER. IT WILL CREATE 724 NEW LONG-TERM JOBS, $36.5 MILLION IN LOCAL BUSINESS REVENUE, AND $6 MILLION IN STATE/LOCAL TAX REVENUE.	2020	$40,000
OTHER	PORT OF HUENEME	5163O003	0	0	0	0	INTERMODAL IMPROVEMENT PROJECT: WHARF & BERTH IMPROVEMENTS INCLUDES REPAVING OF THE TERMINAL SURFACES AT EACH OF THE BERTHS.	2019	$3,266
OTHER	PORT OF HUENEME	5163O004	0	0	0	0	THE PORT OF HUENEME INTERMODAL INFRASTRUCTURE PROJECT WILL INCLUDE DREDGING OF THE HARBOR CHANNEL FROM 35 FT. TO 40 FT. DEEP TO ACCOMMODATE HEAVIER SHIPS WITH MORE CARGO ON THEM, MODERNIZATION OF CARGO FACILITIES AND ON-DOCK RAIL SPUR UPDATING.	2019	$19,000
OTHER	PORT OF HUENEME	5163O005	0	0	0	0	LEAP: LEADING ELECTRIC ADVANCEMENTS FOR PORTS PROJECT WILL INCLUDE SOLAR PANEL INSTALLATION, CLEAN ENERGY STORAGE, 3 UTRS, AND THE INFRASTRUCTURE FOR NEW CLEAN ENERGY CHARGING STATIONS FOR PORT ZEVS.	2021	$2,300
OTHER	PORT OF HUENEME	5163O006	0	0	0	0	PORT CORRIDOR OPTIMIZATION & EFFICIENCY PROJECT INCLUDES RECONFIGURATION OF TERMINAL TRAFIC CIRCULATION, INTELLIGENT TRANSPORTATION SYSTEMS (ITS), ELECTRICAL SYSTEM UPGRADES FOR REEFERS, AND A SOLAR POWER COMPONET TO PROGRESS ZERO EMISSION INITIATIVES.	2021	$12,000
PASSENGER RAIL	VCTC/SCRRA	5CR104	0	METROLINK COMMUTER RAIL	IN VENTURA COUNTY	VENTURA COUNTY	METROLINK COMMUTER RAIL SERVICE IMPROVEMENTS	2025	$95,700

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Ventura									
STATE HIGHWAY	CALTRANS	5120001	118	ROUTE 118	0.4 MI WEST OF TAPO CYN RD	ON RT 23 .8 MI NORTH OF TIERRA REJADA	ADD ONE LANE EA DIR FROM RT 23 (NEW LA AVE) TO 0.4 MI W OF TAPO CYN RD PLUS A SECOND LANE IN EACH DIRECTION FROM COLLINS TO MADERA PLUS ADD ONE LANE EACH DIRECTION RT 23 FROM 0.8 MI NO OF TIERRA REJADA TO LA AVENUE (PENDING ENVIRONMENTAL CLEARANCE) (EA 22550, PPNO 3002)	2031	$216,463
STATE HIGHWAY	VENTURA COUNTY TRANSPORTATION COMMISSION (VCTC)	5160001	101	VENTURA FREEWAY	LOS ANGELES/ VENTURA COUNTY LINE	SR-33	ADD ONE HOV LANE IN EACH DIRECTION.	2040	$700,000
STATE HIGHWAY	VENTURA COUNTY TRANSPORTATION COMMISSION (VCTC)	5160005	101	VENTURA FREEWAY	N/O JOHNSON DRIVE	FLYNN OFF RAMP	ADD AUXILIARY LANES	2040	$229,175
STATE HIGHWAY	SAN BUENAVENTURA	5A0701	33	SR-33	AT STANLEY AVENUE	STANLEYAVENUE	NEW TWO-LANE FREEWAY BRIDGE FOR SB TRAFFIC	2037	$18,000
STATE HIGHWAY	MOORPARK	5A0703	118	SR-118	AT COLLINS DRIVE	COLLINS DRIVE	INTERCHANGE AND SIGNAL IMPROVEMENT. WIDEN W/B OFF-RAMP TO ADD A FREE RIGHT- TURN LANE AND SIGNAL MODIFICATION.	2026	$1,800
STATE HIGHWAY	CALTRANS	5A0704	33	SR33/SR150	VARIOUS LOCATIONS	VARIOUS LOCATIONS	VARIOUS MINOR SPOT IMPROVEMENTS TO REDUCE CONGESTION ON SR 33 AND 150 IN OJAI VALLEY AND NEAR OJAI	2031	$19,000
STATE HIGHWAY	OJAI	5A0705	33	SR 33	SR 33	SR 150 AT "Y"	ROUNDABOUT	2027	$852
STATE HIGHWAY	OJAI	5A0706	33	SR 33	SR 33	CUYAMA RD	ROUNDABOUT	2026	$460
STATE HIGHWAY	VENTURA COUNTY TRANSPORTATION COMMISSION (VCTC)	5ITS04	0	ITS	COUNTYWIDE	COUNTYWIDE	MISC. ITS PROJECT IMPLEMENTATION	2039	$83,876
STATE HIGHWAY	VENTURA COUNTY TRANSPORTATION COMMISSION (VCTC)	5O0702	0	RETROFIT SOUNDWALL PROGRAM	COUNTYWIDE	COUNTYWIDE	RETROFIT SOUNDWALL PROGRAM	2039	$15,727
STATE HIGHWAY	CALTRANS	5OM0701	118	SR-118	SR 23	SR 34	CONSTRUCT NEW WEIGH STATION	2031	$21,769
TRANSIT	SAN BUENAVENTURA	5TC0701	0	MULTIMODAL TRANSPORTATION CENTER	IN DOWNTOWN VENTURA	IN DOWNTOWN VENTURA	SERVICE CENTER, PARKING, LAYOVER, AND RETAIL SPACE FOR RAIL, BUS, AND BICYCLE COMMUTERS.	2026	$50,000

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	TO	DESCRIPTION	COMPLETION YEAR	PROJECT COST ($1,000's)
County: Ventura									
TRANSIT	VENTURA COUNTY TRANSPORTATION COMMISSION (VCTC)	5TL04	0	TRANSIT SERVICE EXPANSION	COUNTYWIDE	COUNTYWIDE	COUNTYWIDE TRANSIT SERVICE EXPANSION	2039	$31,453
TRANSIT	VENTURA COUNTY TRANSPORTATION COMMISSION (VCTC)	5TL0702	0	PLANNING & ADMINISTRATION	COUNTYWIDE	COUNTYWIDE	TRANSIT PLANNING & ADMINISTRATION	2039	$52,423
TRANSIT	VENTURA COUNTY TRANSPORTATION COMMISSION (VCTC)	5TL0703	0	BUS EXPANSIONS (INCLUDES PARATRANSIT)	COUNTYWIDE	COUNTYWIDE	BUS EXPANSIONS (INCLUDES PARATRANSIT)	2039	$47,180
TRANSIT	VENTURA COUNTY TRANSPORTATION COMMISSION (VCTC)	5TL0706	0	FACILITY IMPROVEMENTS	COUNTYWIDE	COUNTYWIDE	NEW TRANSIT FACILITIES & IMPROVEMENTS	2039	$31,453
TRANSIT	VENTURA COUNTY TRANSPORTATION COMMISSION (VCTC)	5TL0707	0	MISC. ITEMS AND AMENITIES, ENHANCEMENTS	COUNTYWIDE	COUNTYWIDE	MISC. TRANSIT ITEMS	2039	$15,727

TABLE 3 Strategic Projects

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
IMPERIAL	LOCAL HIGHWAY	S6120014		AUSTIN ROAD	MCCABE ROAD	STATE ROUTE 86	WIDEN AND IMPROVE TO SIX LANE PRIME ARTERIAL	IMPERIAL COUNTY
IMPERIAL	LOCAL HIGHWAY	S6120015		DOGWOOD ROAD	STATE ROUTE 98	MEAD ROAD	WIDEN AND IMPROVE TO FOUR LANE PRIME ARTERIAL	IMPERIAL COUNTY
IMPERIAL	LOCAL HIGHWAY	S6120017		EIGHTH STREET	WAKE AVENUE	CENTINELA	WIDEN AND IMPROVE TO FOUR LANE PRIME ARTERIAL INCLUDING WIDENING OF OVERCROSSING AT I-8	EL CENTRO
IMPERIAL	LOCAL HIGHWAY	S6120018		IMPERIAL AVENUE	INTERSTATE 8	ATEN ROAD	WIDEN AND IMPROVE TO SIX LANE PRIME ARTERIAL	EL CENTRO
IMPERIAL	LOCAL HIGHWAY	S6120019		IMPERIAL AVENUE	MCCABE ROAD	INTERSTATE 8	CONSTRUCT SIX LANE PRIME ARTERIAL	EL CENTRO
IMPERIAL	LOCAL HIGHWAY	S6120020		KEYSTONE ROAD	FORRESTER ROAD	STATE ROUTE 115	CONSTRUCT NEW SIX LANE PRIME ARTERIAL ON THE KEYSTONE ROAD CURRENT ALIGNMENT	IMPERIAL COUNTY
IMPERIAL	LOCAL HIGHWAY	S6120021		MCCABE ROAD	AUSTIN ROAD	STATE ROUTE 111	WIDEN AND IMPROVE TO SIX LANE PRIME ARTERIAL	IMPERIAL COUNTY
IMPERIAL	LOCAL HIGHWAY	S6120022		WARD ROAD (IMPERIAL COUNTY)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	IMPERIAL COUNTY TRANSPORTATION COMMISSION
IMPERIAL	LOCAL HIGHWAY	S6120023		SR-78/SR-111 (BRAWLEY)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	IMPERIAL COUNTY TRANSPORTATION COMMISSION
IMPERIAL	LOCAL HIGHWAY	S6120024		MALAN STREET (BRAWLEY)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	IMPERIAL COUNTY TRANSPORTATION COMMISSION
IMPERIAL	LOCAL HIGHWAY	S6120025		MEAD ROAD (BRAWLEY)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	IMPERIAL COUNTY TRANSPORTATION COMMISSION
IMPERIAL	LOCAL HIGHWAY	S6120026		KEYSTONE ROAD (IMPERIAL COUNTY)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	IMPERIAL COUNTY TRANSPORTATION COMMISSION
IMPERIAL	LOCAL HIGHWAY	S6120027		ATEN ROAD (IMPERIAL)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	IMPERIAL COUNTY TRANSPORTATION COMMISSION
IMPERIAL	LOCAL HIGHWAY	S6120028		EVAN HEWES HIGHWAY (IMPERIAL COUNTY)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	IMPERIAL COUNTY TRANSPORTATION COMMISSION
IMPERIAL	LOCAL HIGHWAY	S6120029		DOGWOOD ROAD (IMPERIAL COUNTY)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	IMPERIAL COUNTY TRANSPORTATION COMMISSION

TABLE 3 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
IMPERIAL	LOCAL HIGHWAY	S6120030		HEBER AVENUE (IMPERIAL COUNTY)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	IMPERIAL COUNTY TRANSPORTATION COMMISSION
IMPERIAL	LOCAL HIGHWAY	S6120031		WEST COLE ROAD (CALEXICO)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	IMPERIAL COUNTY TRANSPORTATION COMMISSION
IMPERIAL	LOCAL HIGHWAY	S6160001					CONSTRUCT 1.5 MILE MULTIMODAL LANE FOR NEIGHBORHOOD ELECTRIC VEHICLE (NEV), PEDESTRIAN, AND BICYCLES; AND ACQUISITION OF UNION PACIFIC RAILROAD WITHIN THE CITY OF HOLTVILLE	HOLTVILLE
IMPERIAL	LOCAL HIGHWAY	S6160002					DEVELOP 4.47 MILES OF CLASS I & II OF BICYCLE LANES WITHIN THE CITY OF HOLTVILLE	HOLTVILLE
IMPERIAL	LOCAL HIGHWAY	S6160003					CONSTRUCT TWO NEIGHBORHOOD ELECTRIC VEHICLE (NEV) CHARGING STATIONS AND DESIGNATED NEV PARKING SPACES WITHIN THE CITY OF HOLTVILLE	HOLTVILLE
IMPERIAL	STATE HIGHWAY	S6120001	8	INTERSTATE 8	AUSTIN ROAD	AUSTIN ROAD	CONSTRUCT FULL INTERCHANGE	CALTRANS
IMPERIAL	STATE HIGHWAY	S6120002	8	INTERSTATE 8	BOWKER ROAD	BOWKER ROAD	IMPROVE INTERCHANGE	CALTRANS
IMPERIAL	STATE HIGHWAY	S6120003	111	STATE ROUTE 111	INTERSTATE 8	STATE ROUTE 78	WIDEN AND IMPROVE TO SIX LANE FREEWAY; ADD INTERCHANGES AT ATEN ROAD, WORTHINGTON ROAD, KEYSTONE ROAD, AND SR-78	CALTRANS
IMPERIAL	STATE HIGHWAY	S6120004	111	STATE ROUTE 111	SHANK ROAD	STATE ROUTE 115	WIDEN AND IMPROVE TO FOUR LANE CONVENTIONAL HIGHWAY	CALTRANS
IMPERIAL	STATE HIGHWAY	S6120005	111	STATE ROUTE 111	YOUNG ROAD	RIVERSIDE COUNTY LINE	WIDEN AND IMPROVE TO FOUR LANE CONVENTIONAL HIGHWAY	CALTRANS
IMPERIAL	STATE HIGHWAY	S6120006	115	STATE ROUTE 115	STATE ROUTE 111	STATE ROUTE 78	WIDEN AND IMPROVE TO FOUR LANE EXPRESSWAY	CALTRANS
IMPERIAL	STATE HIGHWAY	S6120007	7	STATE ROUTE 7	MCCABE ROAD	MCCABE ROAD	CONSTRUCT NEW INTERCHANGE TO ACCOMMODATE FUTURE AIRPORT ACCESS	CALTRANS
IMPERIAL	STATE HIGHWAY	S6120008	8	INTERSTATE 8	FORRESTER ROAD	STATE ROUTE 111	WIDEN AND IMPROVE TO SIX LANE FREEWAY	CALTRANS
IMPERIAL	STATE HIGHWAY	S6120009	115	STATE ROUTE 115	EVAN HEWES HIGHWAY	STATE ROUTE 78	WIDEN AND IMPROVE TO FOUR LANE EXPRESSWAY	CALTRANS
IMPERIAL	STATE HIGHWAY	S6120010	78/86	STATE ROUTE 78/STATE ROUTE 86 (DUAL SIGNED)	BRAWLEY BYPASS	STATE ROUTE 78	CONSTRUCT NEW FOUR LANE EXPRESSWAY BYPASS ROUTE AROUND THE CITY OF WESTMORLAND	CALTRANS

TABLE 3 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
IMPERIAL	STATE HIGHWAY	S6120011	98	STATE ROUTE 98	DOGWOOD ROAD	STATE ROUTE 111	CONSTRUCT GRADE SEPARATED RAILROAD CROSSINGS, NEW ROADWAY SEGMENTS, SIGNALIZATION, CHANNELIZATION, AND ROADWAY GEOMETRIC IMPROVEMENTS,	CALTRANS
IMPERIAL	STATE HIGHWAY	S6120012	78/115	STATE ROUTE 78/STATE ROUTE 115 (JUNCTION)	BRAWLEY BYPASS	STATE ROUTE 115	WIDEN AND IMPROVE TO FOUR LANE CONVENTIONAL HIGHWAY	CALTRANS
IMPERIAL	STATE HIGHWAY	S6120013	78	STATE ROUTE 78	STATE ROUTE 115	RIVERSIDE COUNTY LINE	PROVIDE OPERATIONAL AND SAFETY IMPROVEMENTS; INTERSECTION IMPROVEMENTS AND ROADWAY GEOMETRIC IMPROVEMENTS	CALTRANS
LOS ANGELES	LOCAL HIGHWAY	S1120079		EL SEGUNDO BL			EL SEGUNDO BL OVER UPRR AND METRO AT WILLOWBROOK AV	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120080		SIERRA HWY/BARREL SPRINGS RD			SIERRA HWY/BARREL SPRINGS RD UNDER SCRRA	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120081		SR-126/COMMERCE CENTER DR			SR-126/COMMERCE CENTER DR	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120083		50TH ST EAST CONNECTOR			E-220 TO SR-138/PALMDALE BL ROUNDABOUT	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120084		ALAMEDA ST			ALAMEDA ST	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120085		ALONDRA BL			ALONDRA BL	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120086		ARTESIA BL			ARTESIA BL	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120087		ATLANTIC BL			ATLANTIC BL	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120088		AVENUE G	SR-14	25TH ST	AVENUE G CORRIDOR IMPROVEMENTS - INTERCHANGE IMPROVEMENTS FOR ACCESS TO WILLIAM J. FOX AIRPORT	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120089		AVIATION BL/ROSECRANS AV			AVIATION BL/ROSECRANS AV GRADE SEPARATION - GRADE SEPARATE AVIATION BL UNDER ROSECRANS AV FOR FREE-FLOW NORTH-SOUTH MOVEMENTS VIA TUNNEL AND AT-GRADE EAST-WEST MOVEMENTS AT SIGNALIZED INTERSECTION	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120090		BELLFLOWER BL			BELLFLOWER BL	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120091		COLUMBIA WY/AVENUE M			COLUMBIA WY/AVENUE M CORRIDOR IMPROVEMENTS - CAPACITY AND INTERCHANGE IMPROVEMENTS AT SR-14 FROM 10TH ST W TO 15TH ST W, SERVING MAJOR INDUSTRIAL CENTERS AND COURTHOUSE	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120092		DEL AMO BL			DEL AMO BL	LOS ANGELES COUNTY MTA

TABLE 3 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	LOCAL HIGHWAY	S1120093		FIRESTONE BL			FIRESTONE BL	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120094		GARFIELD BL			GARFIELD BL	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120095		IMPERIAL HWY			IMPERIAL HWY	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120096		LAKEWOOD BL/ROSEMEAD BL			LAKEWOOD BL/ROSEMEAD BL	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120097		LONG BEACH BL			LONG BEACH BL	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120098		NORWALK BL			NORWALK BL	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120099		PACIFIC COAST HWY			PACIFIC COAST HWY	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120100		PARAMOUNT BL			PARAMOUNT BL	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120101		PEARBLOSSOM HWY	SR-14	SR-138	PEARBLOSSOM HWY IMPROVEMENT PROJECT - CORRIDOR IMPROVEMENTS BETWEEN SR-14 AND SR-138 TO COMMUTER/TRUCKING ROUTE	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120102		RANCHO VISTA BL			RANCHO VISTA BL GRADE SEPARATION - PROVIDES ACCESS TO PALMDALE REGIONAL AIRPORT AND CONNECTION TO E-220	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120103		ROSECRANS BL			ROSECRANS BL	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120104		TIERRA SUBIDA AV/10TH ST W	SR-14/10TH ST W	SR-14/AV S	TIERRA SUBIDA AV/10TH ST W IMPROVEMENT PROJECT - CAPACITY IMPROVEMENTS	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120105		WASHINGTON BL			WASHINGTON BL	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120106		WHITTIER BL			WHITTIER BL	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120107					SOUTH BAY PACIFIC COAST HWY INTERSECTION & OPERATIONAL IMPROVEMENTS	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120108	27	TOPANGA CANYON BOULEVARD	MULHOLLAND DR		WIDENING TOADD A SOUTHBOUND RIGHT-TURN LANE AND UPGRADE TRAFFIC SIGNAL TO INCLUDE SOUTHBOUND RIGHT-TURN OVERLAP PHASE	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120109	27	TOPANGA CANYON BOULEVARD	ROSCOES BVD		WIDENING TO ADD NORTHBOUND LEFT-TURN AND SOUTHBOUND RIGHT-TURN LANES AND TRAFFIC SIGNAL UPGRADE.	LOS ANGELES CITY

TABLE 3 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	LOCAL HIGHWAY	S1120110	27	TOPANGA CANYON BOULEVARD	VANOWEN ST	VENTURA BLVD	INTERSECTION WIDENING TO ADD THROUGH AND/OR TURN LANES, AND UPGRADE TRAFFIC SIGNAL TO INCLUDE NEW PHASING AS NEEDED TO IMPROVE INTERSECTION CAPACITY. INSTALL NEW SIGNAL AT TOPANGA CANYON BLVD. AND CALIFA ST.	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120111	90	SR-90	LINCOLN BL	ADMIRALTY WY	EXTENSION	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120112	213	WESTERN AVENUE	EXPOSITION BLVD		WIDEN WESTERN BLVD. TO ADD NORTHBOUND AND SOUTHBOUND LEFT-TURN LANES AT EXPOSITION BLVD.	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120113	213	WESTERN AVENUE	FLORENCE AVE	80TH ST/ MANCHESTER AVE	WIDEN EAST SIDE OF WESTERN AVE. TO ACCOMODATE LEFT-TURN LANES AT VARIOUS INTERSECTIONS WITHIN THE PROJECT LIMITS.	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120132		CASTAIC CUTOFF			NEW ROAD (LAKE HUGHES RD/SAN FRANCISQUITO CANYON RD)	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120141		DEL AMO BL	NORMANDIE AV	VERMONT AV	CONSTRUCTION OF A ROADWAY TO CLOSE THE GAP ON DEL AMO BL	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120143		FALLBROOK AVENUE	VICTORY BLVD		WIDENING TO ADD WESTBOUND RIGHT TURN LANE AND UPGRADE TRAFFIC SIGNAL	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120144		FIGUEROA STREET	146TH ST	REDONDO BEACH BLVD	WIDEN FIGUEROA ST TO MAJOR HIGHWAY STANDARD FROM 62 FT TO 80 FT TO PROVIDE THREE LANES IN EACH DIRECTION	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120145		FLETCHER STREET BRIDGE	LA RIVER		WIDEN TO INCREASE CAPACITY AND IMPROVE ACCESS TO I-5 FWY; ADD BIKE LANES AND SIDEWALKS	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120146		FOOTHILL BOULEVARD	BALBOA BLVD		WIDEN NORTH OF BALBOA BLVD OVER CULVERT AND WIDEN WEST LEG OF FOOTHILL BLVD AT BALBOA BLVD. UPGRADE TRAFFIC SIGNAL TO IMPROVE INTERSECTION CAPACITY	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120147		FOREST LAWN DRIVE	NEAR SR-134 BRIDGE	/LA RIVER	CONSTRUCT A NEW BRIDGE WITH BIKE PATH (INCLUDING EQUESTRIAN TRAIL) OVER LA RIVER AT LAEC. RE-ALIGH THE SR-134 FREEWAY ON/OFF RAMPS AT FOREST LAWN DR. TO IMPROVE FLOW AND CAPACITY.	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120148		FOUNTAIN AVENUE	SUNSET BLVD	WESTERN AVE	WIDEN FOUNTAIN AVE TO ADD A LEFT-TURN LANE AT EACH INTERSECTION-ROW ACQUISITION NEEDED	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120149		GLENOAKS BOULEVARD	SUNLAND BLVD		WIDEN GLENOAKS BLVD TO PROVIDE AN EASTBOUND RIGHT-TURN LANE	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120150		GRAND AVENUE BRIDGE	CESAR CHAVEZ AVE	TEMPLE ST	WIDEN BRIDGE OVER US-101 FWY TO IMPROVE ACCESS TO US-101, SR-110, FUTURE SCHOOL AND GRAND AVE.	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120151		GRAND AVENUE BRIDGE	OVER US 101 FWY		WIDEN THE EXISTING BRIDGE TO PROVIDE DUAL LEFT-TURN LANE ONTO THE 101 AND 110 FREEWAYS ON-RAMPS, INCLUDES, AND ADD THROUGH LANE AND RIGHT-TURN LANE, AND WIDEN SIDEWALK.	LOS ANGELES CITY

TABLE 3 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	LOCAL HIGHWAY	S1120152		IMPERIAL HIGHWAY	SEPULVEDA BLVD	PERSHING DR	WIDEN TO PROVIDE CONTINUOUS THREE THROUGH LANES IN EACH DIRECTION	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120153		IRWIN STREET	OWENSMOUTH AVE	DE SOTO ST	INTERSECTION WIDENING TO ADD THROUGH AND/OR TURN LANES, AND UPGRADE TRAFFIC SIGNAL TO INCLUDE NEW PHASING AS NEEDED TO IMPROVE INTERSECTION CAPACITY.	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120154		LA CIENEGA BOULEVARD	ARBOR VITAE ST	111TH ST	WIDEN AND RESTRIPE TO ACCOMMODATE THREE THROUGH LANES IN EACH DIRECTION	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120155		LA TIJERA BOULEVARD	AIRPORT BLVD	LA CIENEGA BLVD	WIDEN AND RESTRIPE TO PROVIDE CONTINUOUS THREE THROUGH LANES IN EACH DIRECTION	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120156		LAUREL CANYON BOULEVARD	MULHOLLAND DR		WIDEN THE WEST SIDE OF LAUREL CANYON BLVD SOUTH OF MULHOLLAND DR TO CARRY TWO SOUTHBOUND LANES THROUGH THE INTERSECTION	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120157		LINCOLN BOULEVARD	JEFFERSON BLVD	FIJI WAY	PARTNERING WITH CALTRANS & LA COUNTY, IMPROVE LINCOLN BLVD BETWEEN JEFFERSON BLVD & FIJI WAY INCLUDING REMOVING THE EXISTING BOTTLENECK BY REPLACING/WIDENING THE EXISTING BRIDGE TO PROVIDE AN ADD'L LANE IN EACH DIRECTION & ON-STREET BIKE LANES	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120158		MACLAY STREET	GLADSTONE AVE		REMOVE JUT-OUTS ON MACLAY AT GLADSTONE AND INSTALL A NEW TRAFFIC SIGNAL	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120159		MAGNOLIA BOULEVARD	CAHUENGA BLVD	VINELAND AVE (NORTH SIDE)	WIDEN THE NORTH SIDE OF MAGNOLIA BLVD. TO PROVIDE AN ADDITIONAL LANE IN THE WESTBOUND DIRECTION.	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120160		MASON AVENUE	SATICOY ST		WIDENING TO ADD EXCLUSIVE RIGHT-TURN LANES FOR ALL APPROACHES AND UPGRADE TRAFFIC SIGNAL	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120161		MISSION ROAD	GRIFFIN AVE	MARENGO ST	WIDEN MISSION ROAD TO PROVIDE AN ADDITIONAL THROUGH LANE IN EACH DIRECTION, AND INSTALL NEW PEDESTRIAN SIGNAL AT SICHEL STREET	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120162		MOORPARK AVENUE	WOODMAN AVE	MAMMOTH AVE	WIDEN MOORPARK AVE. TO INCREASE CAPACITY AND INSTALL STREET LIGHTS, CURB, AND GUTTER.	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120164		NORTH SPRING STREET	ROUNDOUT ST	BAKER ST	WIDEN N. SPRING ST. BETWEEN ROUNDOUT ST. TO BAKER ST. FROM 44 FT. TO AN 80' ROADWAY WIDTH AND INSTALL LANDSCAPED MEDIANS	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120165		OLYMPIC BOULEVARD	ALAMEDA ST		WIDEN TO IMPROVE TRUCK MOVEMENT (RIGHT-OF-WAY REQUIRED)	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120166		OLYMPIC BOULEVARD	SANTA FE AVE		WIDENING CURB RETRUN TO IMPROVE TRUCK MOVEMENT THROUGH THE INTERSECTION.	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120167		OLYMPIC BOULEVARD	SOTO ST		IMPROVEMENTS TO THE INTERSECTION BY INCREASING THE CURB RETURN RADIUS OF ALL FOUR CORNERS AND OLYMPIC BLVD APPROACHES. ROW REQUIRED	LOS ANGELES CITY

TABLE 3 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	LOCAL HIGHWAY	S1120168		OWENSMOUTH AVENUE	CANYON CREEK DR (PRIVATE)		WIDENING TO ADD SOUTHBOUND AND EASTBOUND RIGHT-TURN LANES, ADD A NORTHBOUND LEFT-TURN LANE, AND UPGRADE TRAFFIC SIGNAL.	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120169		OWENSMOUTH AVENUE	SATICOY ST		WIDENING TO ADD NORTHBOUND LEFT-TURN AND UPGRADE TRAFFIC SIGNAL.	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120170		OXNARD STREET	AMC DWY	DE SOTO ST	INTERSECTION WIDENING TO ADD THROUGH AND/OR TURN LANES, AND UPGRADE TRAFFIC SIGNAL TO INCLUDE NEW PHASING AS NEEDED TO IMPROVE INTERSECTION CAPACITY.	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120171		OXNARD STREET	WHITE OAK AVE	LINDLEY AVE	OXNARD STREET WIDENING FROM 75 FT. EXITING ROW TO 100 FT. (REQUIRE ADDITIONAL ROW) TO ALLOW THROUGH LANE IN EACH DIRECTION	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120172		RESEDA BOULEVARD	BURBANK BLVD	US-101 FWY WB RAMPS	INTERSECTION WIDENING TO ADD THROUGH AND/OR TURN LANES, AND UPGRADE TRAFFIC SIGNAL TO INCLUDE NEW PHASING AS NEEDED TO IMPROVE INTERSECTION CAPACITY.	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120173		RIVERSIDE DRIVE	SR-134 FWY		WIDEN THE BRIDGE TO IMPROVE THE CAPACITY AND TO ADD THE BIKE LANE	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120174		ROBERTSON AVENUE	NATIONAL BLVD	/I-10 FWY INTERCHANGE	RECONFIGURE EXISTING RAMPS AND CONSTRUCT NEW RAMPS TO IMPROVE CAPACITY	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120175		ROXFORD STREET	SEPULVEDA BLVD		REALIGN ROXFORD ST. AT SEPULVEDA BLVD. BY WIDENING CURB RADIUS TO ENHANCE TRAFFIC FLOW.	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120176		SAN FERNANDO ROAD	SIERRA HWY	ROXFORD ST	INSTALL A CENTER-REVERSIBLE LANE ON THE OLD ROAD TO PROVIDE EXTRA CAPACITY DURING PEAK HOURS ALONG AN APPROXIMATELY 3 MILE SEGMENT.	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120177		SANTA FE AVENUE	PORTER ST		WIDENING CURB RETRUN TO IMPROVE TRUCK MOVEMENT THROUGH THE INTERSECTION.	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120178		SATICOY STREET	VAN NUYS BLVD	WOODMAN AVE	CONSTRUCT GRADE SEPERATION AND EXTEND ROADWAY WESTERLY FROM WOODMAN AVE TO VAN NUYS BLVD	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120179		SEPULVEDA BOULEVARD	NATIONAL BLVD	OLYMPIC BLVD	WIDEN TO MAJOR HIGHWAY STANDARD AND INCREASE NUMBER OF THROUGH LANES FROM TWO TO THREE LANES	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120180		SEPULVEDA BOULEVARD CORRIDOR	WILSHIRE BLVD	LAX	PARTNERING WITH CULVER CITY & LA COUNTY, IDENTIFY AND IMPLEMENT WAYS OF IMPROVING TRAFFIC FLOW, CARRYING CAPACITY, AND EFFICIENCY IN THE UTILIZATION OF THE SEPULVEDA CORRIDOR FROM WILSHIRE TO LAX.	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120181		SEPULVEDA TUNNEL	MULHOLLAND BRIDGE		WIDEN EXISTING TUNNEL TO PROVIDE ADDITIONAL TRAFFIC LANES AND BIKE LANES	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120182		SHERMAN WAY AVENUE	JORDAN AVE	DE SOTO ST	INTERSECTION WIDENING TO ADD THROUGH AND/OR TURN LANES, AND UPGRADE TRAFFIC SIGNAL TO INCLUDE NEW PHASING AS NEEDED TO IMPROVE INTERSECTION CAPACITY.	LOS ANGELES CITY

TABLE 3 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	LOCAL HIGHWAY	S1120183		SHOUP AVENUE	IRWIN AVE		WIDENING TO ADD NORTHBOUND RIGHT TURN LANE AND UPGRADE TRAFFIC SIGNAL TO INCLUDE NORTHBOUND PROTECTED LEFT-TURN PHASING	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120184		SHOUP AVENUE	OXNARD ST		WIDENING TO ADD NORTHBOUND RIGHT TURN LANE AND UPGRADE TRAFFIC SIGNAL TO INCLUDE WESTBOUND AND NORTHBOUND PROTECTED LEFT-TURN PHASINGS	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120185		SHOUP AVENUE	SHERMAN WAY		WIDENING TO ADD NORTHBOUND RIGHT TURN LANE AND UPGRADE TRAFFIC SIGNAL	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120186		SHOUP AVENUE	VANOWEN ST		WIDENING TO ADD EASTBOUND RIGHT TURN LANE AND UPGRADE TRAFFIC SIGNAL	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120187		SLAUSON AVENUE	110 FWY	ALAMEDA ST	DESIGN AND CONSTRUCTION OF STREET IMPROVEMENTS AND SIGNAGE FOR COMMERCIAL VEHICLES	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120188		VAIEL AVENUE	KITTRIDGE ST		WIDENING TO ADD EASTBOUND AND WESTBOUND THROUGH LANES AND UPGRADE TRAFFIC SIGNAL	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120189		VALLEY BOULEVARD	SAN PABLO ST	BOCA AVE	IMPROVE CAPACITY AND ENHANCE TRAFFIC FLOW AT RAILROAD CROSSING BY WIDENING TO ADD LANES, TO IMPROVE CURB, AND TO UPGRADE SIGNAL SYSTEMS AND RAIL ROAD EQUIPMENT ALONG VALLEY BLVD.	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120190		VAN NESS AVENUE	US-101 FWY SB OFF-RAMP	SUNSET BLVD	WIDEN BOTH SIDES OF VAN NESS AVE. TO ACCOMMODATE ONE ADDITIONAL SOUTHBOUND LANE.	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120191		VANALDEN AVENUE	US-101 FWY EB RAMPS	/VENTURA BLVD	WIDENING TO ADD WESTBOUND THROUGH LANE AND UPGRADE TRAFFIC SIGNAL TO IMPROVE INTERSECTION CAPACITY.	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120192		VANOWEN AVENUE	OWENSMOUTH AVE	MASON AVE	INTERSECTION WIDENING TO ADD THROUGH AND/OR TURN LANES, AND UPGRADE TRAFFIC SIGNAL TO INCLUDE NEW PHASING AS NEEDED TO IMPROVE INTERSECTION CAPACITY.	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120193		VENTURA BOULEVARD	SHOUP AVE	US-101 SB RAMPS	WIDEN BETWEEN SHOUP AVE AND US-101 FREEWAY SOUTHBOUND RAMPS TO PROVIDE DOUBLE LEFT-TURN LANES	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120194		VERMONT AVENUE	WASHINGTON BLVD	I-10 FWY WB OFF-RAMP	WIDEN 10 FT. OF EAST-SIDE OF VERMONT AVE TO PROVIDE LEFT-TURN LANE	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120195		VICTORY BOULEVARD	OWENSMOUTH AVE	WINNETKA AVE	INTERSECTION WIDENING TO ADD THROUGH AND/OR TURN LANES, AND UPGRADE TRAFFIC SIGNAL TO INCLUDE NEW PHASING AS NEEDED TO IMPROVE INTERSECTION CAPACITY.	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120196		WILSHIRE BOULEVARD	SAN VICENTE BLVD	CENTINELA AVE	ARTERIAL WIDENING TO PROVIDE AN ADDITIONAL LANE IN EACH DIRECTION.	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120197		WINNETKA AVENUE	OXNARD ST		WIDENING TO ADD WESTBOUND RIGHT TURN LANE AND UPGRADE TRAFFIC SIGNAL	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120198		WINNETKA AVENUE	VANOWEN ST		WIDENING TO ADD NORTHBOUND AND SOUTHBOUND RIGHT-TURN LANES AND UPGRADE TRAFFIC SIGNAL	LOS ANGELES CITY

TABLE 3 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	LOCAL HIGHWAY	S1120199		WINNETKA AVENUE	VENTURA BLVD		CHANGE WESTBOUND RIGHT-TURN LANE TO A SHARED THROUGH-RIGHT TURN LANE, ADD AN EASTBOUND LEFT-TURN LANE, AND UPGRADE TRAFFIC SIGNAL	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120200		WOODLAKE AVENUE	VICTORY BLVD		WIDENING TO ADD NORTHBOUND SHARED-THROUGH RIGHT TURN LANE AND UPGRADE TRAFFIC SIGNAL	LOS ANGELES CITY
LOS ANGELES	LOCAL HIGHWAY	S1120201		COLIMA RD			INTERSECTION IMPROVEMENTS AT FULLERTON RD	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120202		HACIENDA BL			INTERSECTION IMPROVEMENTS AT GALE AV	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120203					MALIBU/KANAN DUME TUNNEL LINING PROJECTS	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120204	5	I-5			INTERSECTION IMPROVEMENTS AND WIDENING TO PROVIDE ADDITIONAL LANES ON EAST BOUND AND WEST BOUND APPROACHES AT LAKE HIGHES RD	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120205	5	I-5			INTERSECTION IMPROVEMENTS INCLUDING BRIDGE WIDENING AND LANE ADDITIONS AT PARKER RD	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120206		ADMIRALTY WY WIDENING	VIA MARINA	FIJI WY	WIDENING	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120207		AVENUE L & K ET AL.	40TH ST	50TH ST	WIDENING	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120208		AVIATION BL	IMPERIAL HIGHWAY	ROSECRANS AV	WIDENING	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120209		COLIMA RD			ROAD WIDENING (HALLIBURTON RD/CITY OF DIAMOND BAR CITY BOUNDARY)	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120210		FULLERTON RD			INTERSECTION IMPROVEMENTS AT PATHFINDER RD	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120211		GALE AV	FULLERTON RD	NOGALES ST	WIDEN FROM FOUR TO SIX LANES	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1120212		THE OLD ROAD	HILLCREST PKWY	LAKE HIGHES RD	THE OLD ROAD	LOS ANGELES COUNTY MTA
LOS ANGELES	LOCAL HIGHWAY	S1160001					RAILS-TO-TRAILS CONVERSIONS INCORPORATING BIKE/PED PATHS AND GREENWAYS IN PLACE OF ABANDONED, OR, ALONGSIDE ACTIVE RAIL LINES AS WELL AS OTHER UNDERUTILIZED EASEMENTS AND RIGHTS-OF-WAY	LOS ANGELES

TABLE 3 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	LOCAL HIGHWAY	S1160002		WASHINGTON BLVD	FIGUEROA ST	CENTRAL AVE	IMPLEMENT STREETSCAPE PLANS FOR AREAS OF HIGH PEDESTRIAN AND COMMERCIAL ACTIVITY AND MIXED-USE BOULEVARDS WELL-SERVED BY TRANSIT, AS WELL AS THE TRANSIT ORIENTED DEVELOPMENT AREAS ALONG METRO'S EXPO, BLUE AND GREEN LRT CORRIDORS, SUCH AS WASHINGTON BL FROM FIGUEROA ST TO CENTRAL AV.	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160003					IMPLEMENT CITY OF LA BICYCLE ENHANCED NETWORK AS DEFINED IN THE MOBILITY PLAN 2035	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160004					IMPLEMENT LOS ANGELES SAFE ROUTES TO SCHOOL INITIATIVE TO PROVIDE TARGETED SAFETY IMPROVEMENTS AT SCHOOLS WITH HIGH COLLISION RATES. IMPROVEMENTS MAY INCLUDE NEW TRAFFIC SIGNALS, CURB EXTENSIONS, WIDER SIDEWALKS, NEW CROSSWALKS, TRAFFIC CALMING MEASURES, ETC.	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160005					IMPLEMENT CITY OF LA PEDESTRIAN ENHANCED DISTRICTS AS DEFINED IN MOBILITY PLAN 2035.	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160006					IMPLEMENT THE PROGRAMS IDENTIFIED IN THE CITY OF LOS ANGELES MOBILITY PLAN 2035	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160007		LOS ANGELES ST			PARK 101 - FREEWAY CAP PARK - LOS ANGELES ST BRIDGE OVER US-101: REPLACE WITH LONGER BRIDGE FOR INCREASED LATERAL UNDERCLEARANCE; COVER NB ON-RAMP WITH A PORTAL FRAME FOR INCREASED OPEN SPACE FOR PROPOSED PARK	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160008					COMPLETION OF THE LA RIVER BIKE PATH PROJECT TO CONNECT DOWNTOWN LOS ANGELES TO THE SAN FERNANDO VALLEY	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160009					FASHION DISTRICT STREETSCAPE PHASE III: PEDESTRIAN ENVIRONMENT IMPROVEMENTS AND ENHANCEMENTS TO IMPROVE PEDESTRIAN ACCESS TO TRANSIT SYSTEMS WITHIN THE FASHION DISTRICT AREA (PICO BL FROM SAN PEDRO ST TO MAPLE AV AND SAN PEDRO ST FROM PICO BL TO WASHINGTON BL); THIS PROJECT IS AN 11-BLOCK PEDESTRIAN CORRIDOR THAT WILL CONNECT WITH AND CONTINUE THE FASHION DISTRICT STREETSCAPE PROJECTS PHASE 1 AND PHASE II. PHASE II STREETSCAPE IMPROVEMENTS WILL EXTEND AND INCREASE PEDESTRIAN USAGE INTO, OUT OF, AND THROUGH DOWNTOWN LOS ANGELES AND THE FASHION DISTRICT BY ENHANCING AND IMPROVING THE PEDESTRIAN ENVIRONMENT.	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160010					DEVELOP A SYSTEM-WIDE URBAN GREENING PLAN TO IMPROVE PLACEMAKING, INCREASE ENVIRONMENTAL STEWARDSHIP, AND CREATE LIVABLE STREETS AROUND TRANSIT STATIONS WITH FUNDS AWARDED BY THE STATE STRATEGIC GROWTH COUNCIL.	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160011					IMPLEMENT MAYOR'S "GREAT STREETS PROGRAM": REVITALIZE UP TO 40 NEIGHBORHOOD STREETS TO BECOME MORE PEDESTRIAN-FRIENDLY	LOS ANGELES

TABLE 3 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	LOCAL HIGHWAY	S1160012					PEDESTRIAN ACCESS: IMPLEMENTATION OF SEVERAL COMMUNITY PLAN IMPLEMENTATION OVERLAY SUB-DISTRICTS THAT CONTAIN ENHANCED PEDESTRIAN STANDARDS AS WELL AS INCLUDE PRELIMINARY STREETSCAPE PLANS THAT CALL FOR ENHANCEMENT OF PUBLIC REALM FOR PEDESTRIANS AS WELL AS OTHER NON-VEHICULAR MODES OF TRANSPORTATION	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160013					PRIORITY PEDESTRIAN ROUTES: IMPLEMENT STREETSCAPE PLANS FOR CRENSHAW BL (BETWEEN SANTA MONICA FREEWAY AND FLORENCE AV. AS WELL AS WITHIN THE DISTRICT BOUNDARIES OF THE FOLLOWING CPIO AREAS: CRENSHAW/EXPO TOD, LA BREA/FARMDALE TOD, JEFFERSON/LA CIENEGA TOD, VENICE/NATIONAL TOD, CRENSHAW/SLAUSON TOD, WEST BL TOD, AND HYDE PARK INDUSTRIAL CORRIDOR	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160014					STREETSCAPES: IMPLEMENT STREETSCAPE PLANS FOR THE NEIGHBORHOOD DISTRICTS ALONG ROBERTSON AND WASHINGTON BL, AS WELL AS LEIMERT PARK VILLAGE AND THE CRENSHAW/SLAUSON AREA AS IDENTIFIED, AS WELL AS THE TRANSIT ORIENTED DEVELOPMENT AREAS ALONG THE MID-CITY EXPOSITION AND CRENSHAW/LAX TRANSIT CORRIDORS	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160015	101		BRONSON AVE	VERMONT AVE	HOLLYWOOD CENTRAL PARK: US-101- DECKING OVER 101 FWY BETWEEN BRONSON AV AND VERMONT AV FOR PEDESTRIAN LINKAGE AND OPEN SPACE	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160016					DEVELOP A PRIORITIZED LIST OF PEDESTRIAN CROSSING IMPROVEMENTS THROUGH PEDESTRIAN SAFETY AUDITS THROUGHOUT THE COMMUNITY. INCLUDE ENHANCED FEATURES SUCH AS BULB-OUTS, LANDSCAPED MEDIAN REFUGES AND AUDIO/VISUAL WARNINGS WHERE APPROPRIATE.	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160017					EXPAND BICYCLE NETWORKS AND LINK THEM TO THOSE OF NEIGHBORING AREAS	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160018		SAN FERNANDO RD.	MACON ST	LA RIVER GREENWAY TRAIL	TAYLOR YARD STATE PARK IS NOW KNOWN AS RIO DE LOS ANGELES STATE PARK. THIS PROJECT WOULD CONNECT THE TWO COMMUNITIES ON OPPOSITE SIDES OF THE LA RIVER WITH A BIKE CONNECTION VIA A BRIDGE OVER THE RIVER. THE PARK IS AT N. SAN FERNANDO ROAD & MACON STREET (EAST OF THE LA RIVER) TO THE LA RIVER GREENWAY TRAIL (WEST OF THE LA RIVER).	LOS ANGELES

TABLE 3 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	LOCAL HIGHWAY	S1160019					TAYLOR YARD BICYCLE/PEDESTRIAN BRIDGE CONSTRUCTION: PROVIDE A SAFE AND CONVENIENT BICYCLE AND PEDESTRIAN LINK BETWEEN THE LA RIVER BIKEWAY (ON WEST BANK) AND THE RIO DE LOS ANGELES STATE PARK (ON EAST BANK). THE PROJECT INCLUDES THE CONSTRUCTION OF A PED/BIKEWAY BRIDGE TO CONNECT THE LA RIVER BIKE PATH TO COMMUNITIES AND BIKE INFRASTRUCTURE ON THE EAST BANK. THE PROJECT INCLUDES A MINIMUM 400' LONG BRIGDE OVER THE RIVER AND AN AT-GRADE CROSSING OF THE EXISTING UP EMERGENCY SPUR TRACKS. SCOPE MAY BE EXPANDED TO INCLUDE BIKE LANES ALONG TAYLOR YARD ACCESS ROAD TO SAN FERNANDO ROAD, OR TO PROVIDE LINKAGE TO THE BIKE TRAILS IN THE STATE PARK.	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160020		1ST ST./MAIN ST.			DOWNTOWN BICYCLE SERVICE CENTER: THE PROJECT WOULD INCLUDE THE DEVELOPMENT, IMPLEMENTATION AND MANAGEMENT OF A BICYCLE SERVICE CENTER IN DOWNTOWN LOS ANGELES AT OR NEAR 1ST & MAIN.	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160021		AVE 26	PASADENA AVE	SAN FERNANDO RD	AV 26 TO GOLD LINE CYPRESS STATION PED CONNECTION: ST TREE INSTALLATION, BIO-RETENTION PLANTERS, BIKE LANES, LIGHTING, ACCESS RAMPS, ENHANCED CROSSWALKS, AND BULB-OUTS. AV. 26 BETWEEN PASADENA AV. & SAN FERNANDO ROAD	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160022		BEVERLY BL.	VERMONT	COMMONWEALTH	BEVERLY BL. VERMONT TO COMMONWEALTH: BIKE LANES, CURB EXTENSIONS, SIGNS AND DECORATIVE SIDEWALKS	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160023		TEMPLE ST	HOOVER ST	GELNDALE	CONSTRUCT CROSSWALK BUMP-OUTS AND RELATED STREETSCAPE IMPROVEMENTS ON TEMPLE ST BETWEEN HOOVER ST & GLENDALE. PROJECT WILL PROVIDE FOR VARIOUS STREETSCAPE IMPROVEMENTS.	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160024		BROADWAY	1ST ST	OLYMPIC BLVD	IMPLEMENT THE BROADWAY STREETSCAPE MASTER PLAN ON BROADWAY BETWEEN 1ST STREET AND OLYMPIC BOULEVARD.	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160025					PEDESTRIAN/BICYCLE FACILITIES, LANDSCAPE, AND ARTWORK ENHANCEMENTS ADJACENT TO I-5 & I-10 & LA RIVER	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160026					CESAR CHAVEZ STREETSCAPE IMPROVEMENTS: IMPROVE PED CONNECTIVITY TO TRANSIT STOPS ALONG CESAR CHAVEZ INCLUDING ENHANCED X-WALKS, MEDIANS, LIGHTING, BUS STOP AMENITIES, CURB CUTS, INFORMATION KIOSKS, STREET TREES, ETC.	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160027					IMPLEMENT THE PROGRAMS IDENTIFIED IN THE 2010 BICYCLE PLAN FOR THE CITY OF LOS ANGELES (SEE APPENDIX FOR DETAIL)	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160028					EXPO LINE NON-REVENUE CONNECTOR ENHANCEMENTS: INSTALL BIKE LANES AND OTHER BIKE/PED AMENITIES TO ENHANCE THE QUALITY OF THE CORRIDOR FOR PEDESTRIANS, CYCLISTS AND TRANSIT USERS.	LOS ANGELES

TABLE 3 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	LOCAL HIGHWAY	S1160029					FASHION DISTRICT WEST GATEWAY PLAZA: ENHANCE THE SKEWED ALIGNMENT OF THIS INTERSECTION (PICO BLVD AND MAIN ST) AND IMPLEMENT PEDESTRIAN ENHANCEMENTS SUCH AS PLAZA/POCKET PARK AT TRIANGULAR MEDIAN OF INTERSECTION AND SIDEWALK IMPROVEMENTS THAT FACILITATE ACCESS TO TRANSIT	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160030					FLETCHER DRIVE TRANSIT & PEDESTRIAN IMPROVEMENT PROJECT (FLETCHER DRIVE BETWEEN LA CLEDE AV AND SAN FERNANDO ROAD): ENHANCE PEDESTRIAN ACCESS TO TRANSIT BY INSTALLING BUS STOPS, ACCESS RAMPS, LIGHTING AND CURB EXTENSIONS.	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160031		GRAND AVE	WASHINGTON BLVD	MARTIN LUTHER KING JR	GRAND AVENUE PEDESTRIAN ENHANCEMENTS: ENHANCE PEDESTRIAN ACCESS TO TRANSIT THROUGH NEW SIDEWALKS, STREET TREES, CROSSWALKS, STREET FURNITURE, BULB-OUTS AND OTHER AMENITIES (ALSO ENHANCES EFFICIENCY & SAFETY OF CORRIDOR) ON GRAND AVENUE BETWEEN WASHINGTON BLVD AND MARTIN LUTHER KING JR. BLVD	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160032		LA CIENEGA BLVD	MELROSE AVE	WARING AVE	LA CIENEGA BLVD PEDESTRIAN ENHANCEMENT (LA CIENEGA BLVD BETWEEN MELROSE AVE AND WARING AVE): ENHANCE PEDESTRIAN ENVIRONMENT AND ACCESS TO TRANSIT THROUGH STREET TREES, CONTROLLED CROSSWALKS, STREET FURNITURE, BULBOUTS AND OTHER AMENITIES (ALSO ENHANCES EFFICIENCY & SAFETY OF CORRIDOR)	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160033		4TH ST	MATTHEWS ST	MOTT ST	LOS ANGELES NEIGHBORHOOD INITIATIVE - GREEN ST PROJECT ALONG 4TH ST BETWEEN MATTHEWS ST AND MOTT ST: PLANTING DROUGHT-TOLERANT AND NATIVE PLANTS AND TREES, RAIN GARDENS, SWALES, THE INSTALLATION OF PERMEABLE PAVEMENT AND NEW CURBS AND ENHANCE SIDEWALKS TO IMPROVE PEDESTRIAN ACCESS TO TRANSIT SYSTEMS	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160034		LOS ANGELES ST	7TH ST	8TH ST	LOS ANGELES ST PARK (LOS ANGELES ST BETWEEN 7TH AND 8TH STS): IMPLEMENT PEDESTRIAN AND BIKE ENHANCEMENT SUCH AS HARDSCAPING, SIGNAGE, TREES, TRELLIS STRUCTURES, PARK FURNITURE, SECURE BIKE PARKING, BIKE SHARE KIOSKS, LIGHTING, ETC. TO PROMOTE MULTI-MODAL ACCESS TO TRANSIT SYSTEM	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160035		MAIN ST	2ND ST	4TH ST	MAIN ST TRANSIT/PEDESTRIAN ENHANCEMENT - 2ND TO 4TH STREET: ENHANCE THE PUBLIC RIGHT-OF-WAY FOR PEDESTRIANS AND TRANSIT USERS WITH IMPROVED LIGHTING, SHADE, TREES, AND CURB EXTENSIONS.	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160036		OLYMPIC BLVD	CRENSHAW BLVD	VERMONT AVE	OLYMPIC BL PEDESTRIAN CIRCULATION PROJECT: INSTALL BUS SHELTERS, BENCHES, TRASH RECEPTACLES, SECURITY LIGHTING, DECORATIVE CROSSWALKS, AND SIDEWALK IMPROVEMENTS ON OLYMPIC BL BETWEEN CRENSHAW BL AND VERMONT AV	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160037					SAN PEDRO STREET PEDESTRIAN ENHANCEMENTS: ENHANCE PED ACCESS TO TRANSIT VIA SIDEWALK REPAIR, ADA CURBS, CROSSWALKS, BULB-OUTS, STORM DRAIN REPAIR, BIOSWALES, AND PEDESTRIAN SIGNAGE AT KEY INTERSECTIONS (ENHANCE ACCESS TO RICARDO LIZARRAGA SCHOOL)	LOS ANGELES

TABLE 3 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	LOCAL HIGHWAY	S1160038		SEPULVEDA BLVD	76TH ST	80TH ST	SEPULVEDA BL PEDESTRIAN IMPROVEMENTS: IMPLEMENT SIDEWALK AND STREETSCAPE IMPROVEMENTS, BUS STOP LIGHTING AT TRANSIT STOPS, AND ENHANCED CROSSWALKS ON SEPULVEDA BL BETWEEN 76TH ST AND 80TH ST	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160039		WASHINGTON BLVD	110 FWY	NORMANDIE	WASHINGTON BL STREETSCAPE IMPROVEMENT (WASHINGTON BL BETWEEN 110 FWY AND NORMANDIE): IMPROVE PED CONNECTIVITY TO TRANSIT STOPS AT KEY INTERSECTIONS ALONG WASHINGTON (@ VERMONT, NORMANDIE & HOOVER) INCLUDING ENHANCED CROSSWALKS, MEDIANS, LIGHTING, BUS STOP AMENITIES, INFORMATION KIOSKS, STREET TREES, ETC.	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160040		ANGELES VISTA RD	SLAUSON AVE	VERNON AVE	ANGELES VISTA RD - SLAUSON AV TO VERNON AV: BIKE AND PEDESTRIAN IMPROVEMENT PROJECTS PARALLELING AN EXISTING ROADWAY FACILITY.	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160041					ACCESS MANAGEMENT: CREATION OF ADEQUATE DROP-OFF AREAS FOR SCHOOLS, DAY CARE, HEALTH CARE, AND OTHER USES WITH INTENSIVE PASSENGER DROP-OFF DEMAND	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160042					PRIORITY BIKEWAYS: MARK BIKEWAYS IN THE WEST ADAMS-BALDWIN HILLS-LEIMERT COMMUNITY PLAN WITH APPROPRIATE SIGNAGE	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160043					RECLAIMED LAND FOR BIKEWAYS: COORDINATE WITH OTHER AGENCIES TO DESIGNATE AND DEVELOP MOUNTAIN BIKE TRAILS IN THE KENNETH HAHN STATE RECREATION AREA THAT COMPLEMENT AND CONNECT TO THE BALDWIN HILLS PARK MASTER PLAN TRAIL SYSTEM	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160044		ARROYO SECO BIKE TRAIL	AVE 26	SAN FERNANDO RD	ARROYO SECO BIKE TRAIL- BIKE TRAIL CLASS 1 FACILITY/CONNECTOR FROM AV 26 TO SAN FERNANDO RD	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160045					IDENTIFY AND IMPLEMENT PEDESTRIAN SAFETY AND BICYCLE COUNTERMEASURES AT THE 10 CORRIDORS WITH THE HIGHEST SEVERE INJURIES AND COLLISIONS	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160046		ALAMEDA ST	I-10	7TH ST	ALAMEDA ST GOODS MOVEMENT (DOWNTOWN): ALAMEDA ST. FROM I-10 TO SEVENTH ST - PROJECT INCLUDES REHABILITATION OF THE ROADWAY, REMOVING EMBEDDED RAILS AND TIES, INSTALLING LEFT TURN CHANNELIZATION, SPOT WIDENING WHERE NEEDED TO ACCOMMODATE TRUCK TRAFFIC	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160047		MAIN ST/DALY ST			MAIN & DALY- CAPACITY ENHANCEMENT AT DALY ST AND MAIN ST. INCREASE CURB RETURNS AT NW AND SW CORNERS OF DALY AND MAIN TO FACILITATE TRUCK MOVEMENTS	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160050					TRAFFIC SIGNAL SYSTEM UPGRADES: IMPLEMENT TRAFFIC SIGNAL SYSTEM UPGRADES THROUGHOUT SUBREGION INCLUDING SIGNAL CONTROLLER UPGRADES, LEFT-TURN PHASING AT KEY INTERSECTIONS, SENSOR LOOPS, ADDITIONAL CCTV CAMERAS TO IMPROVE LADOT'S ABILITY TO MONITOR AND RESPOND	LOS ANGELES

TABLE 3 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	LOCAL HIGHWAY	S1160060					IMPLEMENT UNION STATION LINKAGES PLAN	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160061					IMPLEMENT THE METRO FIRST/LAST MILE STRATEGIC PLAN	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160062					IMPLEMENT THE CITY OF LOS ANGELES FIRST & LAST MILE TRANSIT PLAN	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160063					ENHANCED PEDESTRIAN ACCESS TO METRO STATIONS	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160065					EL MONTE BUSWAY IMPROVEMENTS, INCLUDING BIKE LOCKERS, TICKET VENDING MACHINES AT EL MONTE BUSWAY STATIONS AND UP TO 30 BUS BAYS; IMPROVEMENTS AT THE EL MONTE BUSWAY TERMINUS AT UNION STATION INCLUDE PASSENGER STATION REHABILITATION AND UPGRADES AND IMPROVED PEDESTRIAN CONNECTION TO PATSAOURAS PLAZA/ UNION STATION	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160066					IMPLEMENT UNION STATION LINKAGES PLAN	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160067					IMPLEMENT ROADWAY ENHANCEMENTS THAT ENHANCE MOBILITY AND SAFETY FOR ALL AND STRIVE TOWARD THE CITY OF LOS ANGELES "VISION ZERO" GOAL OF ZERO TRAFFIC FATALITIES BY 2025.	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160068		N MAIN ST/ALBION ST			N. MAIN ST/ALBION STREET: METROLINK GRADE CROSSING IMPROVEMENTS	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160069		N MAIN ST			NORTH MAIN STREET METROLINK CROSSING IMPROVEMENTS: SIGNAGE AND STRIPING (CROSSING WITHIN 2100 FT OF SCHOOL), POSSIBLY INSTALL 3RD ACTIVE GATE TO NW QUAD, POSSIBLE RT TURN RESTRICTION FOR BUSINESS PARKING IN NW QUAD DUE TO GEOMETRY, SIGHT DISTANCE AND LACK OF ACTIVE PROTECTION; 4 QUAD GATES	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160074					REGIONAL: UPGRADE TRAFFIC SIGNAL SYSTEM AT ON- & OFF-RAMP INTERSECTIONS WITH ARTERIALS, CONNECT WITH RAMP METERING SYSTEM, ESTABLISH COMMUNICATION WITH FIBER SYSTEM AND UPGRADE COMMUNICATION OF FIELD DEVICE TO IP.	BURBANK, GLENDALE, SANTA CLARITA, SAN FERNANDO, LOS ANGELES, UNINCORPORATED - SAN FERNANDO
LOS ANGELES	LOCAL HIGHWAY	S1160075					ELECTRIC VEHICLE CHARGING STATIONS IN PUBLIC PARKING STRUCTURES (POTENTIALLY INCLUDING PHOTOVOLTAIC PANELS)	BURBANK, GLENDALE, SANTA CLARITA, SAN FERNANDO, LOS ANGELES, UNINCORPORATED - SAN FERNANDO

TABLE 3 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	LOCAL HIGHWAY	S1160077					ESTABLISH A COUNTY-WIDE BIKE SHARE PROGRAM (INCLUDING SANTA CLARITA)	BURBANK, GLENDALE, SANTA CLARITA, SAN FERNANDO, LOS ANGELES, UNINCORPORATED - SAN FERNANDO
LOS ANGELES	LOCAL HIGHWAY	S1160078		CLYBOURN AVE	VANOWEN ST	EMPIRE AVE	CLYBOURN AVE: GRADE SEPARATION AT RAILROAD TRACKS / VANOWEN ST / EMPIRE AVE	BURBANK, LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160079					CONSTRUCTION OF PEDESTRIAN & BIKE ON THE LOS ANGELES RIVER THROUGHOUT SFV	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160080					LOS ANGELES: BICYCLE/PEDESTRIAN SAFETY PROGRAM. IMPLEMENT "VISION ZERO" ROADWAY IMPROVEMENTS, PED/BIKE COUNTERMEASURES, SAFE ROUTES TO SCHOOL INITIATIVE	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160081					LOS ANGELES: MOBILITY ELEMENT (TRANSIT/VEHICLE/BICYCLE ENHANCED NETWORKS, PEDESTRIAN ENHANCED DISTRICTS)	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160082					LOS ANGELES: BICYCLE PLAN PROJECTS	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160086					I-5/ROXFORD ST: WIDEN ROXFORD AT I-5 TO FACILITATE TRUCK MOVEMENTS	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160088		SATICOY ST	VAN NUYS AVE	WOODMAN AVE	SATICOY ST: GRADE SEPARATION AT RAILROAD TRACKS (BETWEEN VAN NUYS AVE AND WOODMAN AVE)	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160089		SUNLAND BLVD	SAN FERNANDO RD		SUNLAND BLVD: GRADE SEPARATION AT RAILROAD TRACKS / SAN FERNANDO RD	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160090					REGIONAL: UPGRADE TRAFFIC SIGNAL SYSTEM AT ON- & OFF-RAMP INTERSECTIONS WITH ARTERIALS, CONNECT WITH RAMP METERING SYSTEM, ESTABLISH COMMUNICATION WITH FIBER SYSTEM AND UPGRADE COMMUNICATION OF FIELD DEVICE TO IP.	BURBANK, GLENDALE, SANTA CLARITA, SAN FERNANDO, LOS ANGELES, UNINCORPORATED - SAN FERNANDO
LOS ANGELES	LOCAL HIGHWAY	S1160091					LOS ANGELES: TRAFFIC SIGNAL IMPROVEMENT PROGRAM. IMPLEMENT SIGNAL CONTROLLER UPGRADES, LEFT-TURN PHASING, SENSOR, LOOPS, CCTV MONITORS	LOS ANGELES

TABLE 3 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	LOCAL HIGHWAY	S1160092					ELECTRIC VEHICLE CHARGING STATIONS IN PUBLIC PARKING STRUCTURES (POTENTIALLY INCLUDING PHOTOVOLTAIC PANELS)	BURBANK, GLENDALE, SANTA CLARITA, SAN FERNANDO, LOS ANGELES, UNINCORPORATED - SAN FERNANDO
LOS ANGELES	LOCAL HIGHWAY	S1160094					ESTABLISH A COUNTY-WIDE BIKE SHARE PROGRAM (INCLUDING SANTA CLARITA)	BURBANK, GLENDALE, SANTA CLARITA, SAN FERNANDO, LOS ANGELES, UNINCORPORATED - SAN FERNANDO
LOS ANGELES	LOCAL HIGHWAY	S1160095					LOS ANGELES: PARKING PROGRAM. EXPAND EXPRESSPARK AND IMPLEMENT VALET PARKING THROUGHOUT MAJOR RETAIL CENTERS	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160096					STATE OF GOOD REPAIR/SAFETY PROJECTS FOR ARTERIALS THROUGHOUT REGION	BURBANK, GLENDALE, SANTA CLARITA, SAN FERNANDO, LOS ANGELES, UNINCORPORATED - SAN FERNANDO
LOS ANGELES	LOCAL HIGHWAY	S1160097		ARBOR VITAE ST	CRENSHAW BLVD	ARLINGTON AVE	ARBOR VITAE ST: BIKEWAY CRENSHAW BLVD TO ARLINGTON AVE	LOS ANGELES, INGLEWOOD
LOS ANGELES	LOCAL HIGHWAY	S1160098		ARBOR VITAE ST	SEPULVEDA BLVD	PRAIRIE AVE	ARBOR VITAE ST: LA, INGLEWOOD ARBOR VITAE ST BIKEWAY SEPULVEDA BLVD TO PRAIRIE AVE	LOS ANGELES, INGLEWOOD
LOS ANGELES	LOCAL HIGHWAY	S1160099		FIGUEROA ST	146TH ST	REDONDO BEACH BLVD	FIGUEROA ST: BICYCLE IMPROVEMENTS FROM 146TH STREET TO REDONDO BEACH BLVD	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160100		IMPERIAL HWY	BIKEWAY AVIATION BLVD	ARLINGTON AVE	IMPERIAL HWY: BIKEWAY AVIATION BLVD TO ARLINGTON AV	LOS ANGELES AND COUNTY
LOS ANGELES	LOCAL HIGHWAY	S1160101		LA BREA AVE	BIKEWAY EXPOSITION BLVD	IMPERIAL HWY	LA BREA AVE: BIKEWAY EXPOSITION BLVD TO IMPERIAL HWY	LOS ANGELES, INGLEWOOD
LOS ANGELES	LOCAL HIGHWAY	S1160102		MANHATTAN BEACH BLVD	SOUTH BAY BIKE TRAIL	DOMINGUEZ CHANNEL	MANHATTAN BEACH BLVD: SOUTH BAY BIKE TRAIL TO DOMINGUEZ CHANNEL	LOS ANGELES, LAWNDALE, MANHATTAN BEACH, REDONDO BEACH

TABLE 3 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	LOCAL HIGHWAY	S1160103					SAN PEDRO BIKEWAYS (HARBOR GATEWAY): BIKEWAYS ALONG POWER LINE RIGHTS-OF-WAY, FLOOD CONTROL CHANNELS AND ABANDONED RAILROAD PROPERTY.	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160104					SAN PEDRO COMMUNITY BIKE NETWORK: COMPLETE BIKE NETWORK IN CITY OF LA, SAN PEDRO COMMUNITY, INCLUDING CONNECTIONS ON 1ST STREET, 25TH STREET, 9TH STREET, GRAND AVE, GAFFEYSTREET, AND WESTMONT DRIVE, AS WELL AS THE GREENWAY NETWORK DEFINED IN THE GENERAL PLAN.	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160105					WILMINGTON-HARBOR CITY AREA BIKEWAY SYSTEM: COMPLETE THE CITY OF LA,WILMINGTON-HARBOR CITY AREA BIKEWAY SYSTEM: (1) IMPLEMENT THE PROPOSED BIKEWAY MASTER PLAN IN THE BIKEWAY FIVE YEAR PROGRAM AND THE 20- YEAR PLAN FOR THE WILMINGTON-HARBOR CITY AREA ALONG THE DOMINGUEZ CHANNEL, ANAHEIM STREET, AVALON BLVD, AND FIGUEROA STREET.	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160106					DISTRICT 15 INTELLIGENT TRANSPORTATION SYSTEM IMPROVEMENTS	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160107		SEPULVEDA BLVD/WESTERN AVE			SEPULVEDA BLVD/WESTERN AVE: ADJUST SIGNAL TIMING AT WESTERN AVE/SEPULVEDA BLVD TO REDUCE QUEUING OVER TRACKS	LOS ANGELES, TORRANCE (CALTRANS)
LOS ANGELES	LOCAL HIGHWAY	S1160108					SAN PEDRO COMPLETE STREETS PROGRAM: CONVERT 5TH STREET FROM HARBOR BLVD TO PACIFIC AVE TO A ONE LANE ONE-WAY WESTBOUND WITH ANGLED PARKING. CONVERT 7TH ST FROM HARBOR BLVD TO PACIFIC AVE TO A ONE LANE ONE-WAY EASTBOUND WITH ANGLED PARKING. CREATE A PEDESTRIAN PRIORITY STREET ON 6TH STREET FROM PACIFIC TO HARBOR N. PACIFIC AVE - PEDESTRIAN STREET BETWEEN 3RD ST AND 9TH ST. 8TH STREET - PEDESTRIAN STREET BETWEEN S. WEYMOUTH AVE AND S WALKER AVE.	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160109					SAN PEDRO TRANSIT PRIORITY STREETS: WESTERN AVE BETWEEN 25TH AND NORTH SAN PEDRO BOUNDARY ; HARBOR BLVD BETWEEN VINCENT THOMAS BRIDGE AND 17TH STREET; PACIFIC AVE BETWEEN BLUFF PL AND JOHN S. GIBSON BLVD; 5TH STREET BETWEEN PACIFIC AVE AND HARBOR BLVD; AND 7TH STREET BETWEEN HARBOR BLVD AND WEYMOUTH STREET.	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160110					HARBOR BLVD/7TH STREET: RECONFIGURE INTERSECTION AT THE JUNCTION OF HARBOR BLVD, SAMPSON WAY, AND 7TH STREET. WORK INCLUDES RETAINING WALL, STREET WORK, GRADING, PAVING, LIGHTING, RESTRIPING AND A NEW SIGNALIZED INTERSECTION.	PORT OF LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160111					RESTRIPE HARBOR BLVD AND RECONSTRUCT MEDIAN TO PROVIDE THREE NBT AND SBT LANES BETWEEN THE RECONSTRUCTED SAMPSON WAY/ HARBOR BLVD. INTERSECTION AND THE WB ON RAMP/FRONT STREET INTERSECTION.	PORT OF LOS ANGELES

TABLE 3 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	LOCAL HIGHWAY	S1160114		CARSON ST			CARSON ST: IMPROVE STRIPING	CARSON, LOS ANGELES, LA COUNTY, TORRANCE
LOS ANGELES	LOCAL HIGHWAY	S1160115		MANCHESTER BLVD/LA CIENEGA BLVD			MANCHESTER BLVD AND LA CIENEGA BLVD: CORRIDOR IMPROVEMENTS (WITH CITY OF LOS ANGELES)	INGLEWOOD, LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160116					IMPLEMENT THE PROJECTS IDENTIFIED IN THE 2010 BICYCLE PLAN FOR THE CITY OF LOS ANGELES	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160117					IMPLEMENT CITY OF LA BICYCLE ENHANCED NETWORK AS DEFINED IN THE MOBILITY PLAN 2035	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160118		BALLONA CREEK	FAIRFAX AVE	VENICE BLVD	BALLONA CREEK BIKE PATH MID-CITY SEGMENT: DESIGN AND CONSTRUCTION OF A CLASS I BIKE PATH ALONG BALLONA CREEK FROM FAIRFAX AV TO VENICE BL, PROVIDING ENHANCED BIKE ACCESS TO TRANSIT.	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160119					IMPLEMENT LOS ANGELES SAFE ROUTES TO SCHOOL INITIATIVE TO PROVIDE TARGETED SAFETY IMPROVEMENTS AT SCHOOLS WITH HIGH COLLISION RATES. IMPROVEMENTS MAY INCLUDE NEW TRAFFIC SIGNALS, CURB EXTENSIONS, WIDER SIDEWALKS, NEW CROSSWALKS, TRAFFIC CALMING MEASURES, ETC.	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160120					IMPLEMENT CITY OF LA PEDESTRIAN ENHANCED DISTRICTS AS DEFINED IN MOBILITY PLAN 2035.	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160121					IMPLEMENT THE PROGRAMS IDENTIFIED IN THE CITY OF LOS ANGELES MOBILITY PLAN 2035	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160122					WSCCOG BICYCLE INFRASTRUCTURE PRIORITY GAP CLOSURE - FIVE CORRIDORS: 1. 1. EXPO LIGHT RAIL BIKE PATH/BIKEWAY (FROM LA BREA BLVD. TO THE WESTERN TERMINUS OF PHASE 2) 2. SANTA MONICA BLVD./BROADWAY (FROM LA BREA BLVD. TO OCEAN AVE.) 3. SAN VICENTE BLVD. (FROM SUNSET BLVD. TO LA BREA BLVD.) 4. BARRINGTON AVE./MCLAUGHLIN AVE./SLAUSON AVE. (FROM SUNSET BLVD. TO THE BALLONA CREEK BIKE PATH) 5. BEVERLY DR./BEVERWIL DR./DUQUESNE AVE./JEFFERSON BLVD./ OVERLAND AVE.(FROM SAN VICENTE TO WESTFIELD/CULVER CITY TRANSIT CENTER)	LOS ANGELES, BEVERLY HILLS, WEST HOLLYWOOD, CULVER CITY, SANTA MONICA
LOS ANGELES	LOCAL HIGHWAY	S1160123					DEVELOP A SYSTEM-WIDE URBAN GREENING PLAN TO IMPROVE PLACEMAKING, INCREASE ENVIRONMENTAL STEWARDSHIP, AND CREATE LIVABLE STREETS AROUND TRANSIT STATIONS WITH FUNDS AWARDED BY THE STATE STRATEGIC GROWTH COUNCIL.	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160124					IMPLEMENT MAYOR'S "GREAT STREETS PROGRAM": REVITALIZE UP TO 40 NEIGHBORHOOD STREETS TO BECOME MORE PEDESTRIAN-FRIENDLY	LOS ANGELES

TABLE 3 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	LOCAL HIGHWAY	S1160125					PEDESTRIAN ACCESS: IMPLEMENTATION OF SEVERAL COMMUNITY PLAN IMPLEMENTATION OVERLAY SUB-DISTRICTS THAT CONTAIN ENHANCED PEDESTRIAN STANDARDS AS WELL AS INCLUDE PRELIMINARY STREETSCAPE PLANS THAT CALL FOR ENHANCEMENT OF PUBLIC REALM FOR PEDESTRIANS AS WELL AS OTHER NON-VEHICULAR MODES OF TRANSPORTATION	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160126					PRIORITY PEDESTRIAN ROUTES: IMPLEMENT STREETSCAPE PLANS FOR CRENSHAW BL (BETWEEN SANTA MONICA FREEWAY AND FLORENCE AV. AS WELL AS WITHIN THE DISTRICT BOUNDARIES OF THE FOLLOWING CPIO AREAS: CRENSHAW/EXPO TOD, LA BREA/FARMDALE TOD, JEFFERSON/LA CIENEGA TOD, VENICE/NATIONAL TOD, CRENSHAW/SLAUSON TOD, WEST BL TOD, AND HYDE PARK INDUSTRIAL CORRIDOR	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160127					STREETSCAPES: IMPLEMENT STREETSCAPE PLANS FOR THE NEIGHBORHOOD DISTRICTS ALONG ROBERTSON AND WASHINGTON BL, AS WELL AS LEIMERT PARK VILLAGE AND THE CRENSHAW/SLAUSON AREA AS IDENTIFIED, AS WELL AS THE TRANSIT ORIENTED DEVELOPMENT AREAS ALONG THE MID-CITY EXPOSITION AND CRENSHAW/LAX TRANSIT CORRIDORS	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160128		SANTA MONICA BLVD	SEPULVEDA BLVD		SANTA MONICA BL - PROPOSED CYCLE TRACK: SANTA MONICA BL IN THE "PARKWAY" SECTION EAST OF SEPULVEDA BL	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160129		OHIO AVE			OHIO AV - PROPOSED ENHANCED BIKE FRIENDLY ST	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160130					VA CAMPUS - PROPOSED BIKE PATH/MULTI-USE PATH	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160131		MONTANA AVE			MONTANA AV - PROPOSED ENHANCED BIKE FRIENDLY ST	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160132		GAYLEY AVE			GAYLEY AV - PROPOSED ENHANCED BIKE FRIENDLY ST	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160133					BICYCLE TRANSIT CENTERS: BIKE TRANSIT CENTERS THAT OFFER BICYCLE PARKING, BIKE RENTALS, BIKE REPAIR SHOPS, LOCKERS, SHOWERS AND TRANSIT INFORMATION AND AMENITIES	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160134			GATEWAY BLVD	OCEAN PARK	GATEWAY BL TO OCEAN PARK BIKE LANE GAP CLOSURE	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160135		SEPULVEDA BLVD	80TH ST	84TH PL	THIS PROJECT WILL PROVIDE FOR SIDEWALK AND LANDSCAPING IMPROVEMENTS IN THE WESTCHESTER AREA OF THE CITY OF LOS ANGELES ON THE WEST SIDE OF SEPULVEDA BL BETWEEN 80TH ST AND 84TH PL.	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160136					IMPLEMENT THE PROGRAMS IDENTIFIED IN THE 2010 BICYCLE PLAN FOR THE CITY OF LOS ANGELES (SEE APPENDIX FOR DETAIL)	LOS ANGELES

TABLE 3 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	LOCAL HIGHWAY	S1160137					ACCESS MANAGEMENT: CREATION OF ADEQUATE DROP-OFF AREAS FOR SCHOOLS, DAY CARE, HEALTH CARE, AND OTHER USES WITH INTENSIVE PASSENGER DROP-OFF DEMAND	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160138					PRIORITY BIKEWAYS: MARK BIKEWAYS IN THE WEST ADAMS-BALDWIN HILLS-LEIMERT COMMUNITY PLAN WITH APPROPRIATE SIGNAGE	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160139					RECLAIMED LAND FOR BIKEWAYS: COORDINATE WITH OTHER AGENCIES TO DESIGNATE AND DEVELOP MOUNTAIN BIKE TRAILS IN THE KENNETH HAHN STATE RECREATION AREA THAT COMPLEMENT AND CONNECT TO THE BALDWIN HILLS PARK MASTER PLAN TRAIL SYSTEM	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160140		ABBOT KINNEY BLVD	MAIN ST	VENICE BLVD	ABBOT KINNEY LIVABLE BL FROM MAIN ST TO VENICE BL	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160141		CENTINELA BLVD	SR-90	WASHINGTON BLVD	CENTINELA LIVABLE BL FROM SR 90 TO WASHINGTON BL	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160142		NATIONAL BLVD	CASTLE HEIGHTS AVE	MOTOR AVE	NATIONAL BL STREETSCAPE ENHANCEMENTS FROM CASTLE HEIGHTS AV TO MOTOR AV	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160143		PALMS BLVD	MOTOR AVE	NATIONAL BLVD	PALMS BL STREETSCAPE ENHANCEMENTS FROM MOTOR AV TO NATIONAL BL	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160144		MOTOR AVE	PALMS BLVD	ROSE AVE	MOTOR AV STREETSCAPE ENHANCEMENTS FROM PALMS BL TO ROSE AV	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160145		SEPULVEDA BLVD	OLYMPIC BLVD	NATIONAL BLVD	SEPULVEDA BL STREETSCAPE ENHANCEMENTS FROM OLYMPIC BL TO NATIONAL BL	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160146					PICO BL STREETSCAPE ENHANCEMENTS FROM CENTINELA AV TO BARRINGTON AV/405 FWY & SAWTELLE BL/405 FWY TO PATRICIA AV	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160147		PICO BLVD	BARRINGTON AVE	SAWTELLE BLVD	PICO BL GREEN ST PROJECT: TRANSFORM A 1/2-MILE SECTION OF PICO BL BETWEEN BARRINGTON AV AND SAWTELLE BL IN WEST LOS ANGELES INTO A GREEN STREET. THIS WILL BE ACCOMPLISHED THROUGH THE PLANTING OF GREEN SOLUTIONS FOR STORM WATER MANAGEMENT AND AESTHETIC IMPROVEMENTS	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160148		BUNDY DR	MISSOURI AVE	PICO BLVD	BUNDY DR STREETSCAPE ENHANCEMENTS FROM MISSOURI AV TO PICO B	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160149		OLYMPIC BLVD	CENTINELA	BARRINGTON	OLYMPIC BL STREETSCAPE ENHANCEMENTS FROM CENTINELA TO BARRINGTON	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160150		SAWTELLE BLVD	OLYMPIC BLVD	SANTA MONICA BLVD	SAWTELLE LIVABLE BL FROM OLYMPIC BL TO SANTA MONICA BL	LOS ANGELES

TABLE 3 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	LOCAL HIGHWAY	S1160151		SAN VICENTE BLVD	BUNDY DR	BRINGHAM AVE	SAN VICENTE LIVABLE BL FROM BUNDY DR TO BRINGHAM AV	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160152		CULVER BLVD	MCCONNELL AVE	PLAYA DEL REY	CULVER BL - PROPOSED BIKE LANE: CULVER BL FROM MCCONNELL AV TO PLAYA DEL REY	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160153		CENTINELA CREEK PATH	BALLONA CREEK	CENTINELA AVE	CENTINELA CREEK - PROPOSED MULTI-USE PATH FROM CENTINELA CREEK PATH FROM BALLONA CREEK TO CENTINELA AV EAST OF THE I-405 PLANNED MULTI-USE PATH	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160154		LINCOLN BLVD	JEFFERSON BLVD	FIJI WAY	LINCOLN BL - PROPOSED CYCLE TRACK: LINCOLN BL FROM JEFFERSON BL TO FIJI WAY. THIS PROJECT WOULD BE A FEATURE OF THE RECONSTRUCTION OF THE LINCOLN BL BALLONA CREEK BRIDGE PROJECT PROPOSED AS AN ELEMENT OF THE WESTSIDE MOBILITY PLAN.	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160155					BEETHOVEN ST - MCCONNELL AV - PROPOSED MULTI-USE PATH CONNECTOR	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160156		MCCONNELL AVE			MCCONNELL AV - PROPOSED ENHANCED BIKE FRIENDLY ST	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160157		BEETHOVEN ST			BEETHOVEN ST - PROPOSED ENHANCED BIKE FRIENDLY ST	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160158		WASHINGTON BLVD	ADMIRALTY WAY	PACIFIC AVE	WASHINGTON BL - PROPOSED CYCLE TRACK: WASHINGTON BL FROM ADMIRALTY WAY TO PACIFIC AV	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160159		VENICE BLVD	BEACH	ROBERTSON	VENICE BL - PROPOSED CYCLE TRACK: VENICE BL FROM BEACH TO ROBERTSON	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160160		VENICE WY			VENICE WY - PROPOSED BIKE LANE	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160161		MCLAUGHLIN AVE			MCLAUGHLIN AV - PROPOSED ENHANCED BIKE FRIENDLY ST	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160162		PALMS BLVD			PALMS BL - PROPOSED ENHANCED BIKE FRIENDLY ST	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160163		WALGROVE AVE			WALGROVE AV - PROPOSED ENHANCED BIKE FRIENDLY ST	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160164		MILITARY AVE			MILITARY AV - PROPOSED ENHANCED BIKE FRIENDLY ST	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160165		GATEWAY BLVD			GATEWAY BL - PROPOSED BIKE LANE	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160166		BARRINGTON AVE			BARRINGTON AV - PROPOSED ENHANCED BIKE FRIENDLY ST	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160167		VETERAN AVE			VETERAN AV - PROPOSED ENHANCED BIKE FRIENDLY ST	LOS ANGELES

TABLE 3 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	LOCAL HIGHWAY	S1160168					LA GRANGE TUNNEL - PROPOSED MULTI-USE PATH GRADE SEPARATED AT I-405	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160169					ITS SIGNAL UPGRADES: INSTALL SIGNAL UPGRADES AS PART OF THE NEXT EVOLUTION OF ATSAC; INSTALL RIGHT-TURN DETECTOR LOOPS FOR TRAFFIC VOLUME DATA AND MONITORING; 211 SIGNALIZED INTERSECTIONS IN CTCSP AREA	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160170		PCH	TEMESCAL CANYON RD	MALIBU RD	PCH: INSTALL CCTV & COMMUNICATIONS SYSTEM FROM TEMESCAL CANYON ROAD TO MALIBU RD (MALIBU SEAFOOD) (POST MILE 38.11-49.72)	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160171					TRAFFIC SIGNAL SYSTEM UPGRADES: IMPLEMENT TRAFFIC SIGNAL SYSTEM UPGRADES THROUGHOUT SUBREGION INCLUDING SIGNAL CONTROLLER UPGRADES, LEFT-TURN PHASING AT KEY INTERSECTIONS, SENSOR LOOPS, ADDITIONAL CCTV CAMERAS TO IMPROVE LADOT'S ABILITY TO MONITOR AND RESPOND	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160172					SMART PARKING MANAGEMENT TECHNOLOGY AT THE RAIL STATION PARKING LOTS, INCLUDING A SMART PHONE APP AND WEB PORTAL ALLOWING PEOPLE TO SEE AND RESERVE AVAILABLE PARKING SPACES BEFORE ARRIVING AT THE PARKING LOT.	LOS ANGELES, BEVERLY HILLS, WEST HOLLYWOOD, CULVER CITY, SANTA MONICA
LOS ANGELES	LOCAL HIGHWAY	S1160173		WESTWOOD BLVD	PICO BLVD	UCLA	WESTWOOD EXPRESSPARK (WESTWOOD BL BETWEEN PICO BL AND UCLA): IMPLEMENT AN ON-STREET INTELLIGENT PARKING PROGRAM THAT INCLUDES VEHICLE SENSORS, DYNAMIC DEMAND-BASED PRICING AND A REAL-TIME PARKING GUIDANCE SYSTEM TO REDUCE VMT, CONGESTION AND TO IMPROVE FLOW FOR CARS/BUSES.	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160175					IMPLEMENT PARK ONCE / UNIVERSAL VALET PARKING PROGRAMS THROUGHOUT MAJOR RETAIL CENTERS IN THE CITY, AS APPROPRIATE, INCLUDING THE USE OF CITY OWNED PARKING FACILITIES	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160176					EXPAND THE PARK & RIDE NETWORK IN LOS ANGELES COUNTY TO MEET THE CURRENT AND LATENT DEMAND OF DISCRETIONARY TRANSIT RIDERS TO USE REGIONAL PUBLIC TRANSPORTATION SERVICES.	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160177					SEPULVEDA BL TUNNEL AT MULHOLLAND DR PHASE I: PROJECT INCLUDES STRUCTURAL REHABILITATION AND WIDENING OF THE TUNNEL TO ADD AN ADDITIONAL NORTHBOUND LANE, IMPROVE SIDEWALK AND BIKE PATH TO PROMOTE MULTI-MODAL ACCESS TO TRANSIT SYSTEMS.	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160178					PARTNERING WITH CALTRANS AND LA COUNTY, IMPROVE LINCOLN BL BETWEEN JEFFERSON BL AND FIJI WAY, INCL. REMOVING EXISTING BOTTLENECK BY REPLACING EXISTING BRIDGE TO PROVIDE A WIDER BRIDGE WITH AN ADDITIONAL SB LANE, TRANSIT LANES, AND ON-STREET BIKE LANES.	LOS ANGELES

TABLE 3 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	LOCAL HIGHWAY	S1160180					IMPLEMENT PEDESTRIAN AND BICYCLE CONNECTIVITY IMPROVEMENTS AT EVERY EXISTING AND PLANNED METRO RAIL AND SUBWAY STATION BY PROVIDING ENHANCED SIDEWALK AMENITIES SUCH AS LANDSCAPING, SHADING, LIGHTING, DIRECTIONAL SIGNAGE, SHELTERS, CURB-EXTENSIONS, MID-BLOCK CROSSWALKS, ADA RAMPS, LEAD-PEDESTRIAN INTERVAL SIGNAL PHASES, ETC.	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160181					IMPLEMENT WESTSIDE CITIES COG BIKE SHARE PROGRAM	LOS ANGELES, BEVERLY HILLS, WEST HOLLYWOOD, CULVER CITY, SANTA MONICA
LOS ANGELES	LOCAL HIGHWAY	S1160182					IMPLEMENT THE METRO FIRST/LAST MILE STRATEGIC PLAN	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160183					ESTABLISH A COUNTY-WIDE BIKE SHARE PROGRAM THAT INTERACTS WITH THE METRO TRANSIT SYSTEM.	UNINCORPORATED - WESTSIDE
LOS ANGELES	LOCAL HIGHWAY	S1160184					IMPLEMENT THE CITY OF LOS ANGELES FIRST & LAST MILE TRANSIT PLAN	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160185		PICO BLVD			PICO BL TRANSIT/BICYCLE ENHANCEMENTS: INSTALLATION OF PEDESTRIAN & BICYCLE ENHANCEMENTS INCLUDING STREET TREES AND WELLS, BICYCLE RACKS, INFORMATION KIOSKS, WAYFINDING SIGNS, NEW BIKEWAY STRIPING AND BUS STOP LIGHTING TO PROMOTE MULTI-MODAL ACCESS TO TRANSIT SYSTEMS.	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160186					EXPO/BUNDY STATION MULTI-MODAL CONNECTIVITY ENHANCEMENTS: BIKE LANES, BULB OUTS, ENHANCED CROSSWALKS, NEW TREES, NEW CONCRETE SIDEWALKS AND ROUNDABOUTS	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160187					PALISADES BLUFF STABILIZATION PROJECT	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160188					IMPLEMENT ROADWAY ENHANCEMENTS THAT ENHANCE MOBILITY AND SAFETY FOR ALL AND STRIVE TOWARD THE CITY OF LOS ANGELES "VISION ZERO" GOAL OF ZERO TRAFFIC FATALITIES BY 2025.	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160189					IDENTIFY AND IMPLEMENT PEDESTRIAN SAFETY AND BICYCLE COUNTERMEASURES AT THE 10 CORRIDORS WITH THE HIGHEST SEVERE INJURIES AND COLLISIONS.	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160249		TOPANGA CANYON	US-101	SR-118	TOPANGA CANYON BLVD: WIDEN TO PROVIDE SIX THROUGH LANES ALL DAY BETWEEN US-101 AND SR-118	LOS ANGELES

TABLE 3 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	LOCAL HIGHWAY	S1160250					REGIONAL: IMPROVE RAMP METERING, CCTV CAMERAS, CMS FOR FREEWAYS IN SUBREGION AS NEEDED	BURBANK, GLENDALE, SANTA CLARITA, SAN FERNANDO, LOS ANGELES, UNINCORPORATED - SAN FERNANDO
LOS ANGELES	LOCAL HIGHWAY	S1160287					PROGRAM TO FUND THE CONVERSION OF EXISTING TRANSIT FLEET IN LOS ANGELES COUNTY TO MEET GOAL OF 25% ZERO-EMISSION OR NEAR ZERO-EMISSION BUSES BY 2025	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160288					PROGRAM TO PURCHASE NEW TRANSIT OPERATIONS / MAINTENANCE FACILITIES, AND UPGRADE EXISTING FACILITIES, WITH THE CAPACITY TO ACCOMMODATE NEW ZERO EMISSION AND NEAR ZERO EMISSION BUSES.	LOS ANGELES
LOS ANGELES	LOCAL HIGHWAY	S1160334					ENHANCE PEDESTRIAN ACCESS TO MAJOR TRANSIT STATIONS: IMPLEMENT PEDESTRIAN CONNECTIVITY IMPROVEMENTS AT MAJOR METRO TRANSIT STATIONS BY PROVIDING ENHANCED SIDEWALK AMENITIES, SUCH AS LANDSCAPING, SHADING, LIGHTING, DIRECTIONAL SIGNAGE, SHELTERS, CURB EXTENSIONS, ENHANCED CROSSWALKS, AS FEASIBLE. - GREEN LINE EXTENSION & CRENSHAW STATION (CENTURY BL/LAWA STREETSCAPE PLAN UNDERWAY) - SEPULVEDA BL - BRT/LRT STATIONS IN COASTAL AREA - LINCOLN BL - BRT/LRT STATIONS IN COASTAL AREA - EXPO PHASE II STATIONS - WESTSIDE SUBWAY EXTENSION STATIONS - SEPULVEDA BL - BRT/LRT STATIONS IN WEST LA AREA - LINCOLN BL - BRT/LRT STATIONS IN WEST LA AREA	LOS ANGELES
LOS ANGELES	OTHER	S1161O001		VARIOUS			ACTIVE TRANSPORTATION PROGRAM (GATEWAY CITIES)	LOS ANGELES COUNTY MTA
LOS ANGELES	PASSENGER RAIL	S1120007		ADDITIONAL METROLINK EXPANSION			ADDITIONAL METROLINK EXPANSION BEYOND FUNDED PLAN	METROLINK
LOS ANGELES	PASSENGER RAIL	S1160190					METROLINK REHAB -SHORT TERM: INCLUDES REHAB OF RAIL, TIES, OTM, STRUCTURES, COMMUNICATION, CENTRAL TRAIN CONTROL (CTC), GRADE CROSSING SIGNALS, FACILITIES & EQUIPMENT, VEHICLES, ROLLING STOCK (LOCOMOTIVES & CARS)	LOS ANGELES
LOS ANGELES	PASSENGER RAIL	S1160191					METROLINK REHAB -MID TERM: INCLUDES REHAB OF RAIL, TIES, OTM, STRUCTURES, COMMUNICATION, CENTRAL TRAIN CONTROL (CTC), GRADE CROSSING SIGNALS, FACILITIES & EQUIPMENT, VEHICLES, ROLLING STOCK (LOCOMOTIVES & CARS)	LOS ANGELES

TABLE 3 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	PASSENGER RAIL	S1160192					METROLINK REHAB -LONG TERM: INCLUDES REHAB OF RAIL, TIES, OTM, STRUCTURES, COMMUNICATION, CENTRAL TRAIN CONTROL (CTC), GRADE CROSSING SIGNALS, FACILITIES & EQUIPMENT, VEHICLES, ROLLING STOCK (LOCOMOTIVES & CARS)	LOS ANGELES
LOS ANGELES	PASSENGER RAIL	S1160193					METROLINK REHAB - EXPANSION (FOR 30 MIN. SERVICE ON ALL METROLINK LINES): INCLUDES REHAB OF RAIL, TIES, OTM, STRUCTURES, COMMUNICATION, CENTRAL TRAIN CONTROL (CTC), GRADE CROSSING SIGNALS, FACILITIES & EQUIPMENT, VEHICLES, ROLLING STOCK (LOCOMOTIVES & CARS)	LOS ANGELES
LOS ANGELES	PASSENGER RAIL	S1160194					METROLINK BRING 1 GRADE CROSSING TO NEW SCRRA STANDARDS (INCLUDING ACTIVE WARNING DEVICES AND CIVIL IMPROVEMENTS) 5 XINGS/YR * 5 YEARS * $2M PER XING = $50M SYSTEMWIDE*: BRING 1 GRADE CROSSING TO NEW SCRRA STANDARDS (INCLUDING ACTIVE WARNING DEVICES AND CIVIL IMPROVEMENTS) 5 XINGS/YR * 5 YEARS * $2M PER XING = $50M SYSTEMWIDE*	LOS ANGELES
LOS ANGELES	PASSENGER RAIL	S1160195					CAMERAS AT METROLINK GRADE CROSSINGS: INSTALL CAMERAS AT GRADE CROSSINGS	LOS ANGELES
LOS ANGELES	PASSENGER RAIL	S1160196					METROLINK ANOTHER CMF LEVEL FACILITY FOR HEAVY MAINTENANCE (FOR 30 MIN. SERVICE EXPANSION): NEED 100% SIZE OF CMF IN APPROXIMATELY 2017. WILL INCLUDE THE ADMINISTRATIVE OFFICES FROM EXISTING CMF, A RUN-THROUGH PROGRESSIVE CAR AND LOCO SHOP, S&I, STORAGE TRACKS, FUEL SYSTEM, TRAIN WASH, SHOP MACHINERY, AND EXPANDED WAREHOUSE CAPACITY	LOS ANGELES
LOS ANGELES	PASSENGER RAIL	S1160197					INCREASE METROLINK SERVICES BETWEEN MOORPARK AND UNION STATION	LOS ANGELES
LOS ANGELES	PASSENGER RAIL	S1160198					METROLINK EMF ADDITIONAL STORAGE TRACKS: INCREASE STORAGE CAPACITY AT EMF BY EXTENDING THE LENGTH OF THE EXISTING STORAGE TRACKS AND ADDING A MIDDLE CROSSOVER.	LOS ANGELES
LOS ANGELES	PASSENGER RAIL	S1160199					METROLINK LOCOMOTIVES (FOR BASE CASE GROWTH OF LOCOMOTIVES AND CARS: THIS IS THE AMOUNT NEEDED FOR THE "ORGANIC" GROWTH (IRRESPECTIVE OF 30 MIN. SERVICE) AND IS NOT COUNTED AS PART OF THE 30 MIN. GROWTH SCENARIO	LOS ANGELES
LOS ANGELES	PASSENGER RAIL	S1160200					METROLINK LOCOMOTIVES (FOR 30 MIN. SERVICE EXPANSION): TO GET TO A 30 MINUTE HEADWAY, 26 ADDITIONAL LOCOMOTIVES WILL BE NEEDED. THE COST OF RAIL CARS IS ASSUMED TO BE $7 M/UNIT. FOR THE "BASE CASE" (I.E. NON 30 MIN. SERVICE), ANOTHER 26 LOCOMOTIVES WOULD BE NEEDED. THE COSTS FOR THE BASE CASE ARE SHOWN SEPARATELY.	LOS ANGELES

TABLE 3 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	PASSENGER RAIL	S1160201					METROLINK RAIL CARS (FOR 30 MIN. SERVICE EXPANSION): TO GET TO A 30 MIN. HEADWAY, 90 ADDITIONAL RAIL CARS WILL BE NEEDED. THE COST OF PASSENGER CAR IS ASSUMED TO BE #3M/UNIT. FOR THE "BASE CASE" (I.E. NON 30 MIN. SERVICE), ANOTHER 90 PASSENGER CARS WOULD BE NEEDED. THE COSTS FOR THE BASE CASE ARE SHOWN SEPARATELY.	LOS ANGELES
LOS ANGELES	PASSENGER RAIL	S1160202					METROLINK RECONFIGURATION OF EXISTING CMF (FOR 30 MIN SERVICE EXPANSION): RELOCATE ADMIN OFFICE TO NEW CMF LOCATION AND IMPROVE CAPACITY BY BUILDING A RUN-THROUGH PROGRESSIVE CAR AND LOCO SHOP AT EXISTING CMF	LOS ANGELES
LOS ANGELES	PASSENGER RAIL	S1160203					METROLINK ANTELOPE VALLEY LINE IMPROVEMENTS (VARIOUS)	BURBANK, GLENDALE, SANTA CLARITA, SAN FERNANDO, LOS ANGELES, UNINCORPORATED - SAN FERNANDO
LOS ANGELES	PASSENGER RAIL	S1160204					METROLINK ANTELOPE VALLEY LINE IMPROVEMENTS (VARIOUS)	BURBANK, GLENDALE, SANTA CLARITA, SAN FERNANDO, LOS ANGELES, UNINCORPORATED - SAN FERNANDO
LOS ANGELES	PASSENGER RAIL	S1160205					METROLINK VENTURA COUNTY LINE IMPROVEMENTS (VARIOUS)	BURBANK, GLENDALE, LOS ANGELES, UNINCORPORATED - SAN FERNANDO
LOS ANGELES	PASSENGER RAIL	S1160292					PROJECT RTE: I5 - EXPAND METROLINK SERVICE AND CAPACITY ON EXISTING TRAINS AT VARIOUS LOCATIONS TO BE DETERMINED	LOS ANGELES

TABLE 3 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	PASSENGER RAIL	S1200T101	METROLINK'S VENTURA LINE BETWEEN BURBANK AND THE VENTURA COUNTY LINE				METROLINK VENTURA LINE CAPACITY IMPROVEMENT PROJECTS - ADD CAPACITY TO THE VENTURA COUNTY LINE BETWEEN BURBANK JUNCTION TO THE VENTURA COUNTY BORDER TO ALLOW FREQUENCIES OF UP TO 4 REGIONAL RAIL TRAINS PER HOUR AND 1 INTERCITY RAIL (PACIFIC SURFLINER) TRAIN PER HOUR IN EACH DIRECTION. THIS INCLUDES THE NECESSARY DOUBLE TRACK SECTIONS, TRACK, SIGNAL, STATION, AND STRUCTURE UPGRADES AND REHABILITATION, ACCESSIBILITY IMPROVEMENTS, AND MAINTENANCE FACILITY CAPACITY OUTSIDE OF A REGIONAL RAIL CAPITAL PROJECT.	METROLINK
LOS ANGELES	PASSENGER RAIL	S1200T102	"METROLINK'S ANTELOPE VALLEY LINE BETWEEN UNION STATION AND LANCASTER"				METROLINK ANTELOPE VALLEY LINE CAPACITY IMPROVEMENT PROJECTS - ADD CAPACITY TO THE ANTELOPE VALLEY LINE BETWEEN LOS ANGELES UNION STATION AND LANCASTER. THIS PROJECT ENABLES 4 TRAINS PER HOUR BETWEEN SANTA CLARITA AND UNION STATION AND 2 TRAINS PER HOUR BETWEEN LANCASTER AND UNION STATION IN EACH DIRECTION. PHASE I INCLUDES DOUBLE TRACK SECTIONS (ACTON, VISTA CANYON STATION AND SIDING, CP LANG TO CP CANYON, BALBOA SIDING), BURBANK JUNCTION SPEED IMPROVEMENTS, AND SIGNAL RESPACING, MAINTENANCE FACILITY CAPACITY AND A NORTH EXIT FROM THE CMF. ACCOMMODATING GREATER FREQUENCIES REQUIRES ADDITIONAL DOUBLE TRACK SEGMENTS (E.G., PALMDALE TO LANCASTER, CP RAVENNA TO RUSS, CP SAUGUS TO CP HOOD).	METROLINK
LOS ANGELES	PASSENGER RAIL	S1200T103	"METROLINK'S SAN BERNARDINO LINE BETWEEN UNION STATION AND THE SAN BERNARDINO COUNTY LINE"				METROLINK SAN BERNARDINO LINE CAPACITY IMPROVEMENT PROJECTS - ADD CAPACITY TO THE SAN BERNARDINO LINE FROM UNION STATION TO THE SAN BERNARDINO COUNTY BORDER TO ALLOW FREQUENCIES OF UP TO 2 REGIONAL RAIL TRAINS PER HOUR AND 1 EXPRESS TRAIN PER HOUR IN EACH DIRECTION. THIS INCLUDES THE NECESSARY DOUBLE TRACK SECTIONS, TRACK AND STRUCTURE UPGRADES AND REHABILITATION, ACCESSIBILITY IMPROVEMENTS, SIGNAL IMPROVEMENTS, AND MAINTENANCE FACILITY CAPACITY. BASE 30 MINUTE SERVICE INVOLVES SEVERAL DOUBLE TRACK SEGMENTS (INCLUDING MARENGO SIDING) AND MODIFICATIONS TO THE EL MONTE STATION PEDESTRIAN CIRCULATION.	METROLINK
LOS ANGELES	PASSENGER RAIL	S1200T104	METROLINK SAN BERNARDINO SUBDIVISION				METROLINK SAN BERNARDINO SUBDIVISION CAPACITY IMPROVEMENTS - BNSF SAN BERNARDINO SUB IMPROVEMENTS TO EXPAND CATACITY, INCLUDNG HOBART YARD RECONFIGURATION, RELOCATION OF COMMERCE STATION, DESIGN AND CONSTRUCTION OF 4TH MAIN TRACK LA TO FULLERTON, AND RECONFIGURATION OF FULLERTON JUNCTION TO INCREASE CAPACITY LA TO FULLERTON ON THE 91-LA LINE.	METROLINK
LOS ANGELES	PASSENGER RAIL	S1200T105	METROLINK GRADE SEPARATIONS				METROLINK GRADE SEPERATION PROJECTS: PIONEER BLVD, NORWALK/ LOS NIETOS RD. - GRADE SEPARATION PROJECTS AT PIONEER BLVD., AND NORWALK BLVD/LOS NIETOS ROAD TO IMPROVE SAFETY AND OPERATIONAL RELIABILITY.	METROLINK
LOS ANGELES	STATE HIGHWAY	S1120037	126	SR-126	COMMERCE CTR DR	COUNTY LINE	SR-126 COMMERCE CORRIDOR IMPROVEMENT PROJECT - INTERSECTION IMPROVEMENTS AND WIDENING	LOS ANGELES COUNTY MTA

TABLE 3 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	STATE HIGHWAY	S1120038	5	I-5 NORTH CAPACITY ENHANCEMENTS	N/A	N/A	I-5 NORTH CAPACITY ENHANCEMENTS	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120039		ADDITIONAL CALTRANS CORRIDORS			ADDITIONAL CALTRANS CORRIDORS NOT INCLUDED IN METRO'S PERFORMANCE EVALUATION	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120040	5	I-5 CARPOOL AND MIXED-FLOW LANES	I-605	I-710	I-5 CARPOOL AND MIXED-FLOW LANES	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120041	10	I-10	LINCOLN BLVD	I-5	CARPOOL LANES	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120042	57	SR-57	I-60	I-210	SR-57 HOV	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120043	57	SR-57	SR-60	I-210	CARPOOL LANES	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120044	60	SR-60	US-101	I-605	CARPOOL LANES	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120045	60	SR-60	US-101	I-605	SR-60 HOV	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120046	101	US-101	ROUTE 23	TOPANGA CANYON	ADD HOV LANE ON US-101	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120047	101	US-101	SR-27	VENTURA COUNTY LINE	ADD CARPOOL LANE IN EACH DIRECTION	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120048	110	I-110	ADAMS BL	UNION STATION	I-110 HIGH OCCUPANCY VEHICLE (HOV) VIADUCT	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120049	605	I-605	I-10	I-210	I-605 HOV	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120050	605	I-605	I-210	I-10	CARPOOL LANES	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120051	10, 605	I-10/I-605			PARTIAL HOV CONNECTOR (FROM EAST TO SOUTH AND FROM WEST TO SOUTH)	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120052	60, 105	SR-60/I-105			PARTIAL HOV CONNECTOR (FROM EAST TO SOUTH AND FROM EAST TO NORTH)	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120053	91, 110	SR-91/I-110			PARTIAL HOV CONNECTOR (FROM EAST TO SOUTH AND FROM EAST TO NORTH)	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120054	405	I-405	I-405	LAX	I-405 DIRECT HOV CONNECTOR TO LAX	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120055	10, 605	I-10/I-605			I-10/I-605 PARTIAL HOV INTERCHANGE	LOS ANGELES COUNTY MTA

TABLE 3 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	STATE HIGHWAY	S1120056	60, 605	SR-60/I-605			SR-60/I-605 PARTIAL HOV INTERCHANGE	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120057	101	US-101 CORRIDOR			ADD CARPOOL LANE IN EACH DIRECTION BETWEEN SR-27 (TOPANGA CANYON BL) AND SR-2 IN DOWNTOWN LOS ANGELES AND RESTRIPE FOR MIXED-FLOW LANE IN EACH DIRECTION BETWEEN SR-27 AND VENTURA COUNTY LINE	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120058	101, 170	US-101/SR-170			US-101/SR-170 INTERCHANGE	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120059	101, 170, 134	US-101/SR-170/SR-134 INTERCHANGE			COMPLETE TWO CONNECTORS	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120060	405, 101	I-405/US-101			I-405/US-101 INTERCHANGE	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120061	5, 10	I-5/I-10			I-5/I-10 INTERCHANGE	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120062	5, 134	I-5/SR-134			I-5/SR-134 INTERCHANGE	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120063	5, 14	I-5/SR-14			I-5/SR-14 INTERCHANGE	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120064	5, 2	I-5/SR-2			I-5/SR-2 INTERCHANGE	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120065	5, 405	I-5/I-405			I-5/I-405 INTERCHANGE	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120066	60, 605	SR-60/I-605			SR-60/I-605 INTERCHANGE IMPROVEMENTS	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120067	605, 10	I-605/I-10			I-10/605 INTERCHANGE UPGRADE – NB I-605 TO WB I-10 CONNECTOR	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120068	134, 210	SR-134/I-210			SR-134/I-210 INTERCHANGE IMPROVEMENTS	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120069	39, 2	ROUTE 39/ROUTE 2			ROUTE 39 TO ROUTE 2 CONNECTION	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120070	10, 57	I-10/SR-57			I-10 TO SR-57 WB CONNECTOR TRUCK CLIMBING LANE AND OFF-RAMP	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120071	14	SR-14 MIXED FLOW IMPROVEMENTS	I-5	KERN COUNTY LINE	SR-14 MIXED FLOW IMPROVEMENTS	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120073	210	I-210	BERKSHIRE AV	OCEAN VIEW BL	I-210 SOUNDWALLS	LOS ANGELES COUNTY MTA

TABLE 3 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	STATE HIGHWAY	S1120074		ADDITIONAL SOUNDWALLS			ADDITIONAL SOUNDWALLS BEYOND FUNDED PLAN	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120075	5	I-5	I-605	I-710	I-5 CORRIDOR	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120077	10	I-10			I-10/ROBERTSON/NATIONAL AREA CIRCULATION IMPROVEMENT--IMPROVE BOTTLENECK TRA;C ON I-10 AND AROUND FUTURE EXPO VENICE/ ROBERTSON STATION	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120078	91, 605, 405	SR-91/I-605/I-405			ADDITIONAL SR-91/I-605/I-405 SOLUTIONS (BEYOND IDENTIFIED HOT SPOTS)	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1120082					SR-710 TRANSPORTATION IMPROVEMENT OPTIONS	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1121001	101	US-101	SANTA MONICA BOULEVARD	HOLLYWOOD BOULEVARD	HOLLYWOOD CENTRAL PARK - 44-ACRE CAP PARK PLANNED FOR US-101 BETWEEN SANTA MONICA AND HOLLYWOOD BLVDS	LOS ANGELES CITY
LOS ANGELES	STATE HIGHWAY	S1121002	101	US-101	UNION STATION	LA CATHEDRAL	PARK 101 - FOCUSES ON A "DISTRICT" ROUGHLY BETWEEN UNION STATION AND THE LA CATHEDRAL. POTENTIAL FREEWAY RAMP RE-CONFIGURATION AND CAPPING OR ELIMINATING OF RAMPS.	VARIOUS AGENCIES
LOS ANGELES	STATE HIGHWAY	S1121003	134	SR-134	CENTRAL	BRAND	SPACE 134 - POTENTIAL PARK/OPEN SPACE CAP OVER SR-134 FREEWAY ROUGHLY BETWEEN CENTRAL AND BRAND	VARIOUS AGENCIES
LOS ANGELES	STATE HIGHWAY	S1121004	10	I-10			TWO SITES OVER THE 10 FREEWAY, BOTH ADJACENT TO EXPO LINE PHASE 2 STATIONS. POTENTIAL PARK/OPEN CAP OVER I-10, WITH POSSIBLE BRIDGE WIDENING OR CANTILEVERING APPROACHES.	VARIOUS AGENCIES
LOS ANGELES	STATE HIGHWAY	S1160206	10	I-10	LINCOLN BLVD	I-5	I-10 CARPOOL LANES: LINCOLN BL TO I-5	LOS ANGELES
LOS ANGELES	STATE HIGHWAY	S1160207	10, 110	I-10, I-110			I-10 AND I-110 "HOT" EXPRESS LANES TOLL SYSTEM OPERATIONS, MAINTENANCE, MARKETING AND DATA COLLECTION	LOS ANGELES
LOS ANGELES	STATE HIGHWAY	S1160208					IMPLEMENT COUNTYWIDE HIGH OCCUPANCY TOLL (HOT) LANES NETWORK	LOS ANGELES
LOS ANGELES	STATE HIGHWAY	S1160209	5	I-5	SR-134	I-110	I-5- ADD HOV LANE IN BOTH DIRECTIONS BETWEEN SR-134 AND I-110	LOS ANGELES
LOS ANGELES	STATE HIGHWAY	S1160210	101	US-101	170 FWY	110 FWY	US-101- ADD HOV LANES IN BOTH DIRECTIONS BETWEEN 170 AND 110 FWY	LOS ANGELES
LOS ANGELES	STATE HIGHWAY	S1160211	10	I-10			12 BUSES FOR THE I-10 EL MONTE BUSWAY, HOT LANE	LOS ANGELES
LOS ANGELES	STATE HIGHWAY	S1160212	10	I-10			I-10 HOT LANE OPERATIONS - NEW TRANSIT SERVICES	LOS ANGELES
LOS ANGELES	STATE HIGHWAY	S1160213	101	US-101			US-101- WIDEN EDGEWARE BRIDGE ON SB US-101 BETWEEN GLENDALE BL ON-RAMP AND US-101/I-110 INTERCHANGE TO PROVIDE AUXILIARY LANES	LOS ANGELES

TABLE 3 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	STATE HIGHWAY	S1160214	10, 110	I-10, I-110			I-10- IMPROVE I-110 INTERCHANGE	LOS ANGELES
LOS ANGELES	STATE HIGHWAY	S1160215	101	US-101			US-101- IMPROVE I-110 INTERCHANGE	LOS ANGELES
LOS ANGELES	STATE HIGHWAY	S1160216	2, 5	SR-2, I-5			IMPROVE I-5/SR-2 INTERCHANGE	LOS ANGELES
LOS ANGELES	STATE HIGHWAY	S1160217	110	I-110			TO EXTEND THE I-110 NORTH FROM ITS CURRENT TERMINUS AT I-10 INTO DOWNTOWN LOS ANGELES VIA CENTRAL CITY WEST AREA. THE ADAMS/FIGUEROA FLYOVER STUDY, PSR, WILL INVESTIGATE HOW THE CONSTRUCTION OF A NEW STRUCTURE CONNECTING THE I-110 NORTHBOUND HOV LANE OFF-RAMP DIRECTLY TO FIGUEROA STREET.	LOS ANGELES
LOS ANGELES	STATE HIGHWAY	S1160218	110	I-110	US-101	I-10	PROJECT RTE: I-110 - BETWEEN US-101 AND I-10, RECONFIGURE FREEWAY RAMPS TO PROVIDE ADDITIONAL NORTHBOUND AND SOUTHBOUND LANES IN THE DOWNTOWN AREA	LOS ANGELES
LOS ANGELES	STATE HIGHWAY	S1160219	5	I-5	DITMAN AVE	CALZONA ST	I-5- CONSTRUCT SB AUXILIARY LANE ON I-5 FROM DITMAN AV TO CALZONA ST	LOS ANGELES
LOS ANGELES	STATE HIGHWAY	S1160220	5	I-5	MARIETTA ST	LORENA ST	I-5- CONSTRUCT SB AUXILIARY LANE ON I-5 FROM MARIETTA ST TO LORENA ST	LOS ANGELES
LOS ANGELES	STATE HIGHWAY	S1160221	101	US-101	GLENDALE BLVD	CAHUENGA BLVD	US -101- ADD NB AND SB AUXILIARY LANES FROM GLENDALE BL TO CAHUENGA BL	LOS ANGELES
LOS ANGELES	STATE HIGHWAY	S1160222	5, 10, 60	I-5, I-10, SR-60			I-10- IMPROVE I-10/SR-60/I-5 INTERCHANGE	LOS ANGELES
LOS ANGELES	STATE HIGHWAY	S1160223	5, 110	I-5, I-110			I-5- IMPROVE I-5 AND SR-110 INTERCHANGE	LOS ANGELES
LOS ANGELES	STATE HIGHWAY	S1160224	10	I-10			I-10- INSTALL CCTV AND OTHER COMMUNICATIONS SYSTEMS	LOS ANGELES
LOS ANGELES	STATE HIGHWAY	S1160225	10	I-10			I-10- UPGRADE SURVEILLANCE SYSTEM	LOS ANGELES
LOS ANGELES	STATE HIGHWAY	S1160226	2	SR-2	SR-134	GLENDALE BLVD	SR-2: ADD HOV LANE BETWEEN SR-134 AND GLENDALE BLVD	GLENDALE, LOS ANGELES
LOS ANGELES	STATE HIGHWAY	S1160227	210	I-210	I-5	SR-134/I-710	I-210 HOV LANE FROM I-5 TO SR-134/I-710	GLENDALE, LOS ANGELES, UNINCORPORATED - SAN FERNANDO

TABLE 3 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	STATE HIGHWAY	S1160228					REGIONAL: TDM PROGRAMS TO REDUCE TRIPS	BURBANK, GLENDALE, SANTA CLARITA, SAN FERNANDO, LOS ANGELES, UNINCORPORATED - SAN FERNANDO
LOS ANGELES	STATE HIGHWAY	S1160229					REGIONAL: IMPROVE RAMP METERING, CCTV CAMERAS, CMS FOR FREEWAYS IN SUBREGION AS NEEDED	BURBANK, GLENDALE, SANTA CLARITA, SAN FERNANDO, LOS ANGELES, UNINCORPORATED - SAN FERNANDO
LOS ANGELES	STATE HIGHWAY	S1160230	2, 5, 101, 118, 134, 170, 210, 405	SR-2, US-101, SR-118, SR-134, SR-170, SR-210, I-405			REGIONAL: UPGRADE TMS: A) I-5: SR-118 TO SR-14 (PM 39.3-45.6) B) US-101: I-5 TO I-405 (PM 0.0-17.4) C) US-101: SR-27 TO VENTURA COUNTY LINE (PM 25.3-38.19) D) SR-118: WEST OF SR-27 TO EAST OF SR-210 (PM 0.0-14.8) E) SR-134: SR-170 TO SR-210/SR-710 (PM 0.0-13.4) F) SR-170: SR-134 TO I-5 (PM 14.5-20.5) G) I-405: SOUTH OF US-101 TO I-5 (PM 39.0-48.65) H) SR-2: SR-134 TO SR-210 (PM 14.5-24.6) I) I-210: I-5 TO SR-2 (PM 0.0-19.0) - ADD CCTV & COMMS J) I-5: TSM FROM SR-2 TO SR-134	BURBANK, GLENDALE, SANTA CLARITA, SAN FERNANDO, LOS ANGELES, UNINCORPORATED - SAN FERNANDO
LOS ANGELES	STATE HIGHWAY	S1160231	2	SR-2	SR-134	GLENDALE BLVD	SR-2: ADD HOV LANE BETWEEN SR-134 AND GLENDALE BLVD	GLENDALE, LOS ANGELES
LOS ANGELES	STATE HIGHWAY	S1160232	5	I-5	SR-14	I-405	I-5: ADD MIXED FLOW, HOV AND TRUCK LANES BETWEEN SR-14 AND I-405	SANTA CLARITA, LOS ANGELES, UNINCORPORATED - SAN FERNANDO
LOS ANGELES	STATE HIGHWAY	S1160233	101	US-101	SR-27	SR-2	US-101: ADD HOV LANE BETWEEN SR-27 AND SR-2	LOS ANGELES
LOS ANGELES	STATE HIGHWAY	S1160234	210	I-210	I-5	SR-134/I-710	I-210 HOV LANE FROM I-5 TO SR-134/I-710	GLENDALE, LOS ANGELES, UNINCORPORATED - SAN FERNANDO
LOS ANGELES	STATE HIGHWAY	S1160235	5	I-5	SR-134	I-110	I-5- ADD HOV LANE IN BOTH DIRECTIONS BETWEEN SR-134 AND I-110	LOS ANGELES
LOS ANGELES	STATE HIGHWAY	S1160236	101	US-101	101	METRO ORANGE LINE	US-101/CANOGA AVE: CONSTRUCT HOV LANE CONNECTOR FROM 101 FWY TO METRO ORANGE LINE	LOS ANGELES

TABLE 3 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	STATE HIGHWAY	S1160237					REGIONAL: TDM PROGRAMS TO REDUCE TRIPS	BURBANK, GLENDALE, SANTA CLARITA, SAN FERNANDO, LOS ANGELES, UNINCORPORATED - SAN FERNANDO
LOS ANGELES	STATE HIGHWAY	S1160238	405	1-405			I-405/OXNARD ST: BUILD A INTERCHANGE FOR I-405 (INCLUDE METRO ORANGE LINE TO HOV CONNECTION)	LOS ANGELES
LOS ANGELES	STATE HIGHWAY	S1160239	101	US-101	SR-27	LOS ANGELES/ VENTURA COUNTY LINE	US-101: ADD ONE LANE TO EXISTING ROADWAY IN EACH DIRECTION BETWEEN SR-27 AND THE VENTURA COUNTY LINE; PROJECT WIDENS ROADWAY FROM 4 TO 5 LANES, WHICH COULD GENERALLY BE ACCOMMODATED BY RESTRIPING WITHIN THE EXISTING ROADWAY CROSS-SECTION	LOS ANGELES, UNINCORPORATED - SAN FERNANDO
LOS ANGELES	STATE HIGHWAY	S1160240	101	US-101	SR-28	LOS ANGELES/ VENTURA COUNTY LINE	US-101: ADD 2 LANES TO EXISTING ROADWAY IN EACH DIRECTION BETWEEN SR-27 AND THE VENTURA COUNTY LINE; PROJECT WIDENS ROADWAY FROM 4 TO 6 LANES, WHILE AIMING TO MINIMIZE ROW ACQUISITION AND LOCAL CIRCULATION IMPACTS	LOS ANGELES, UNINCORPORATED - SAN FERNANDO
LOS ANGELES	STATE HIGHWAY	S1160241	101	US-101	LAUREL CANYON	SEPULVEDA BLVD	US-101: ADD NB AND SB AUXILIARY LANE BETWEEN LAUREL CANYON BL AND SEPULVEDA BL	LOS ANGELES
LOS ANGELES	STATE HIGHWAY	S1160242	101	US-101	HAVENHURST AVE	VALLEY CIRCLE BLVD	US-101: ADD NB AND SB AUXILIARY LANES BETWEEN HAYVENHURST AV AND VALLEY CIRCLE BL	LOS ANGELES
LOS ANGELES	STATE HIGHWAY	S1160243	210	I-210	SR-118	HUBBARD ST	I-210: ADD ADDITIONAL WB LANE BETWEEN SR-118 AND HUBBARD ST	LOS ANGELES
LOS ANGELES	STATE HIGHWAY	S1160244	101, 170, 134	US-101, SR-170, SR-134			US-101/SR-170/SR-134: INTERCHANGE IMPROVEMENTS - COMPLETE TWO CONNECTORS	LOS ANGELES
LOS ANGELES	STATE HIGHWAY	S1160245	405, 101	I-405, US-101			I-405/US-101: INTERCHANGE IMPROVEMENTS	LOS ANGELES
LOS ANGELES	STATE HIGHWAY	S1160246	5, 405	I-5, I-405			I-5/I-405: INTERCHANGE IMPROVEMENTS	LOS ANGELES
LOS ANGELES	STATE HIGHWAY	S1160247	5, 210	I-5, SR-210	I-210	I-5	I-5/I-210: INTERCHANGE IMPROVEMENTS - ADDITIONAL LANE ON THE CONNECTOR FROM NB I-210 TO NB I-5	LOS ANGELES
LOS ANGELES	STATE HIGHWAY	S1160248	5, 14, 210	I-5, SR-14, I-210			I-5/SR-14/I-210: MODIFY/REBUILD I-210 (EB) TRANSITION BY BRAIDING OVER THE SR-14 SOUTHBOUND CONNECTOR RAMPS	LOS ANGELES

TABLE 3 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	STATE HIGHWAY	S1160251	2, 5, 101, 118, 134, 170, 405	SR-2, I-5, US-101, SR-118, SR-134, SR-170, I-405			REGIONAL: UPGRADE TMS: A) I-5: SR-118 TO SR-14 (PM 39.3-45.6) B) US-101: I-5 TO I-405 (PM 0.0-17.4) C) US-101: SR-27 TO VENTURA COUNTY LINE (PM 25.3-38.19) D) SR-118: WEST OF SR-27 TO EAST OF SR-210 (PM 0.0-14.8) E) SR-134: SR-170 TO SR-210/SR-710 (PM 0.0-13.4) F) SR-170: SR-134 TO I-5 (PM 14.5-20.5) G) I-405: SOUTH OF US-101 TO I-5 (PM 39.0-48.65) H) SR-2: SR-134 TO SR-210 (PM 14.5-24.6) I) I-210: I-5 TO SR-2 (PM 0.0-19.0) - ADD CCTV & COMMS J) I-5: TSM FROM SR-2 TO SR-134	BURBANK, GLENDALE, SANTA CLARITA, SAN FERNANDO, LOS ANGELES, UNINCORPORATED - SAN FERNANDO
LOS ANGELES	STATE HIGHWAY	S1160252					HIGHWAY STATE OF GOOD REPAIR/SAFETY PROGRAMS	BURBANK, GLENDALE, SANTA CLARITA, SAN FERNANDO, LOS ANGELES, UNINCORPORATED - SAN FERNANDO
LOS ANGELES	STATE HIGHWAY	S1160253	101	US-101			RENOVATION OF KEY SECTIONS OF THE US-101	LOS ANGELES
LOS ANGELES	STATE HIGHWAY	S1160254	105, 405	I-105, I-405			I-105/I-405: HOV CONNECTORS FROM I-105 WESTBOUND TO NORTHBOUND AND SOUTHBOUND I-405	CALTRANS, SBCCOG, HAWTHORNE, LA COUNTY, LOS ANGELES
LOS ANGELES	STATE HIGHWAY	S1160256	405	1-405	I-110	I-105	I-405: ADD EXPRESS LANES ON I-405 BETWEEN I-110 AND I-105	CALTRANS, SBCCOG, LOS ANGELES, HAWTHORNE, LAWNDALE, REDONDO BEACH, TORRANCE
LOS ANGELES	STATE HIGHWAY	S1160257	91, 110	SR-91, I-110			SR-91/I-110: ADD HOV CONNECTORS FROM NORTHBOUND AND SOUTHBOUND I-110 TO EASTBOUND SR 91 AND FROM WESTBOUND SR-91 TO NORTHBOUND I-110	CALTRANS, SBCCOG, LOS ANGELES
LOS ANGELES	STATE HIGHWAY	S1160258	105	I-105	NASH AVE	VAN NESS AVE	I-105: ADD AUX LANE ON EB I-105 FROM NASH AVE TO VAN NESS AVE. PM 0.99/5.23	CALTRANS, EL SEGUNDO, LOS ANGELES, HAWTHORNE
LOS ANGELES	STATE HIGHWAY	S1160259	105	I-105	WILTON PLACE	HAWTHORNE BLVD	I-105: ADD AUX LANE ON WB I-105 FROM WILTON PLACE TO HAWTHORNE BLVD. PM 3.05/5.48	CALTRANS, LOS ANGELES, HAWTHORNE

TABLE 3 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	STATE HIGHWAY	S1160260	110	I-110	SEPULVEDA BLVD	PCH	I-110: ADD AUXILIARY LANE SB I-110 BETWEEN SEPULVEDA AND PCH	CALTRANS, SBCCOG, CARSON, LOS ANGELES
LOS ANGELES	STATE HIGHWAY	S1160261	110	I-110	SR-91	TORRANCE BLVD	I-110: AUXILIARY LANE ON SB I-110 FROM WB SR-91	LOS ANGELES COUNTY MTA
CONNECTOR FROM TORRANCE BLVD OFF-RAMP."	CALTRANS, CARSON, LOS ANGELES, LA COUNTY	S1120031			PORT COMMUNITIES OF LOS ANGELES/LONG BEACH	ARROYO VERDUGO SUBREGION	NORTH-SOUTH RAIL CORRIDOR BETWEEN PORT COMMUNITIES OF LOS ANGELES/LONG BEACH AND ARROYO VERDUGO SUBREGION–SR-710 TRANSPORTATION IMPROVEMENT OPTIONS	LOS ANGELES COUNTY MTA
LOS ANGELES	STATE HIGHWAY	S1160262	105, 405	I-105, I-405	I-110, I-105	I-105, I-405	I-405 AND I-105: I-405 FROM I-110 TO I-105 AND I-105 FROM I-405 TO CRENSHAW: CORRIDOR REFINEMENTS	CALTRANS, HAWTHORNE, GARDENA, TORRANCE, LAWNDALE, REDONDO BEACH, LOS ANGELES
LOS ANGELES	STATE HIGHWAY	S1160263	405	1-405	INGLEWOOD	I-110	I-405: ADD 1 OR 2 LANES TO NB AND SB I-405 BETWEEN INGLEWOOD NORTHERN BORDER AND I-110; CONSIDER INCLUSION OF TRANSIT-ONLY FIXED GUIDEWAYS	CALTRANS, SBCCOG, INGLEWOOD, LOS ANGELES, HAWTHORNE, LAWNDALE, REDONDO BEACH, TORRANCE
LOS ANGELES	STATE HIGHWAY	S1160264	405	1-405	SR-90	MANCHESTER	I-405: REALIGN THE SB I-405 SOUTH OF SR-90 TO MANCHESTER WHERE IT BENDS SHARPLY JUST NORTH OF MANCHESTER BLVD PM 25.5/23.7	CALTRANS, LOS ANGELES, INGLEWOOD
LOS ANGELES	STATE HIGHWAY	S1160265	405	1-405			I-405: WIDEN FROM 3 TO 4 LANES THROUGH INTERCHANGE AT I-110	LOS ANGELES, CALTRANS
LOS ANGELES	STATE HIGHWAY	S1160266	405	1-405			I-405/I-110: RECONSTRUCT THE NB I-405 CONNECTOR TO SB I-110 AND HOV CONNECTOR FROM SB I-405 TO NB I-110	CALTRANS, SBCCOG, LOS ANGELES
LOS ANGELES	STATE HIGHWAY	S1160267	105	I-105	I-605	ROUTE 1	I-105: ALONG I-105 BETWEEN I-605 AND ROUTE 1 (ATM AND TMS IMPROVEMENTS)	CALTRANS, EL SEGUNDO, LOS ANGELES, LA COUNTY, HAWTHORNE, LYNWOOD, PARAMOUNT, SOUTH GATE, DOWNEY, NORWALK

TABLE 3 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	STATE HIGHWAY	S1160268	110	I-110			I-110: IMPLEMENT INTERAGENCY INTEGRATED CORRIDOR MANAGEMENT SYSTEM ON I-110 FROM ARTESIA BLVD AND PACIFIC COAST HWY. THE PROJECT WILL INTEGRATE FREEWAY, ARTERIAL AND TRANSIT OPERATIONS, IMPLEMENT A DECISION SUPPORT SYSTEM FOR COORDINATED AGENCY OPERATIONS AND TRAVELER INFORMATION SYSTEMS.	CALTRANS, SBCCOG, CARSON, LOS ANGELES
LOS ANGELES	STATE HIGHWAY	S1160272	10	I-10	LINCOLN BLVD	I-5	I-10 CARPOOL LANES: LINCOLN BL TO I-5	LOS ANGELES, SANTA MONICA, CULVER CITY
LOS ANGELES	STATE HIGHWAY	S1160273	90	SR-90	LINCOLN BLVD	ADMIRALTY WAY	SR-90- EXTENSION FROM LINCOLN BL TO ADMIRALTY WAY	LOS ANGELES, UNINCORPORATED - WESTSIDE
LOS ANGELES	STATE HIGHWAY	S1160274	10	I-10	CLOVERFIELD	CENTINELA AVE	I-10- ADD WB AUXILIARY LANE FROM CLOVERFIELD TO CENTINELA AV	LOS ANGELES, SANTA MONICA
LOS ANGELES	STATE HIGHWAY	S1160275			LINCOLN BLVD	WASHINGTON BLVD	LINCOLN BL- FLYOVER FROM NB LINCOLN BL TO WB WASHINGTON BL	LOS ANGELES
LOS ANGELES	STATE HIGHWAY	S1160276	405	1-405	SR-90	I-105	I-405- ADD AUXILIARY LANES FROM SR-90 TO I-105	LOS ANGELES, UNINCORPORATED - WESTSIDE, CULVER CITY
LOS ANGELES	STATE HIGHWAY	S1160277					HOV/TRANSIT BYPASS LANES AT INTERSECTIONS/RAMPS	LOS ANGELES, UNINCORPORATED - WESTSIDE,CULVER CITY
LOS ANGELES	STATE HIGHWAY	S1160278	10	I-10			I-10- ADD #5 LANE TO EB THROUGH LA BREA AV INTERCHANGE	LOS ANGELES
LOS ANGELES	STATE HIGHWAY	S1160279	10	I-10			I-10- IMPROVE I-10 AND I-405 INTERCHANGE	LOS ANGELES
LOS ANGELES	STATE HIGHWAY	S1160280	405	1-405			I-405- I-405 ADD CONNECTOR METERING AT I-105 AND SR-90 INTERCHANGES	LOS ANGELES, UNINCORPORATED - WESTSIDE
LOS ANGELES	STATE HIGHWAY	S1160281	90, 405	SR-90, I-405	SR-90	I-405	CREATE A CONNECTION FROM THE WESTBOUND SR-90 TO SB I-405	LOS ANGELES, UNINCORPORATED - WESTSIDE
LOS ANGELES	STATE HIGHWAY	S1160282	10	I-10	HARCOURT AVE	OVERLAND AVE	I-10- ADD WB LANE TO I-10 FROM HARCOURT AV TO OVERLAND AV	LOS ANGELES
LOS ANGELES	STATE HIGHWAY	S1160283	405	1-405			I-405- THROUGHOUT I-405 CORRIDOR – EXPAND OPERATIONS OF FREEWAY SERVICE PATROL	LOS ANGELES, UNINCORPORATED - WESTSIDE, CULVER CITY

TABLE 3 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	STATE HIGHWAY	S1160284	405	1-405			WORK WITH CALTRANS TO CONTINUE SOUNDWALLS ALONG I-405.	LOS ANGELES, UNINCORPORATED - WESTSIDE,CULVER CITY
LOS ANGELES	STATE HIGHWAY	S1160285	10	I-10			I-10- INSTALL CCTV AND OTHER COMMUNICATIONS SYSTEMS	LOS ANGELES,SANTA MONICA,CULVER CITY
LOS ANGELES	STATE HIGHWAY	S1160286	10	I-10			I-10- UPGRADE SURVEILLANCE SYSTEM	LOS ANGELES,SANTA MONICA,CULVER CITY
LOS ANGELES	STATE HIGHWAY	S1200S100	US-101 +E4/ SR-134 / SR-170				US-101 / SR-134 / SR-170 INTERCHANGE PROJECT - MOBILITY TRIANGLE PARTNERSHIP: IMPROVEMENTS TO THE US-101 / SR-134 / SR-170 INTERCHANGES, PROVIDING THREE TRANSITION LANES IN EACH DIRECTION ON THE US-101 AND SR-134. SR-170 MODIFIED TO ACCOMMODATE TRANSITION LANES THROUGH INTERCHANGE AREA.	CITY OF LA
LOS ANGELES	STATE HIGHWAY	S1200S101	US-101				US-101 CAHUENGA PASS CORRIDOR IMPROVEMENT PROJECT - MOBILITY TRIANGLE PARTNERSHIP: CORRECTING AND MODIFYING ON- AND OFF-RAMP ALIGNMENTS, AND RELIEVING EXISTING CHOKEPOINTS BY ADDING AUXILIARY LANES ON THE US-101 BETWEEN HIGHLAND AVENUE AND LANKERSHIM BOULEVARD. IN ADDITION, THREE BRIDGES WILL BE REPLACED WITH WIDER OVERCROSSINGS WITHIN THE PROJECT EXTENTS.	CITY OF LA
LOS ANGELES	STATE HIGHWAY	S1200S102	SR-110				SR-110 OPERATION IMPROVEMENTS - ADD AUXILIARY LANES ON SOUTHBOUND SR-110 FROM THE STADIUM WAY OFF-RAMP TO THE NORTHBOUND US-101 CONNECTOR; ADD AUXILIARY LANES ON NORTHBOUND SR-110 FROM THE FIGUEROA STREET ON-RAMP TO THE HILL STREET ONRAMP. RELOCATE AND REPLACE SUNSET BOULEVARD SOUTHBOUND OFF-RAMP; UPGRADE EXISTING AND INSTALL NEW TRAFFIC SIGNALS.	CITY OF LA
LOS ANGELES	STATE HIGHWAY	S1200S103	SR-134				SR-134 CORRIDOR OPERATIONAL IMPROVEMENT PROJECT - MOBILITY TRIANGLE PARTNERSHIP: ON WESTBOUND SR-134, ADD WESTBOUND TRANSITION LANE FROM RIVERSIDE DRIVE ON-RAMP TO THE FOREST LAWN DRIVE OFF RAMP; ADD WESTBOUND TRANSITION LANE FROM THE FOREST LAWN DRIVE ON-RAMP TO THE BUENA VISTA STREET OFF-RAMP; WIDEN WESTBOUND FOREST LAWN DRIVE OFF-RAMP.	CITY OF LA
LOS ANGELES	TRANSIT	S1120001		METRO ORANGE LINE			METRO ORANGE LINE EXTENSION TO BOB HOPE AIRPORT	LOS ANGELES COUNTY MTA
LOS ANGELES	TRANSIT	S1120002		METRO RAPID BUS EXPANSION CORRIDORS			METRO RAPID BUS EXPANSION CORRIDORS BEYOND FUNDED PLAN	LOS ANGELES COUNTY MTA
LOS ANGELES	TRANSIT	S1120003		VARIEL AVENUE	OXNARD ST		CONSTRUCTION OF A 4TH ORANGE LINE STATION IN WARNER CENTER AREA	LOS ANGELES CITY
LOS ANGELES	TRANSIT	S1120004					SR-134 TRANSIT CORRIDOR BRT PROJECT	LOS ANGELES COUNTY MTA

TABLE 3 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	TRANSIT	S1120005		CANOGA AVENUE	VENTURA BLVD	CANOGA ORANGE LINE STATION	PURCHASE 20 NEW BUSES TO ADD TO A LOCAL CIRCULATOR BUS SYSTEM BETWEEN VENTURA BOULEVARD AND CANOGA ORANGE LINE STATION. INSTALL NEW BUS SHELTERS AND/OR ENHANCE THE EXISTING BUS SHELTERS ALONG THE ROUTE AS REQUIRED.	LOS ANGELES CITY
LOS ANGELES	TRANSIT	S1120006		VICTORY BOULEVARD	OWENSMOUTH AVE TO OXNARD ST	VARIEL AVE TO VICTORY BLVD	PURCHASE 20 NEW BUSES TO ADD TO A LOCAL CIRCULATOR BUS SYSTEM TO OPERATE FROM VICTORY TO OWENSMOUTH TO OXNARD TO VARIEL AND BACK TO VICTORY. INSTALL NEW BUS SHELTERS AND/OR ENHANCE THE EXISTING BUS SHELTERS ALONG THE ROUTE AS REQUIRED	LOS ANGELES CITY
LOS ANGELES	TRANSIT	S1120009		METRO PURPLE LINE			WESTSIDE SUBWAY EXTENSION (BEYOND SEGMENTS IN THE CONSTRAINED PLAN)	LOS ANGELES COUNTY MTA
LOS ANGELES	TRANSIT	S1120010		WESTSIDE SUBWAY EXTENSION			HEAVY RAIL EXTENSION	LOS ANGELES COUNTY MTA
LOS ANGELES	TRANSIT	S1120011		ORANGELINE			ORANGELINE HIGH SPEED TRANSIT SYSTEM--EXTENSION OF WEST SANTA ANA BRANCH FROM UNION STATION TO SANTA CLARITA	LOS ANGELES COUNTY MTA
LOS ANGELES	TRANSIT	S1120012		"SILVER" LINE LRT	RED LINE VERMONT/ SANTA MONICA STATION	CITY OF LA PUENTE	LIGHT RAIL EXTENSION	LOS ANGELES COUNTY MTA
LOS ANGELES	TRANSIT	S1120013		"YELLOW" LINE LRT	RED LINE NORTH HOLLYWOOD STATION	REGIONAL CONNECTOR	"YELLOW" LINE LRT	LOS ANGELES COUNTY MTA
LOS ANGELES	TRANSIT	S1120014		BURBANK/GLENDALE LRT	L.A. UNION STATION	BURBANK METROLINK STATION	NEW LIGHT RAIL	LOS ANGELES COUNTY MTA
LOS ANGELES	TRANSIT	S1120015		CRENSHAW			CRENSHAW LIGHT RAIL TRANSIT NORTH FROM EXPOSITION BL	LOS ANGELES COUNTY MTA
LOS ANGELES	TRANSIT	S1120016		CRENSHAW BLVD CORRIDOR EXTENSION			LIGHT RAIL EXTENSION	LOS ANGELES COUNTY MTA
LOS ANGELES	TRANSIT	S1120017		GREEN LINE	LAX	SANTA MONICA	GREEN LINE EXTENSION FROM LAX TO SANTA MONICA	LOS ANGELES COUNTY MTA
LOS ANGELES	TRANSIT	S1120018		METRO BLUE LINE			BLUE LINE EXTENSION TO CALIFORNIA STATE UNIVERSITY LONG BEACH	LOS ANGELES COUNTY MTA
LOS ANGELES	TRANSIT	S1120019		METRO GOLD LINE			METRO GOLD LINE EASTSIDE EXTENSION BEYOND PHASE II TERMINUS (LOS ANGELES COUNTY)	LOS ANGELES COUNTY MTA

TABLE 3 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	TRANSIT	S1120021		METRO GREEN LINE	GREEN LINE SOUTH TERMINUS AT TORRANCE	SAN PEDRO, LONG BEACH, AND LOS ANGELES/ ORANGE COUNTY LINE	GREEN LINE FROM GREEN LINE SOUTH TERMINUS AT TORRANCE TO SAN PEDRO, LONG BEACH, AND LOS ANGELES/ORANGE COUNTY LINE	LOS ANGELES COUNTY MTA
LOS ANGELES	TRANSIT	S1120022		METRO GREEN LINE LRT EXTENSION	LAX	EXPO SANTA MONICA STATION	LIGHT RAIL EXTENSION	LOS ANGELES COUNTY MTA
LOS ANGELES	TRANSIT	S1120024		ADDITIONAL METRO AND OTHER BUS AND RAIL CAPITAL SYSTEM IMPROVEMENTS			ADDITIONAL METRO AND OTHER BUS AND RAIL CAPITAL SYSTEM IMPROVEMENTS (RAIL CARS, YARDS, BUSES)	LOS ANGELES COUNTY MTA
LOS ANGELES	TRANSIT	S1120025		METRO RED LINE			RED LINE NORTH HOLLYWOOD STATION TO SYLMAR METROLINK STATION CONNECTION	LOS ANGELES COUNTY MTA
LOS ANGELES	TRANSIT	S1120026		REGIONAL INTERMODAL CENTER			REGIONAL INTERMODAL CENTER NEAR BOB HOPE AIRPORT	LOS ANGELES COUNTY MTA
LOS ANGELES	TRANSIT	S1120027		SR-134 TRANSIT CORRIDOR	RED LINE NORTH HOLLYWOOD STATION	GOLD LINE DEL MAR STATION	SR-134 TRANSIT CORRIDOR	LOS ANGELES COUNTY MTA
LOS ANGELES	TRANSIT	S1120028		STREETCAR CIRCULATOR SYSTEMS			STREETCAR CIRCULATOR SYSTEMS (FOR EXAMPLE, SAN PEDRO, AND OTHERS)	LOS ANGELES COUNTY MTA
LOS ANGELES	TRANSIT	S1120029			GLENDALE	DOWNTOWN LOS ANGELES	GLENDALE – DOWNTOWN LOS ANGELES CORRIDOR	LOS ANGELES COUNTY MTA
LOS ANGELES	TRANSIT	S1120030			NORTH HOLLYWOOD	PASADENA	SR-134 EAST-WEST CORRIDOR CONNECTING NORTH HOLLYWOOD, BURBANK, GLENDALE AND PASADENA	LOS ANGELES COUNTY MTA
LOS ANGELES	TRANSIT	S1120031			PORT COMMUNITIES OF LOS ANGELES/LONG BEACH	ARROYO VERDUGO SUBREGION	NORTH-SOUTH RAIL CORRIDOR BETWEEN PORT COMMUNITIES OF LOS ANGELES/LONG BEACH AND ARROYO VERDUGO SUBREGION–SR-710 TRANSPORTATION IMPROVEMENT OPTIONS	LOS ANGELES COUNTY MTA
LOS ANGELES	TRANSIT	S1120032			SAN GABRIEL VALLEY	LOS ANGELES/ ORANGE COUNTY LINE	I-605 NORTH-SOUTH CORRIDOR	LOS ANGELES COUNTY MTA
LOS ANGELES	TRANSIT	S1120033			UCLA/ WESTWOOD	LAX	I-405 CORRIDOR SOUTH	LOS ANGELES COUNTY MTA

TABLE 3 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	TRANSIT	S1120034			VENTURA BL/ ORANGE LINE	NORTH-EAST SAN FERNANDO VALLEY/SYLMAR METROLINK STATION	I-405 CORRIDOR NORTH	LOS ANGELES COUNTY MTA
LOS ANGELES	TRANSIT	S1120035			WEST SAN FERNANDO VALLEY	WEST LOS ANGELES	WEST LOS ANGELES COUNTY/WEST SAN FERNANDO VALLEY TO WEST LOS ANGELES DIRECT CONNECTION	LOS ANGELES COUNTY MTA
LOS ANGELES	TRANSIT	S1120036					CITY OF LONG BEACH EASTERN TRANSIT CORRIDOR CONNECTION--DOWNTOWN TO METRO BLUE LINE	LOS ANGELES COUNTY MTA
LOS ANGELES	TRANSIT	S1160051					METRO GOLD LINE AT-GRADE CROSSING MOBILITY ENHANCEMENTS. DEPLOYMENT OF ITS AT SIGNALIZED INTERSECTIONS ADJACENT TO METRO GOLD LINE AT-GRADE CROSSINGS TO PROVIDE ADAPTIVE TRAFFIC SIGNAL CONTROL TO IMPROVE MOBILITY AND ENHANCE SAFETY.	LOS ANGELES
LOS ANGELES	TRANSIT	S1160052					EASTSIDE LIGHT RAIL ACCESS (GOLD LINE) - IMPROVEMENTS TO FIRST/LAST MILE CONNECTIONS TO STATIONS, INCLUDING BICYCLE AND PEDESTRIAN INFRASTRUCTURE SUCH AS BICYCLE LANES, BICYCLE RACKS, CURB EXTENSIONS, CROSSWALKS, ENHANCED PEDESTRIAN LIGHTING, AND TREE CANOPIES FOR KEY PEDESTRIAN CORRIDORS.	LOS ANGELES
LOS ANGELES	TRANSIT	S1160053					IMPLEMENT MOBILITY HUBS: INSTALL A FULL-SERVICE MOBILITY HUB AT OR ADJACENT TO METRO STATIONS & SATELLITE HUBS STRATEGICALLY LOCATED SURROUNDING EACH STATION, INCLUDING SECURE BIKE PARKING, CAR SHARE, BIKE SHARE, AND RIDE SHARE (INCLUDING CASUAL CARPOOLING) TO BRIDGE THE FIRST/LAST MILE GAP OF A TRANSIT USER'S COMMUTE.	LOS ANGELES
LOS ANGELES	TRANSIT	S1160054					EXPANSION OF THE LADOT EXPRESSPARK PROGRAM THROUGHOUT PARKING-CONGESTED AREAS IN THE CITY OF LOS ANGELES. THIS ON-STREET INTELLIGENT PARKING PROGRAM INCLUDES VEHICLE SENSORS, DYNAMIC DEMAND-BASED PRICING, AND REAL-TIME PARKING GUIDANCE TO REDUCE VMT AND CONGESTION.	LOS ANGELES
LOS ANGELES	TRANSIT	S1160055					EXPAND THE PARK & RIDE NETWORK IN LOS ANGELES COUNTY TO MEET THE CURRENT AND LATENT DEMAND OF DISCRETIONARY TRANSIT RIDERS TO USE REGIONAL PUBLIC TRANSPORTATION SERVICES.	LOS ANGELES
LOS ANGELES	TRANSIT	S1160056					HOLLYWOOD EXPRESSPARK: IMPLEMENT AN ON-STREET INTELLIGENT PARKING PROGRAM THAT INCLUDES VEHICLE SENSORS, DYNAMIC DEMAND-BASED PRICING AND A REAL-TIME PARKING GUIDANCE SYSTEM TO REDUCE VMT, CONGESTION AND TO IMPROVE FLOW FOR CARS/BUSES.	LOS ANGELES
LOS ANGELES	TRANSIT	S1160057					CITYWIDE- ADD/EXPAND PARK-AND-RIDE FACILITIES	LOS ANGELES

TABLE 3 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	TRANSIT	S1160058					IMPLEMENT MOBILITY HUBS: INSTALL A FULL-SERVICE MOBILITY HUB AT OR ADJACENT TO METRO STATIONS & SATELLITE HUBS STRATEGICALLY LOCATED SURROUNDING EACH STATION, INCLUDING SECURE BIKE PARKING, CAR SHARE, BIKE SHARE, AND RIDE SHARE (INCLUDING CASUAL CARPOOLING) TO BRIDGE THE FIRST/LAST MILE GAP OF A TRANSIT USER'S COMMUTE.	LOS ANGELES
LOS ANGELES	TRANSIT	S1160059					IMPLEMENT PEDESTRIAN AND BICYCLE CONNECTIVITY IMPROVEMENTS AT EVERY EXISTING AND PLANNED METRO RAIL AND SUBWAY STATION BY PROVIDING ENHANCED SIDEWALK AMENITIES SUCH AS LANDSCAPING, SHADING, LIGHTING, DIRECTIONAL SIGNAGE, SHELTERS, CURB-EXTENSIONS, MID-BLOCK CROSSWALKS, ADA RAMPS, LEAD-PEDESTRIAN INTERVAL SIGNAL PHASES, ETC.	LOS ANGELES
LOS ANGELES	TRANSIT	S1160064			COLISEUM ST	30TH ST	CRENSHAW EXPOSITION LIGHT RAIL STATION TOD ACCESSIBILITY: INSTALLATION OF PEDESTRIAN/TRANSIT CONNECTIVITY IMPROVEMENTS FROM COLISEUM ST TO 30TH ST	LOS ANGELES
LOS ANGELES	TRANSIT	S1160076					REGIONAL: ADD/EXPAND PARK-AND-RIDE FACILITIES	BURBANK, GLENDALE, SANTA CLARITA, SAN FERNANDO, LOS ANGELES, UNINCORPORATED - SAN FERNANDO
LOS ANGELES	TRANSIT	S1160093					REGIONAL: ADD/EXPAND PARK-AND-RIDE FACILITIES	BURBANK, GLENDALE, SANTA CLARITA, SAN FERNANDO, LOS ANGELES, UNINCORPORATED - SAN FERNANDO
LOS ANGELES	TRANSIT	S1160174					IMPLEMENT MOBILITY HUBS: INSTALL A FULL-SERVICE MOBILITY HUB AT OR ADJACENT TO METRO STATIONS & SATELLITE HUBS STRATEGICALLY LOCATED SURROUNDING EACH STATION, INCLUDING SECURE BIKE PARKING, CAR SHARE, BIKE SHARE, AND RIDE SHARE (INCLUDING CASUAL CARPOOLING) TO BRIDGE THE FIRST/LAST MILE GAP OF A TRANSIT USER'S COMMUTE.	LOS ANGELES
LOS ANGELES	TRANSIT	S1160179					IMPLEMENT MOBILITY HUBS: INSTALL A FULL-SERVICE MOBILITY HUB AT OR ADJACENT TO METRO STATIONS & SATELLITE HUBS STRATEGICALLY LOCATED SURROUNDING EACH STATION, INCLUDING SECURE BIKE PARKING, CAR SHARE, BIKE SHARE, AND RIDE SHARE (INCLUDING CASUAL CARPOOLING) TO BRIDGE THE FIRST/LAST MILE GAP OF A TRANSIT USER'S COMMUTE.	LOS ANGELES

TABLE 3 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	TRANSIT	S1160289					PROGRAM TO MAINTAIN A STATE OF GOOD REPAIR FOR PUBLIC TRANSIT PROGRAMS INCLUDING THE REPLACEMENT AND REFURBISHMENT OF TRANSIT VEHICLES, FACILITIES, AND OTHER TRANSIT INFRASTRUCTURE.	LOS ANGELES
LOS ANGELES	TRANSIT	S1160290					IMPROVE AND RETROFIT METRO PICO STATION TO ENHANCE SAFETY AND TO BETTER SERVE THE HEAVY RIDERSHIP DEMAND THAT OCCUR AFTER MAJOR EVENTS AT LA LIVE.	LOS ANGELES
LOS ANGELES	TRANSIT	S1160291					IMPROVE AND RETROFIT THREE EXPO LINE STATIONS (JEFFERSON/USC, EXPO PARK/USC, AND EXPO/VERMONT) TO ENHANCE SAFETY AND TO BETTER SERVE THE HEAVY RIDERSHIP DEMANDS THAT OCCUR AFTER MAJOR EVENTS AT USC AND THE LOS ANGELES MEMORIAL COLISEUM.	LOS ANGELES
LOS ANGELES	TRANSIT	S1160293			UNION STATION	BURBANK METROLINK STATION	BURBANK/GLENDALE LRT FROM LA UNION STATION TO BURBANK METROLINK STATION	LOS ANGELES
LOS ANGELES	TRANSIT	S1160294					CRENSHAW BL CORRIDOR EXTENSION (BEYOND SEGMENT FUNDED BY MEASURE R) ALL THE WAY TO WEST HOLLYWOOD/HOLLYWOOD	LOS ANGELES, WEST HOLLYWOOD
LOS ANGELES	TRANSIT	S1160295					METRO PURPLE LINE EXTENSION WEST HOLLYWOOD EXTENSION	LOS ANGELES, WEST HOLLYWOOD
LOS ANGELES	TRANSIT	S1160296			VERMONT/ SANTA MONICA STATION	LA PUENTE	"SILVER" LINE LRT BETWEEN METRO RED LINE VERMONT/SANTA MONICA STATION AND CITY OF LA PUENTE	LOS ANGELES
LOS ANGELES	TRANSIT	S1160299					SR-134 EAST-WEST TRANSIT CORRIDOR CONNECTING NORTH HOLLYWOOD, BURBANK, GLENDALE AND PASADENA	LOS ANGELES
LOS ANGELES	TRANSIT	S1160301					IMPLEMENT CITY OF LA TRANSIT ENHANCED NETWORK AS DEFINED IN THE MOBILITY PLAN 2035.	LOS ANGELES
LOS ANGELES	TRANSIT	S1160302					PURCHASE NEW DASH SHUTTLE BUSES AND EXPAND LADOT DASH OPERATIONS TO ENHANCE INTRA-COMMUNITY "FIRST MILE/LAST MILE" TRANSIT CONNECTIONS TO REGIONAL TRANSIT CENTERS.	LOS ANGELES
LOS ANGELES	TRANSIT	S1160303					EXTEND METRO RED AND PURPLE LINES TO THE ARTS DISTRICT WITH ONE NEW STATION	LOS ANGELES
LOS ANGELES	TRANSIT	S1160304					DOWNTOWN STREETCAR: RESTORE THE HISTORIC STREETCAR IN DOWNTOWN LA SERVICING SEVERAL KEY DESTINATIONS; PROVIDE 7 TO 15 MINUTE HEADWAYS; INCLUDES LATE EVENING SERVICE; ESTIMATED DAILY RIDERSHIP IS 10,000	LOS ANGELES
LOS ANGELES	TRANSIT	S1160305					HARBOR SUBDIVISION TRANSIT CORRIDOR (CONNECTION FROM CRENSHAW BL TO DOWNTOWN LOS ANGELES)	LOS ANGELES
LOS ANGELES	TRANSIT	S1160306					I-10 - I-10 BUSWAY	LOS ANGELES

TABLE 3 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	TRANSIT	S1160307			NORTH HOLLYWOOD	BOB HOPE AIRPORT	METRO ORANGE LINE EXTENSION: NORTH HOLLYWOOD TO BOB HOPE AIRPORT	BURBANK, LOS ANGELES
LOS ANGELES	TRANSIT	S1160308			UNION STATION	BURBANK AIRPORT	BURBANK/GLENDALE LRT: FROM LA UNION STATION TO BURBANK AIRPORT VIA ANTELOPE VALLEY LINE CORRIDOR	BURBANK, GLENDALE, LOS ANGELES
LOS ANGELES	TRANSIT	S1160310					TRANSIT STATE OF GOOD REPAIR/SAFETY PROGRAMS	BURBANK, GLENDALE, SANTA CLARITA, SAN FERNANDO, LOS ANGELES, UNINCORPORATED - SAN FERNANDO
LOS ANGELES	TRANSIT	S1160311			PASADENA	NORTH HOLLYWOOD	PASADENA TO NORTH HOLLYWOOD BRT: VIA SR-134 THROUGH GLENDALE & BURBANK	BURBANK, GLENDALE, LOS ANGELES
LOS ANGELES	TRANSIT	S1160312					GLENDALE: PROVIDE EAST-WEST TRANSIT SERVICE ON FOOTHILL BLVD TO PROVIDE ONE-SEAT RIDE FROM SUNLAND TO LA CANADA FLINTRIDGE	GLENDALE, LOS ANGELES, UNINCORPORATED - SAN FERNANDO
LOS ANGELES	TRANSIT	S1160313					TIER 2 OPERATORS: DEDICATED OPERATIONS AND CAPITAL FUNDING TO MATCH FORMULA EQUIVALENCY OF INCLUDED AND ELIGIBLE OPERATORS	BURBANK, GLENDALE, LOS ANGELES
LOS ANGELES	TRANSIT	S1160314					IMPROVEMENTS TO BUS STOP ZONES TO MEET ADA COMPLIANCE	BURBANK, GLENDALE, SANTA CLARITA, SAN FERNANDO, LOS ANGELES, UNINCORPORATED - SAN FERNANDO
LOS ANGELES	TRANSIT	S1160315			NORTH HOLLYWOOD	BOB HOPE AIRPORT	METRO ORANGE LINE EXTENSION: NORTH HOLLYWOOD TO BOB HOPE AIRPORT	BURBANK, LOS ANGELES
LOS ANGELES	TRANSIT	S1160316			PASADENA	NORTH HOLLYWOOD	PASADENA TO NORTH HOLLYWOOD BRT: VIA SR-134 THROUGH GLENDALE & BURBANK	BURBANK, GLENDALE, LOS ANGELES
LOS ANGELES	TRANSIT	S1160317					METRO ORANGE LINE: BUS OPERATIONAL IMPROVEMENTS (SHORTER HEADWAYS, GRADE SEPARATIONS, CROSSING GATES, ETC ALONG ENTIRE LINE)	LOS ANGELES
LOS ANGELES	TRANSIT	S1160318					IMPROVED REGIONAL TRANSIT CONNECTION BETWEEN LAS VIRGENES AREA, THOUSAND OAKS AND SAN FERNANDO VALLEY ALONG US-101 CORRIDOR	LOS ANGELES

TABLE 3 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	TRANSIT	S1160319					TIER 2 OPERATORS: DEDICATED OPERATIONS AND CAPITAL FUNDING TO MATCH FORMULA EQUIVALENCY OF INCLUDED AND ELIGIBLE OPERATORS	BURBANK, GLENDALE, LOS ANGELES
LOS ANGELES	TRANSIT	S1160320					GLENDALE: PROVIDE EAST-WEST TRANSIT SERVICE ON FOOTHILL BLVD TO PROVIDE ONE-SEAT RIDE FROM SUNLAND TO LA CANADA FLINTRIDGE	GLENDALE, LOS ANGELES, UNINCORPORATED - SAN FERNANDO
LOS ANGELES	TRANSIT	S1160321			UNION STATION	BURBANK AIRPORT	BURBANK/GLENDALE LRT: FROM LA UNION STATION TO BURBANK AIRPORT VIA ANTELOPE VALLEY LINE CORRIDOR*	BURBANK, GLENDALE, LOS ANGELES
LOS ANGELES	TRANSIT	S1160323			NORTH HOLLYWOOD	SYLMAR	METRO RED LINE EXTENSION: NORTH HOLLYWOOD TO SYLMAR	SAN FERNANDO, LOS ANGELES
LOS ANGELES	TRANSIT	S1160324					METRO ORANGE LINE CONVERSION TO LRT	LOS ANGELES
LOS ANGELES	TRANSIT	S1160325					SEPULVEDA PASS TRANSIT CORRIDOR - CONSIDER MULTIMODAL TUNNEL(S) CARRYING PREMIUM TRANSIT AND TOLLED HIGHWAY LANES. P3 BEING CONSIDERED.	LOS ANGELES
LOS ANGELES	TRANSIT	S1160327					IMPROVEMENTS TO BUS STOP ZONES TO MEET ADA COMPLIANCE	BURBANK, GLENDALE, SANTA CLARITA, SAN FERNANDO, LOS ANGELES, UNINCORPORATED - SAN FERNANDO
LOS ANGELES	TRANSIT	S1160328					LOS ANGELES: ZEV BUS FLEET PROGRAM. CONVERT EXISTING TRANSIT FLEET IN LA COUNTY TO MEET THE GOAL OF 25% ZEV BY 2025	LOS ANGELES
LOS ANGELES	TRANSIT	S1160329					GREEN LINE: MISCELLANEOUS CAPITAL AND OPERATIONAL IMPROVEMENTS TO EXISTING LINE. IMPROVEMENTS INCLUDE ADDING TAIL TRACKS AND CROSSOVERS AT THE REDONDO BEACH STATION AND EXTENDING STATION PLATFORMS TO ALLOW FOR 3-CAR TRAINS AT AVIATION/LAX, MARIPOSA, DOUGLAS, AND REDONDO BEACH STATIONS.	METRO, EL SEGUNDO, HAWTHORNE, LOS ANGELES, LA COUNTY
LOS ANGELES	TRANSIT	S1160330					FEEDER BUS SERVICE: INCREASE FEEDER BUS SERVICE TO METRO GREEN LINE AND HARBOR TRANSITWAY: METRO GREEN LINE (LINES 40, 232, 439:, HARBOR TRANSIT WAY (LINES 442, 445, 550)+T80	DOWNEY, LOS ANGELES, LA COUNTY, LYNWOOD, NORWALK, PARAMOUNT
LOS ANGELES	TRANSIT	S1160331					METRO RAPID TO SAN FERNANDO VALLEY: INCREASE METRO RAPID SERVICE TO SAN FERNANDO VALLEY	LOS ANGELES, LA COUNTY, INGLEWOOD

TABLE 3 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	TRANSIT	S1160332					MUNICIPAL AND LOCAL TRANSIT CAPITAL AND OPERATIONS AND PARATRANSIT SERVICES: CAPITAL AND OPERATIONS UNMET FUNDING NEEDS AND EXPANSION OF SERVICES (E.G., DASH)	SBCCOG, LOS ANGELES
LOS ANGELES	TRANSIT	S1160333					SOUTH BAY GALLERIA TO LONG BEACH TRANSIT SERVICE CONNECTION: ADD TRANSIT SERVICE CONNECTION TO DOWNTOWN LONG BEACH TO SOUTH BAY GALLERIA	LOS ANGELES, LONG BEACH, REDONDO BEACH, TORRANCE
LOS ANGELES	TRANSIT	S1160335					PREVENTIVE MAINTENANCE/REHABILITATION OF TRANSIT (BUS & RAIL)	LOS ANGELES, BEVERLY HILLS, WEST HOLLYWOOD, CULVER CITY, SANTA MONICA
LOS ANGELES	TRANSIT	S1160336					PROGRAM TO FUND THE CONVERSION OF EXISTING TRANSIT FLEET IN LOS ANGELES COUNTY TO MEET GOAL OF 25% ZERO-EMISSION OR NEAR ZERO-EMISSION BUSES BY 2025	LOS ANGELES
LOS ANGELES	TRANSIT	S1160337					PROGRAM TO PURCHASE NEW TRANSIT OPERATIONS / MAINTENANCE FACILITIES, AND UPGRADE EXISTING FACILITIES, WITH THE CAPACITY TO ACCOMMODATE NEW ZERO EMISSION AND NEAR ZERO EMISSION BUSES.	LOS ANGELES
LOS ANGELES	TRANSIT	S1160338					PROGRAM TO MAINTAIN A STATE OF GOOD REPAIR FOR PUBLIC TRANSIT PROGRAMS INCLUDING THE REPLACEMENT AND REFURBISHMENT OF TRANSIT VEHICLES, FACILITIES, AND OTHER TRANSIT INFRASTRUCTURE.	LOS ANGELES
LOS ANGELES	TRANSIT	S1160339			WESTWOOD	SANTA MONICA BLVD	METRO PURPLE LINE EXTENSION WESTWOOD/VA TO CITY OF SANTA MONICA	LOS ANGELES, SANTA MONICA
LOS ANGELES	TRANSIT	S1160340					CRENSHAW BL CORRIDOR EXTENSION (BEYOND SEGMENT FUNDED BY MEASURE R) ALL THE WAY TO WEST HOLLYWOOD/HOLLYWOOD	LOS ANGELES, WEST HOLLYWOOD
LOS ANGELES	TRANSIT	S1160341					METRO PURPLE LINE EXTENSION WEST HOLLYWOOD EXTENSION	LOS ANGELES, BEVERLY HILLS, WEST HOLLYWOOD
LOS ANGELES	TRANSIT	S1160342					I-405/SEPULVEDA PASS - ALTERNATIVE MULTIMODAL LINKAGE FROM THE WESTSIDE TO THE SAN FERNANDO VALLEY AND LAX, TAKING PRESSURE OFF OF THE I-405	LOS ANGELES
LOS ANGELES	TRANSIT	S1160343					I-405- EXPRESS BUS IMPROVEMENTS (E.G., PEAK PERIOD SHOULDER LANE) ON I-405	LOS ANGELES, UNICORPORATED - WESTSIDE, CULVER CITY
LOS ANGELES	TRANSIT	S1160344					SEPULVEDA PASS – INCREASE EXPRESS BUS SERVICE OVER SEPULVEDA PASS, WITH COLLECTOR/FEEDER SERVICE THROUGHOUT WEST LA AND THE SAN FERNANDO VALLEY.	LOS ANGELES

TABLE 3 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	TRANSIT	S1160345					GREEN LINE EXTENSION ON FLORENCE AV/ BNSF RAILWAY - BUILD RAIL TO CONNECT HARBOR AND CRENSHAW CORRIDORS TO LAX UTILIZING EXISTING BNSF RAIL LINE	LOS ANGELES, UNICORPORATED - WESTSIDE
LOS ANGELES	TRANSIT	S1160346					IMPLEMENT CITY OF LA TRANSIT ENHANCED NETWORK AS DEFINED IN THE MOBILITY PLAN 2035.	LOS ANGELES
LOS ANGELES	TRANSIT	S1160347					SEPULVEDA LRT: POTENTIAL FUTURE UPGRADE TO RAIL TRANSIT IN THE LONG TERM FOR BRT FROM WILSHIRE TO LAX.	LOS ANGELES, UNINCORPORATED - WESTSIDE
LOS ANGELES	TRANSIT	S1160348					LINCOLN BL BRT: CENTER RUNNING BRT ON LINCOLN BL FROM SANTA MONICA BLVD TO LAX AND IMPLEMENT ADDITIONAL TRANSIT FACILITIES FOR TRANSIT ENHANCED NETWORK.	LOS ANGELES, SANTA MONICA, UNINCORPORATED - WESTSIDE
LOS ANGELES	TRANSIT	S1160349			SANTA MONICA	LAX	LINCOLN BL LRT: POTENTIAL FUTURE UPGRADE TO RAIL TRANSIT IN THE LONG TERM FROM BRT FROM SANTA MONICA TO LAX.	LOS ANGELES, UNINCORPORATED - WESTSIDE,SANTA MONICA
LOS ANGELES	TRANSIT	S1160350					VENICE LONG RANGE STREETCAR: THE ENHANCEMENT TO THE METRO RAPID LINE 733 ON VENICE BL COULD BE TRANSITIONED TO STREETCAR TO PROVIDE A FIXED BRANDED CONNECTION FROM THE METRO EXPOSITION LINE STATION IN CULVER CITY TO VENICE BEACH, WITH A LOOP ON ABBOT KINNEY BL.	LOS ANGELES
LOS ANGELES	TRANSIT	S1160351					PURCHASE NEW DASH SHUTTLE BUSES AND EXPAND LADOT DASH OPERATIONS TO ENHANCE INTRA-COMMUNITY "FIRST MILE/LAST MILE" TRANSIT CONNECTIONS TO REGIONAL TRANSIT CENTERS.	LOS ANGELES
LOS ANGELES	TRANSIT	S1160353					OLYMPIC RAPID IMPROVEMENTS: EXTENSION OF THE METRO RAPID 728 FROM CURRENT TERMINUS IN CENTURY CITY TO THE METRO EXPO LINE STATION AT WESTWOOD BL	LOS ANGELES
LOS ANGELES	TRANSIT	S1160354					PICO RAPID IMPROVEMENTS: GENERAL RAPID ENHANCEMENTS (I.E. INCREASED FREQUENCY, STOP IMPROVEMENTS, AND CONSTRUCTION) ON BIG BLUE BUS RAPID 7, CONSTRUCTION OF A NEW STOP IN CENTURY CITY.	LOS ANGELES
LOS ANGELES	TRANSIT	S1160355					SANTA MONICA BUS RAPID TRANSIT: CURB-RUNNING BUS-ONLY LANES ON SANTA MONICA BL FROM THE BORDER OF THE CITY OF SANTA MONICA TO THE BORDER OF THE CITY OF BEVERLY HILLS	LOS ANGELES
LOS ANGELES	TRANSIT	S1160356					SEPULVEDA BRT: CENTER RUNNING BRT ON SEPULVEDA BL FROM WILSHIRE TO LAX.	LOS ANGELES, UNINCORPORATED - WESTSIDE
LOS ANGELES	TRANSIT	S1160357					SAWTELLE CIRCULATOR: CIRCULATOR SERVICE ON SAWTELLE BL FROM WILSHIRE BL TO THE METRO EXPO LINE SEPULVEDA STATION.	LOS ANGELES

TABLE 3 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
LOS ANGELES	TRANSIT	S1160358					BUNDY CIRCULATOR: CIRCULATOR SERVICE ON BUNDY DR FROM WILSHIRE BL TO THE SANTA MONICA AIRPORT.	LOS ANGELES
LOS ANGELES	TRANSIT	S1160359					VENICE RAPID UPGRADES: RAPID ENHANCEMENTS & VENICE BEACH BRANDING OF EXISTING RAPID LINE. REBRAND EXISTING METRO RAPID 733 SERVICE TO SERVE VENICE BEACH AREA, INCREASED SERVICE FREQUENCY, IMPLEMENT STOP IMPROVEMENTS.	LOS ANGELES
LOS ANGELES	TRANSIT	S1160360					MARINA-PLAYA-FOX HILLS CIRCULATOR/FOX HILLS TO VENICE CIRCULATOR: CIRCULATOR BUS/SHUTTLE WOULD CONNECT ACTIVITY CENTERS TO MAJOR TRANSIT STATIONS.	LOS ANGELES
LOS ANGELES	TRANSIT	S1160361					LOYOLA CIRCULATOR: PROVIDE CIRCULATOR SERVICE TO CONNECT TO/ FROM LOYOLA MARYMOUNT UNIVERSITY AND FUTURE BRT/RAIL STATIONS ON LINCOLN BL.	LOS ANGELES
LOS ANGELES	TRANSIT	S1160362					PALMS CIRCULATOR: CIRCULATOR SERVICE TO CONNECT PALMS NEIGHBORHOOD ACTIVITY CENTERS TO METRO EXPO LINE PALMS STATION.	LOS ANGELES
LOS ANGELES	TRANSIT	S1160363					CENTURY CITY LOCAL CIRCULATOR: CIRCULATOR SERVICE TO SERVE CENTURY CITY AND THE PLANNED CENTURY CITY METRO PURPLE LINE EXTENSION STATION.	LOS ANGELES
LOS ANGELES	TRANSIT	S1200T100		MARKET-MANCHESTER	DOWNTOWN INGLEWOOD	METRO CRENSHAW/LAW RAIL LINE	INGLEWOOD TRANSIT CONNECTOR	CITY OF INGLEWOOD
LOS ANGELES	TRANSIT	S1200T106	ARTS DISTRICT / 6TH STREET				EXTEND HEAVY RAIL TO ARTS DISTRICT - HEAVY RAIL NETWORK EXTENDED TO NEW STATION AT ARTS DISTRICT / 6TH STREET	CITY OF LA
LOS ANGELES	TRANSIT	S1200T108	UNIVERSAL CITY / STUDIO CITY METRO RED LINE STATION				MOBILITY HUB - MOBILITY TRIANGLE PARTNERSHIP: CONSTRUCT MOBILITY HUB AT THE UNIVERSAL CITY / STUDIO CITY METRO RED LINE STATION. INSTALL A FULL-SERVICE MOBILITY HUB THAT INCLUDES SECURE BIKE PARKING, SAFE AND RELIABLE ACCESS TO CAR SHARE, BIKE SHARE, AND RIDE SHARE SERVICES, AND SAFE ACCESS TO TRANSIT.	CITY OF LA
LOS ANGELES	STATE HIGHWAY	S1200S104	0	0	AVENUE P-8/ SR-14	BEAR VALLEY ROAD/SR-18	IMPLEMENTATION OF HIGH DESERT CORRIDOR, AN APPROXIMATELY 63-MILE EAST-WEST MULTI-PURPOSE CORRIDOR FROM AVENUE P-8/ SR-14 IN LA COUNTY TO BEAR VALLEY ROAD/SR-18 IN SAN BERNARDINO COUNTY. THIS MULTI-PURPOSE CORRIDOR INCLUDES TSM/TDM, FREEWAY, EXPRESSWAY, TOLLWAY, HIGH-SPEED RAIL, GREEN ENERGY TRANSMISSION/PRODUCTION,AND BIKEWAY ELEMENTS.	LOS ANGELES COUNTY MTA (METRO)
ORANGE	LOCAL HIGHWAY	S2003L001					IMPLEMENT OC INTERSECTION ASSESSMENT RECOMMENDATIONS	ORANGE COUNTY TRANS AUTHORITY
ORANGE	LOCAL HIGHWAY	S2003L002					IMPLEMENT MPAH COMPLETE STREETS ASSESSMENT RECOMMENDATIONS	ORANGE COUNTY TRANS AUTHORITY

TABLE 3 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
ORANGE	LOCAL HIGHWAY	S2003L003					IMPLEMENT OC ACTIVE RECOMMENDATIONS	ORANGE COUNTY TRANS AUTHORITY
ORANGE	LOCAL HIGHWAY	S2003L004					IMPLEMENT COUNTYWIDE COMMUNICATIONS STUDY (ITS) RECOMMENDATIONS	ORANGE COUNTY TRANS AUTHORITY
ORANGE	LOCAL HIGHWAY	S2120056		HARBOR BOULEVARD			CONSTRUCT GRADE SEPARATED INTERSECTION AT HARBOR BOULEVARD AND BALL ROAD	ORANGE COUNTY TRANS AUTHORITY
ORANGE	LOCAL HIGHWAY	S2120058		HARBOR BOULEVARD	WARNER AVENUE	17TH STREET	ADD ONE LANE IN EACH DIRECTION	ORANGE COUNTY TRANS AUTHORITY
ORANGE	LOCAL HIGHWAY	S2120062		LOSSAN CORRIDOR/BALL ROAD			NEW RAIL GRADE SEPARATION ON LOSSAN CORRIDOR (ANAHEIM)	ORANGE COUNTY TRANS AUTHORITY
ORANGE	LOCAL HIGHWAY	S2120063		LOSSAN CORRIDOR/GRAND AVENUE			NEW RAIL GRADE SEPARATION ON LOSSAN CORRIDOR (SANTA ANA)	ORANGE COUNTY TRANS AUTHORITY
ORANGE	LOCAL HIGHWAY	S2120064		LOSSAN CORRIDOR/MAIN STREET			NEW RAIL GRADE SEPARATION ON LOSSAN CORRIDOR (ORANGE)	ORANGE COUNTY TRANS AUTHORITY
ORANGE	LOCAL HIGHWAY	S2120065		LOSSAN CORRIDOR/ ORANGETHORPE AVENUE			NEW RAIL GRADE SEPARATION ON LOSSAN CORRIDOR (ANAHEIM)	ORANGE COUNTY TRANS AUTHORITY
ORANGE	LOCAL HIGHWAY	S2160001		CROWN VALLEY PKWY	I-5	GREENFIELD	ADD CAPACITY BEYOND MPAH TO IMPROVE ACCESS TO SR-73 AT GREENFIELD	LAGUNA NIGUEL
ORANGE	LOCAL HIGHWAY	S2160002		CABOT RD - PASEO DE COLINAS		CAMINO CAPISTRANO	LANE ADDITIONS BEYOND MPAH ON CABOT AND PASEO DE COLINAS TO CAMINO CAPISTRANO TO IMPROVE ACCESS TO METROLINK STATION	LAGUNA NIGUEL
ORANGE	LOCAL HIGHWAY	S2160003		LOSSAN CORRIDOR/NEWPORT AVE			GRADE SEPARATION	ORANGE COUNTY TRANS AUTHORITY
ORANGE	LOCAL HIGHWAY	S2160004		LOSSAN CORRIDOR/RED HILL AVE			GRADE SEPARATION	ORANGE COUNTY TRANS AUTHORITY
ORANGE	LOCAL HIGHWAY	S2160005	1	PCH/SUPERIOR			PEDESTRIAN BRIDGE	NEWPORT BEACH
ORANGE	LOCAL HIGHWAY	SORA052	241	SR-241	OSO PKWY	I-5	FOOTHILL TRANSPORTATION CORRIDOR-SOUTH — OSO PKWY TO I-5 (SAN DIEGO).	TCA
ORANGE	STATE HIGHWAY	S2003S001					IMPLEMENT OC FREEWAY CHOKEPOINTS STUDY RECOMMENDATIONS	ORANGE COUNTY TRANS AUTHORITY
ORANGE	STATE HIGHWAY	S2003S002					IMPLEMENT OC GOODS MOVEMENT STUDY RECOMMENDATIONS	ORANGE COUNTY TRANS AUTHORITY
ORANGE	STATE HIGHWAY	S2003S003					IMPLEMENT DIRECT ACCESS RAMPS (TBD) - MANAGED LANE AND HIGH-CAPACITY TRANSIT SUPPORT	ORANGE COUNTY TRANS AUTHORITY
ORANGE	STATE HIGHWAY	S2003S004	55	SR-55/MEATS AVE			IMPROVE ACCESS AND MERGING IN THE VICINITY OF MEATS AVENUE	ORANGE COUNTY TRANS AUTHORITY

TABLE 3 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
ORANGE	STATE HIGHWAY	S2120031	74	SR-74			IMPLEMENT OPERATIONAL IMPROVEMENTS ON STATE ROUTE 74	ORANGE COUNTY TRANS AUTHORITY
ORANGE	STATE HIGHWAY	S2120035	405	I-405			ADD HOV RAMPS AT BEAR STREET	ORANGE COUNTY TRANS AUTHORITY
ORANGE	STATE HIGHWAY	S2120036	405	I-405			ADD HOV RAMPS AT VON KARMAN AVENUE	ORANGE COUNTY TRANS AUTHORITY
ORANGE	STATE HIGHWAY	S2120053	5	I-5	AVENIDA PICO	AVENIDA VAQUERO	ADD ONE NORTHBOUND TRUCK CLIMBING LANE FROM AVENIDA PICO TO AVENIDA VAQUERO	ORANGE COUNTY TRANS AUTHORITY
ORANGE	STATE HIGHWAY	S2160011	73	SR-73/GLENWOOD			INTERCHANGE IMPROVEMENT (PHASE 2 & 3)	TCA
ORANGE	STATE HIGHWAY	S2160012	133	SR-133	EL TORO RD	CANYON ACRES DR	MULTIMODAL CORRIDOR IMPROVEMENTS	LAGUNA BEACH
ORANGE	TRANSIT	S2120024		FULLERTON TRANSPORTATION CENTER			TRANSIT STATION IMPROVEMENTS	ORANGE COUNTY TRANS AUTHORITY
ORANGE	TRANSIT	S2120028		SANTA ANA REGIONAL TRANSPORTATION CENTER			TRANSIT STATION IMPROVEMENTS	ORANGE COUNTY TRANS AUTHORITY
ORANGE	TRANSIT	S2160015					METROLINK EXPANSION (INCREASE FROM 86 TO 98 WEEKDAY TRAINS)	ORANGE COUNTY TRANS AUTHORITY
ORANGE	TRANSIT	S2160018					ZERO-EMISSION TRANSIT INVESTMENTS (BUS AND RAIL)	ORANGE COUNTY TRANS AUTHORITY
RIVERSIDE	LOCAL HIGHWAY	S3120002		SMITH AVE (CORONA)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	RIVERSIDE COUNTY TRANSPORTATION COMMISSION
RIVERSIDE	LOCAL HIGHWAY	S3120003		RAILROAD ST (CORONA)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	RIVERSIDE COUNTY TRANSPORTATION COMMISSION
RIVERSIDE	LOCAL HIGHWAY	S3120004		COTA STREET (CORONA)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	RIVERSIDE COUNTY TRANSPORTATION COMMISSION
RIVERSIDE	LOCAL HIGHWAY	S3120006		BUCHANAN ST (RIVERSIDE)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	RIVERSIDE COUNTY TRANSPORTATION COMMISSION
RIVERSIDE	LOCAL HIGHWAY	S3120007		RUTILE STREET (JURUPA VALLEY)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	RIVERSIDE COUNTY TRANSPORTATION COMMISSION

TABLE 3 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
RIVERSIDE	LOCAL HIGHWAY	S3120008		HARRISON STREET (RIVERSIDE)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	RIVERSIDE COUNTY TRANSPORTATION COMMISSION
RIVERSIDE	LOCAL HIGHWAY	S3120009		GIBSON STREET (RIVERSIDE)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	RIVERSIDE COUNTY TRANSPORTATION COMMISSION
RIVERSIDE	LOCAL HIGHWAY	S3120011		JEFFERSON STREET (RIVERSIDE)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	RIVERSIDE COUNTY TRANSPORTATION COMMISSION
RIVERSIDE	LOCAL HIGHWAY	S3120012		PALM AVE (RIVERSIDE)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	RIVERSIDE COUNTY TRANSPORTATION COMMISSION
RIVERSIDE	LOCAL HIGHWAY	S3120013		WASHINGTON STREET (RIVERSIDE)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	RIVERSIDE COUNTY TRANSPORTATION COMMISSION
RIVERSIDE	LOCAL HIGHWAY	S3120014		BROCKTON AVE (RIVERSIDE)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	RIVERSIDE COUNTY TRANSPORTATION COMMISSION
RIVERSIDE	LOCAL HIGHWAY	S3120015		APACHE TRAIL (RIVERSIDE COUNTY)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	RIVERSIDE COUNTY TRANSPORTATION COMMISSION
RIVERSIDE	LOCAL HIGHWAY	S3120016		PANORAMA ROAD (RIVERSIDE)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	RIVERSIDE COUNTY TRANSPORTATION COMMISSION
RIVERSIDE	LOCAL HIGHWAY	S3120017		CRIDGE STREET (RIVERSIDE)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	RIVERSIDE COUNTY TRANSPORTATION COMMISSION
RIVERSIDE	LOCAL HIGHWAY	S3120018		PALMYRITA AVE (RIVERSIDE)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	RIVERSIDE COUNTY TRANSPORTATION COMMISSION
RIVERSIDE	LOCAL HIGHWAY	S3120019		CENTER ST (RIVERSIDE COUNTY)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	RIVERSIDE COUNTY TRANSPORTATION COMMISSION
RIVERSIDE	LOCAL HIGHWAY	S3120020		MAIN STREET (RIVERSIDE COUNTY)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	RIVERSIDE COUNTY TRANSPORTATION COMMISSION
RIVERSIDE	LOCAL HIGHWAY	S3120021		SAN TIMOTEO CANYON (CALIMESA)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	RIVERSIDE COUNTY TRANSPORTATION COMMISSION

TABLE 3 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
RIVERSIDE	LOCAL HIGHWAY	S3120022		SHERIDAN ST (CORONA)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	RIVERSIDE COUNTY TRANSPORTATION COMMISSION
RIVERSIDE	LOCAL HIGHWAY	S3120024		7TH ST (RIVERSIDE)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	RIVERSIDE COUNTY TRANSPORTATION COMMISSION
RIVERSIDE	LOCAL HIGHWAY	S3120025		BROADWAY (RIVERSIDE COUNTY)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	RIVERSIDE COUNTY TRANSPORTATION COMMISSION
RIVERSIDE	LOCAL HIGHWAY	S3120026		TIPTON ROAD (PALM SPRINGS)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	RIVERSIDE COUNTY TRANSPORTATION COMMISSION
RIVERSIDE	LOCAL HIGHWAY	S3120027		AVENUE 54 (COACHELLA)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	RIVERSIDE COUNTY TRANSPORTATION COMMISSION
RIVERSIDE	LOCAL HIGHWAY	S3120028		AVENUE 58 (RIVERSIDE COUNTY)			CONSTRUCT ROADWAY/RAIL GRADE SEPARATIONS	RIVERSIDE COUNTY TRANSPORTATION COMMISSION
RIVERSIDE	PASSENGER RAIL	S3120001		COACHELLA VALLEY RAIL SERVICE	L.A. UNION STATION	INDIO	ESTABLISH DAILY RAIL SERVICE BETWEEN DOWNTOWN LOS ANGELES AND THE COACHELLA VALLEY	LOS ANGELES COUNTY MTA
RIVERSIDE	PASSENGER RAIL	S3160002	0	PERRIS VALLEY LINE EXTENSION TO TEMECULA	SOUTH PERRIS	TEMECULA	METROLINK PERRIS VALLEY LINE COMMUTER RAIL EXTENSION FROM PERRIS TO TEMECULA (~16.5 MILES), STATIONS AT NEWPORT RD (@ I-215), CLINTON KEITH RD (@ I-215), AND WINCHESTER RD (SR-79 @ I-215)	RIVERSIDE COUNTY TRANSPORTATION COMMISSION
RIVERSIDE	PASSENGER RAIL	S3200T010		91/ PERRIS VALLEY LINE	VARIOUS METROLINK STATIONS COUNTYWIDE	VARIOUS METROLINK STATIONS COUNTYWIDE	PARKING LOT EXPANSION PROJECTS	RIVERSIDE COUNTY TRANSPORTATION COMMISSION (RCTC)
RIVERSIDE	PASSENGER RAIL	S3200T011		91/ PERRIS VALLEY LINE EXTENSION	PERRIS	TEMECULA	METROLINK 91/ PVL EXTENSION FROM PERRIS TO TEMECULA	RIVERSIDE COUNTY TRANSPORTATION COMMISSION (RCTC)
RIVERSIDE	PASSENGER RAIL	S3200T012		91/ PERRIS VALLEY LINE EXTENSION	CORONA	LAKE ELSINORE	METROLINK 91/ PVL EXTENSION FROM CORONA TO LAKE ELSINORE	RIVERSIDE COUNTY TRANSPORTATION COMMISSION (RCTC)
RIVERSIDE	STATE HIGHWAY	3163SP001	I-15				CONSTRUCT 2 MIXED FLOW LNS (1 LN EA DIR) AND 2 HOV LNS (1 LN EA DIR) FROM JCT. I-15/I-215 TO RIVERSIDE COUNTY/SAN DIEGO COUNTY LINE	TEMECULA
RIVERSIDE	STATE HIGHWAY	S3160001	0	CETAP - RIVERSIDE COUNTY TO ORANGE COUNTY	WESTERN RIVERSIDE COUNTY	ORANGE COUNTY	CETAP – RIVERSIDE COUNTY TO ORANGE COUNTY – CONSTRUCT NEW INTERCOUNTY TRANSPORTATION CORRIDOR A – 2 TOLL EACH DIR ON NEW FACILITY PARALLEL TO SR-91, FROM SR- 241 TO I-15, WITH IC AT SR-241, SR-71, I-15	RIVERSIDE COUNTY TRANSPORTATION COMMISSION

TABLE 3 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
RIVERSIDE	STATE HIGHWAY	S3200S000		I-215	I-215	COLUMBIA AVE	UPGRADE AND RECONSTRUCT THE COLUMBIA AVENUE OVERCROSSING AND THE FREEWAY ON AND OFF RAMPS.	CITY OF RIVERSIDE
SAN BERNARDINO	STATE HIGHWAY	S4200S002	210	210	LOS ANGELES COUNTY LINE	I-215/SR-210 INTERCHANGE	WIDEN SR-210 FROM LA COUNTY LINE TO I-215 FROM 3-4 LANES AND CONVERT HOV LANE TO EXPRESS LANE	SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY (SBCTA)
SAN BERNARDINO	TRANSIT	S4120001		REDLANDS RAIL PHASE III			REDLANDS RAIL PHASE III	SAN BERNARDINO ASSOCIATED GOVERNMENTS
SAN BERNARDINO	TRANSIT	S4120002			ONTARIO INTERNATIONAL AIRPORT	TBD	NEW EXPRESS BUS SERVICE FROM ONTARIO INTERNATIONAL AIRPORT HEADING EAST ON I-10/I-215	TBD
SAN BERNARDINO	TRANSIT	S4120003		SAN BERNARDINO MOUNTAIN-VALLEY RAILWAY SYSTEM	SAN BERNARDINO/ HIGHLAND	BIG BEAR LAKE	SAN BERNARDINO MOUNTAIN-VALLEY RAILWAY SYSTEM	SAN BERNARDINO ASSOCIATED GOVERNMENTS
VARIOUS	LOCAL HIGHWAY	S7120010					CORDON PRICING DEMONSTRATION PROJECTS (LOCATIONS TO BE DETERMINED)	VARIOUS AGENCIES
VARIOUS	LOCAL HIGHWAY	S7120011					MILEAGE-BASED USER FEE DEMONSTRATION PROJECTS AND IMPLEMENTATION STRATEGY	VARIOUS AGENCIES
VARIOUS	LOCAL HIGHWAY	S7200L000					AUTOMATED CONNECTED VEHICLE PILOTS	VARIOUS AGENCIES
VARIOUS	LOCAL HIGHWAY	S7200L001					COMBINED NEV BIKE LANES TO BRIDGE GAP BETWEEN NEV-FRIENDLY NEIGHBORHOOD STREETS	VARIOUS AGENCIES
VARIOUS	OTHER	S7120012					LONG-TERM GOODS MOVEMENT EMISSION REDUCTION STRATEGIES FOR RAIL AND TRUCKS; DEMONSTRATION PROJECTS AND IMPLEMENTATION STRATEGY	VARIOUS AGENCIES
VARIOUS	OTHER	S7200OT00					EXPANDED ELECTRIC VEHICLE REGIONAL CHARGING NETWORK	VARIOUS AGENCIES
VARIOUS	OTHER	S7200OT01					INCENTIVES/REBATES FOR ELECTRIC VEHICLE PURCHASE	VARIOUS AGENCIES
VARIOUS	PASSENGER RAIL	S7120006		CALIFORNIA/NEVADA SUPER SPEED TRAIN SYSTEM	ANAHEIM	LAS VEGAS	NEW SERVICE FROM ANAHEIM TO LAS VEGAS	CALIFORNIA/NEVADA SUPER SPEED TRAIN COMMISSION
VARIOUS	STATE HIGHWAY	S7120008		IRVINE-CORONA EXPRESSWAY	SR-133/SR-241 IN ORANGE COUNTY	I-15 IN RIVERSIDE	TUNNEL (CORRIDOR B)	VARIOUS AGENCIES
VARIOUS	STATE HIGHWAY	S7120009					EXPANDED EXPRESS/HOT LANE NETWORK (BEYOND CONSTRAINED PLAN)	VARIOUS AGENCIES

TABLE 3 Strategic Projects - Continued

County	System	RTP ID	Route #	Route Name	From	To	Description	Lead Agency
VARIOUS	TRANSIT	S7120001		NEW EXPRESS BUS SERVICE FROM ARTIC TO LAX	ARTIC	LAX	NEW EXPRESS BUS SERVICE FROM ARTIC TO LAX	TBD
VARIOUS	TRANSIT	S7120002		NEW EXPRESS BUS SERVICE FROM ARTIC TO ONTARIO INTERNATIONAL AIRPORT	ARTIC	ONTARIO INTERNATIONAL AIRPORT (ONT)	NEW EXPRESS BUS SERVICE FROM ARTIC TO ONTARIO INTERNATIONAL AIRPORT	TBD
VARIOUS	TRANSIT	S7120003		NEW EXPRESS BUS SERVICE FROM ONTARIO INTERNATIONAL AIRPORT HEADING WEST ON I-10/SR-57	ONTARIO INTERNATIONAL AIRPORT	TBD	NEW EXPRESS BUS SERVICE FROM ONTARIO INTERNATIONAL AIRPORT HEADING WEST ON I-10/SR-57	TBD
VARIOUS	TRANSIT	S7120004		CALIFORNIA HIGH-SPEED TRAIN SYSTEM PHASE II	L.A. UNION STATION	SAN DIEGO LINDBERGH FIELD	HIGH-SPEED TRAIN SERVICE FROM L.A. UNION STATION TO SAN DIEGO THROUGH THE INLAND EMPIRE	CALIFORNIA HIGH-SPEED RAIL AUTHORITY
VARIOUS	TRANSIT	S7120007		METRO GOLD LINE	MONTCLAIR	ONTARIO INTERNATIONAL AIRPORT (ONT)	GOLD LINE FOOTHILL EXTENSION	LOS ANGELES COUNTY MTA
VENTURA	PASSENGER RAIL	S5120002		SANTA PAULA BRANCH LINE	MONTALVO	L.A. COUNTY LINE	RAIL IMPROVEMENTS	VENTURA COUNTY TRANSPORTATION COMMISSION
VENTURA	PASSENGER RAIL	S5200T003		METROLINK COMMUTER RAIL	IN VENTURA COUNTY	IN VENTURA COUNTY	METROLINK SERVICE EXPANSION PROGRAM	VCTC/SCRRA
VENTURA	STATE HIGHWAY	S5121001	101	US-101	DOWNTOWN VENTURA		BEACH+TOWN - CAP OVER US-101 THREE BLOCKS WHERE US-101 CUTS OFF DOWNTOWN VENTURA FROM THE NEARBY BEACH AND PIER. EXTENSIVE DEVELOPMENT ON THE SPACE CREATED BY THE CAP.	VARIOUS AGENCIES

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CONNECT SoCal

TECHNICAL REPORT

PROJECT LIST
DRAFT | NOVEMBER 2019

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APPENDIX 3.3

Health Risk Assessment Technical Report

HEALTH RISK ASSESSMENT TECHNICAL REPORT

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The contents of this report reflect the views of the author who is responsible for the facts and accuracy of the presented information. The contents does not necessarily reflect the official views or of the Southern California Association of Governments. This report does not constitute a standard, specification, or regulation.

Health Risk Assessment
Southern California Association of Goverments
Connect SoCal Program Environment Impact Report

Impact Sciences, Inc.
Project No. 1329.001

December 6, 2019

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HEALTH RISK ASSESSMENT REPORT for the SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS 2020 CONNECT SOCAL PROGRAM ENVIRONMENTAL IMPACT REPORT

Project No. 1329.001

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December 6, 2019

TABLE OF CONTENTS

Section		Page
1.0	Introduction	1
2.0	Health Risk Assessment Calculations	12
3.0	Health Risk Assessment Results	18
4.0	Health Risk Comparison to the 2016-2040 and 2012-2045 RTP/SCS PEIRs	27

LIST OF FIGURES

Figure		Page
1	Overview Freeway Segments Evaluated in HRA	29

LIST OF TABLES

Table		Page
1	Average Daily VMT for Selected Transportation Segments and Evaluation Simulations	8
2	DPM Emission Estimates for All Simulations (lbs/day)	9
3	Meteorological Data Used for Dispersion Modeling	11
4	Residential Cancer Risk Assumptions	15
5	Worker Cancer Risk Assumptions	16
6	Day Care Center Cancer Risk Assumptions	16
7	School Child Cancer Risk Assumptions	17
8	Senior Care Cancer Health Risk Assumptions	18
9	Maximum Exposed Individual Residential Cancer Risk for 30-Year Exposure	19
10	Maximum Exposed Individual Residential Cancer Risk for 9-Year Exposure	20
11	Maximum Exposed Individual Residential Cancer Risk for 70-Year Exposure	21
12	Maximum Exposed Worker Receptor Cancer Risk	22
13	Maximum Exposed Cancer Risk for School Children	24
14	Maximum Exposed Cancer Risk for Day Care Attendee	25
15	Maximum Exposed Cancer Risk for a Retirement Home Resident	26
16	Health Risk Comparisons to the 2016-2040 and 2012-2035 RTP/SCS Plan Cancer Risks	27

IMPACT SCIENCES

1.0 INTRODUCTION

The Southern California Association of Governments' (SCAG) Connect SoCal Plan ("Connect SoCal"; "Plan") is a long-range transportation plan that provides a vision for regional transportation investments integrated with land use strategies through 2045. SCAG serves as a Metropolitan Planning Organization (MPO), a Council of Governments (COG) and a Multi-County Designated Transportation Planning Agency for more the than 38,000 square miles over six Southern California counties, including Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties. The Plan guides the development of Federal Transportation Improvement Programs, as well as other transportation plans and programs. The Sustainable Communities Strategy (SCS) is developed as part of the Plan to define land use growth strategies that can achieve climate change and other sustainability objectives.

In assessing the air quality impacts of the Plan, a health risk assessment (HRA) was prepared to assess the potential cancer risk from roadway traffic associated with the growth of the region. Concentrations of diesel particulate matter (DPM) from motor vehicles on major freeways were analyzed to determine whether sensitive receptors (e.g., persons in residences, schools, hospitals) would be exposed to increased human health risks. DPM, which is emitted in the exhaust from diesel engines, was listed by the State as a toxic air contaminant (TAC) in 1998 and is used as a surrogate measure of exposure for all diesel exhaust emissions. It consists of PM2.5 (fine particles of a diameter less than 2.5 micrometer (µm)), a subgroup of ultrafine particles (diameter less than 0.1 µm), and a variety of gases and cancer-causing substances. This HRA uses emission rates from PM10 (particles with a diameter of less than 10 micrometers, which also captures PM2.5) to provide a metric consistent with the previous HRAs prepared for the Plan, and also to provide a worst-case analysis.[1,2]

DPM exposure may lead to adverse health effects, including: (1) aggravated asthma; (2) chronic bronchitis; (3) increased respiratory and cardiovascular hospitalizations; (4) decreased lung function in children; (5) lung cancer; and (6) premature deaths for people with heart or lung disease.[3,4] DPM levels and

---

1 SCAG, 2015. *Appendix D Health Risk Assessment Technical Report: Diesel Exhaust Health Risk Assessment for the Southern California Association of Governments 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy*. November.

2 PM10 includes PM2.5 and therefore emission rates for PM10 are higher than PM2.5 and provide a more conservative risk analysis.

3 CARB, Overview: Diesel Exhaust and Health, www.arb.ca.gov/research/diesel/diesel-health.htm, last reviewed by CARB April 12, 2016.

4 CARB, Fact Sheet: Diesel Particulate Matter Health Risk Assessment Study for the West Oakland Community: Preliminary Summary of Results, March 2008.

resulting health effects may be higher near heavily traveled roadways with substantial truck traffic or near industrial facilities.

As growth in population, housing, and jobs are anticipated to continue to pose challenges for the region's transportation system, the corresponding impact on human health was evaluated in this HRA.

1.1 OVERVIEW OF HEALTH RISK ASSESSMENT

To assess the impact of freeway-based traffic from growth associated with the RTP, air quality modeling was performed to predict potential cancer risk along key freeways in the SCAG region. First, DPM emissions from vehicles and trucks traveling on key freeways along regional growth corridors were calculated based on light, medium, and heavy-duty traffic count data provided by SCAG's Regional Travel Demand Model and emissions factors from the California Air Resources Board (CARB) EMFAC2014 model. Next, the concentration of DPM near freeways was calculated using the CARB-approved AERMOD dispersion model (Version 18081) along with meteorological data from monitoring sites in the SCAG region. Based on the concentration and the methodology prescribed by the Office of Environmental Health Hazard Assessment (OEHHA),[5] potential cancer risks were calculated for sensitive receptors living near study freeway segments.

1.1.1 Scenarios to be Evaluated

To develop Connect SoCal, SCAG developed five unique scenarios (including Trend/Baseline) to illustrate alternative representations of the region in 2045. More specifically, each scenario was designed to explore and convey the impact of where the region would grow; to what extent the growth be focused within existing cities and towns, and how it would grow – the shape and style of the neighborhoods and transportation systems that would shape growth over the period.

This HRA includes the simulation of human health impacts from freeway traffic under six growth scenarios. As listed below, these include existing conditions (2019), the Connect SoCal Plan in 2045, the No Project Alternative in 2045, and three additional "build" simulations:

- **Simulation 1:** Existing Conditions (or base year conditions in 2019);
- **Simulation 2:** Future 2045 Conditions under the No Project Alternative (2045);
- **Simulation 3:** Future 2045 Conditions under the Existing Plans - Local Input Alternative (2045);
- **Simulation 4:** Future 2045 Conditions under the Connect SoCal Plan (2045);

5 California Office of Environmental Health Hazard Assessment (OEHHA). 2015. *The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments.*

- **Simulation 5:** Future 2045 Conditions under the PEIR Intensified Alternative (2045);
- **Simulation 6:** Future 2045 Conditions under the Accelerated Tomorrow Alternative (2045).

These scenarios generally line up with either Plan scenarios or Program EIR scenarios. This HRA include two of the scenarios considered for the Plan and two scenarios evaluated in the Program EIR (PEIR).

- **No Project:** This scenario is aligned with the Trend/Baseline Scenario[6] and includes transportation projects that are in place at the time of preparation of the Connect SoCal Plan and that are included in the first two years of the previously conforming transportation plan and/or federal transportation improvement program (FTIP). This scenario was evaluated in the PEIR.
- **Existing Plan – Local Input:** This scenario reflects the land use and growth patterns as submitted to SCAG to envision the region in 2045. For transportation, projects planned by each CTC would occur throughout the region. This scenario was evaluated in the PEIR.
- **Accelerated Tomorrow:** This scenario assumes that funding is available to invest in expanded bus and rail networks, and there is additional revenue to make existing transit service faster and more reliable. Additionally, new investments would occur in public infrastructure, which focus on active transportation and facilitate connections between transit, jobs, homes and local destinations. Growth was prioritized in TPAs, Livable Corridors, Job Centers, HQTAs and NMAs. This scenario was considered in the Plan.
- **Intensified Land Use Alternative:** This scenario is based on the Plan's transportation network and strategies. This alternative analyzes more aggressive densities and land use patterns than included in the Accelerated Tomorrow Scenario. This alternative was evaluated in the PEIR.

1.1.2 Freeway Corridor Segments

The existing regional transportation system includes approximately 73,824 lane miles of roadways in the SCAG region, which include freeways and major arterials that serve as the backbone of the surface transportation system.[7] Given the enormity of the region's system, an HRA analysis of all lane miles is not feasible. Instead, a subset of key freeways representative of the range of potential exposure to DPM

6 Connect SoCal – Sustainable Communities Strategy Technical Report.

7 SCAG Regional Travel Demand Model, 2019.

were selected for analysis, focusing on major freeways and transportation corridors.[8] For this analysis, sixteen transportation segments used in SCAG's 2016 RTP/SCS PEIR HRA were analyzed. One worst-case segment was chosen in each of the six counties, with an additional two segments chosen based on heavy duty (HD) Vehicle Miles Traveled (VMT). These additional segments are located in Los Angeles and Riverside counties. In order to track progress over time, the analysis contained in this HRA evaluates the same segments as in previous analyses. For the 2016-2040 PEIR eight study segments were identified to be evaluated,[9] to add to eight segments that were evaluated in the 2012-2035 RTP/SCS PEIR.[10] The additional eight segments included in the 2016 analysis were chosen based having a sensitive receptor within 500 meters of a corridor, and ranked based on heavy duty vehicle traffic VMT. Segments were not considered if the segment was distant from populated areas with minimal (less than two) sensitive receptors or where the additional segment was an extension of one of the original eight segments.[11]

While the corridors ranged in length from 0.87 to 10.64 miles, the length is not critical to the evaluation because the maximum impact of diesel exhaust occurs very near (less than 500 meters) and perpendicular to the segment. If the length of the segment is relatively longer than the distance to the impacted receptor, the potential impact to a receptor will be the same regardless of the length of the segment. A segment at least 1,500 meters long (approximately one mile) is a longer distance than the distance from the source (e.g., roadway segment) to a receptor that is 500 meters away. Therefore, because the source is longer than the distance to the receptor (1,000 meters versus 500 meters), the potential impact to the receptor is virtually the same regardless of whether the segment analyzed was longer or shorter (given that the segment is at least 500 meters long). Note that most impacted receptors are generally located less than 500 meters away from major arterials and/or freeways. This distance from the source to impacted sensitive

---

8 Impacts from rail transit and other fixed-guideway systems were not quantitatively assessed because emissions from passenger rail are much less than emissions from major freeways and transportation corridors. Further, emissions for electrified light-rail transit services are generated from stationary sources that are generally located far from the transit corridors they serve.

9 For the 2016-2040 analysis, segments were identified based on VMT for both heavy duty (HD) as well as light and medium (LM) vehicles for all major transportation corridors in the region. The segments were ranked from highest to lowest based on daily HD traffic. HD vehicles are more likely to be diesel fueled than LM traffic, which tends to be gasoline fueled. Therefore, HD traffic results in a greater health risk. Then the segments were ranked based on the density of sensitive receptors within 500 meters of the transportation corridors.

10 The 2012 RTP/SCS PEIR analyzed a segment within each County and two additional segments with the highest daily total traffic volume in each County based on travel model link outputs. The highest-volume segments on each corridor were then quantitatively modeled for increased cancer risk. Highest volume segments were identified for the 2012 baseline in areas where congestion relief projects were considered likely to be undertaken under the 2012 Plan alternatives, and therefore likely to continue to carry high volumes of traffic under future planning scenarios.

11 SCAG, 2015. *Appendix D Health Risk Assessment Technical Report: Diesel Exhaust Health Risk Assessment for the Southern California Association of Governments 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy*. November.

receptors is consistent with CARB's finding that the concentration of DPM emissions is largely a factor of distance from source to receptor.[12]

VMT is a key parameter needed to perform emission and HRA modeling, as it captures the scale of DPM emissions from vehicle tailpipes and tires. VMT is a function not only of the number of vehicles but also the distance traveled by these vehicles. Therefore, if the number of vehicles is constant, a longer link will have more VMT than a shorter link. It is also recognized that total emissions for a segment are a function of VMT because, as explained below, the emissions model yields emission factors in terms of grams per mile. Therefore, a longer segment will have greater emissions (grams per day) than a shorter segment, even if the vehicle counts are the same (because the longer segment will have greater VMT). However, emissions for the longer segment are spread over a longer distance, so the potential impact is the same. Thus, the ultimate length of a segment is not critical provided that it is long enough to adequately represent maximum impact at a meaningful number of sensitive receptors. Since distance is not critical, one-mile segments were modeled within AERMOD, as discussed below. The modeling location of the transportation segment was based on the density of sensitive receptors.

The 16 segments evaluated in the HRA are shown in **Figure 1, Freeway Segments to be Evaluated,** and include:

1. IMP I-8: Interstate 8 just east of El Centro (Imperial County).
2. IMP SR-78: State Road 78 Freeway in Westmoreland (Imperial County).
3. LA I-110: Interstate 110 in Carson (Los Angeles County).
4. LA I-710: Interstate 710 in Compton, north of the intersection with SR 91 (Los Angeles County).
5. LA SR-60 DB: State Road 60 Freeway near Diamond Bar (Los Angeles County).
6. LA SR-60 SEM: State Road 60 Freeway near South El Monte (Los Angeles County).
7. ORA I-5: Interstate 5 in Orange near intersection of SR 57 and SR 22 (Orange County).
8. ORA I-405: Interstate 405 in Seal Beach, east of the I-605 interchange (Orange County).
9. RIV I-10: Interstate 10 in the Banning area (Riverside County).
10. RIV I-15: Interstate 15 near Temecula (Riverside County).
11. RIV SR-91: State Road 91 Freeway in Corona, east of intersection with SR 71 (Riverside County).
12. SB I-15 ONT: in Ontario (San Bernardino County).

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12 CARB. 2005. *Air Quality and Land Use Handbook: A Community Health Perspective.* Available online at: https://ww3.arb.ca.gov/ch/handbook.pdf, accessed November 5, 2019.

13. SB I-15 VIC: Interstate 15 in the Victorville area (San Bernardino County).
14. SB SR-60: State Road 60 Freeway in Ontario, west of the I-15 interchange (San Bernardino County).
15. VEN US-101 SB: US 101 Freeway in San Buenaventura near the Ventura Harbor (Ventura County).
16. VEN US-101 TO: US 101 Freeway in Thousand Oaks, east of SR 23 (Ventura County).

Emissions from Freeway Corridor Segments

DPM emissions were estimated for each freeway corridor segment using CARB's EMFAC2014 model. EMFAC2014 is the most recent model approved by the U.S. Environmental Protection Agency (U.S. EPA) for use in emissions inventory analyses.[13] The model was developed to estimate emissions from mobile sources and includes county-specific data, including fleet mix and other factors that influence on-road emissions. The model was run for each segment for the base year (2019) and the Plan's horizon year (2045) in order to calculate the proportion of diesel fueled HD (Heavy Duty Diesel Truck or HDDT) and light medium (LM) traffic and the emission factors (grams per mile). The EMFAC2014 model estimates criteria air pollutants (ROG, NOx, particulate matter, and CO) from mobile-source emissions as well as county specific activity data, such as VMT, population, and trips.

The number of HD and LM vehicles from SCAG's VMT traffic estimates, are provided in **Table 1, Average Daily VMT for Selected Transportation Segments and Evaluation Simulations**. Since only a portion of HD and LM traffic would be diesel-fueled, EMFAC2014 was used to calculate the VMT by vehicle and fuel type for each county in 2019 and 2045. Based on these estimates, the total number of diesel HD and LM vehicle trips along each transportation segment could be calculated. For example, in Imperial County in 2019, the EMFAC2014 modeled estimated that approximately 99 percent of HD traffic and approximately 9 percent of LM traffic would be diesel fueled. As shown in **Table 1**, Segment 1 under existing conditions would generate 8,016 HD VMT and 48,711 LM VMT. Because this segment is within Imperial County, the segment would generate approximately 7,989 HDDT VMT and 4,548 diesel LM trips in 2019**.** These calculations are provided in **Attachment A, DPM Emissions for Each Transportation Segment and Evaluation Simulation.** In order to estimate the amount of DPM generated at each segment, EMFAC2014 was used to calculate the PM10 emissions from diesel fuel exhaust, since DPM consists of particulate matter 10 microns or less. As noted above, PM10 is a more conservative emission rate than PM2.5, PM10 was used to both provide a conservative analysis and also provide consistency

[13] EMFAC 2014 model was the most recent, EPA-approved version at the time SCAG released the Conformity Assumptions for this analysis (EMFAC2017 had not been approved). Additionally, EMFAC2017 had not been approved at the time of releasing the NOP. On August 15, 2019, EPA approved EMFAC2017 for use; however, EPA provided a two-year grace period in which SCAG is not required to use EMFAC2017. The grace period runs through August 16, 2021.

with the 2016 analysis for the basis of comparison between the 2016 analysis and the analysis provided below. Each vehicle type generates different levels of diesel exhaust, therefore the total amount of diesel HD and LM traffic were multiplied to the respective PM10 diesel exhaust emissions estimates. The DPM generated at each segment are provided in **Table 2, DPM Emission Estimates for All Simulations (lbs/day)**.

Table 1
Average Daily VMT for Selected Transportation Segments and Evaluation Simulations

Segment No.	Transportation Segment	County/Region	Direction	Simulation 1 Existing Conditions (2019)		Simulation 2 No Project Alternative (2045)		Simulation 3 Local Input Alternative (2045)		Simulation 4 Connect SoCal Plan (2045)		Simulation 5 PEIR Intensified Land Use (2045)		Simulation 6 Accelerated Tomorrow (2045)	
				LM	HD	LM	HD	LM	HD	LM	HD	LM	HD	LM	HD
1	IMP I-8	Imperial/El Centro	East/West	48,711	8,016	70,801	25,315	72,724	26,141	68,510	26,191	66,464	25,528	66,392	25,615
2	IMP SR-78	Imperial/Westmoreland	East/West	18,814	3,491	27,455	5,506	27,045	5,428	24,905	4,914	30,074	4,865	30,194	4,833
3	LA I-110	Los Angeles/Carson	North/South	340,176	31,325	339,888	53,899	329,680	51,814	310,964	51,764	314,138	52,409	310,132	52,493
4	LA I-710	Los Angeles/Compton	North/South	258,877	31,402	387,638	65,416	321,526	71,483	320,808	70,960	319,436	72,416	315,468	72,084
5	LA SR-60 DB	Los Angeles/Diamond Bar	East/West	789,087	88,034	759,035	110,961	720,800	102,760	694,684	108,871	706,617	104,961	701,463	106,372
6	LA SR-60 SEM	Los Angeles/ South El Monte	East/West	367,370	33,368	362,602	39,110	348,992	32,485	338,836	33,134	341,018	35,132	338,431	35,323
7	ORA I-5	Orange/ Orange	North/South	488,850	33,264	365,751	35,868	381,542	36,592	362,162	37,257	353,277	38,511	351,556	38,480
8	ORA I-405	Orange/ Seal Beach	North/South	459,825	45,385	451,179	64,272	419,156	63,583	404,006	63,210	419,150	63,346	413,164	63,343
9	RIV I-10	Riverside/ Banning	East/West	634,254	143,445	747,848	251,961	723,144	253,336	689,301	245,273	687,605	245,295	686,909	245,307
10	RIV SR-15	Riverside/ Temecula	North/South	721,533	62,206	1,199,647	146,822	1,156,784	146,056	1,149,936	145,421	1,151,043	145,648	1,150,527	145,612
11	RIV SR-91	Riverside/ Corona	East/West	587,908	67,331	602,487	84,613	601,441	85,765	588,819	85,234	593,284	84,687	589,181	84,762
12	SB I-15 ONT	San Bernardino/Ontario	North/South	441,453	53,167	495,333	75,816	406,188	85,507	395,054	83,224	382,863	84,436	382,184	83,858
13	SB I-15 VIC	San Bernardino/ Victorville	North/South	320,364	85,444	377,670	173,351	374,475	173,857	394,964	175,993	397,673	174,536	398,054	174,372
14	SB SR-60	San Bernardino/ Ontario	East/West	518,176	82,924	538,296	119,162	485,642	116,756	463,006	120,075	473,710	117,114	470,167	117,630
15	VEN US-101 SB	Ventura/ San Buenaventura	North/South	350,922	27,041	358,463	53,836	286,318	55,704	285,247	56,206	284,048	56,086	283,720	56,080
16	VEN US-101 TO	Ventura/ Thousand Oaks	North/South	160,122	12,868	160,863	19,462	208,936	20,449	197,972	20,857	201,947	20,808	200,253	20,738

Source: SCAG Modeling, 2019

Table 2
DPM Emission Estimates for All Simulations (lbs/day)

Segment No.	Transportation Segment	County/Region	Segment Length (miles)	Direction	Simulation 1 Existing Conditions (2019)	Simulation 2 No Project Alternative (2045)	Simulation 3 Local Input Alternative (2045)	Simulation 4 Connect SoCal Plan (2045)	Simulation 5 PEIR Intensified Land Use (2045)	Simulation 6 Accelerated Tomorrow (2045)
1	IMP I-8	Imperial/El Centro	3.01	East/West	1.741	0.274	0.283	0.281	0.274	0.265
2	IMP SR-78	Imperial/Westmoreland	0.87	East/West	0.718	0.115	0.064	0.059	0.061	0.056
3	LA I-110	Los Angeles/Carson	4.01	North/South	5.239	0.825	0.795	0.779	0.788	0.785
4	LA I-710	Los Angeles/Compton	2.10	North/South	5.004	1.023	1.017	1.012	1.025	1.018
5	LA SR-60 DB	Los Angeles/Diamond Bar	7.20	East/West	14.22	1.749	1.636	1.673	1.645	1.654
6	LA SR-60 SEM	Los Angeles/ South El Monte	8.31	East/West	5.595	0.699	0.622	0.62	0.641	0.641
7	ORA I-5	Orange/ Orange	7.11	North/South	5.64	0.484	0.497	0.496	0.505	0.504
8	ORA I-405	Orange/ Seal Beach	4.90	North/South	7.339	0.789	0.771	0.761	0.768	0.766
9	RIV I-10	Riverside/ Banning	9.97	East/West	16.143	2.462	2.472	2.391	2.391	2.391
10	RIV SR-15	Riverside/ Temecula	10.64	North/South	8.712	1.548	1.534	1.527	1.53	1.529
11	RIV SR-91	Riverside/ Corona	6.53	East/West	8.69	1.008	1.018	1.009	1.005	1.004
12	SB I-15 ONT	San Bernardino/Ontario	5.90	North/South	6.768	0.939	0.997	0.97	0.977	0.971
13	SB I-15 VIC	San Bernardino/ Victorville	4.53	North/South	9.168	1.78	1.784	1.81	1.797	1.795
14	SB SR-60	San Bernardino/ Ontario	8.76	East/West	9.976	1.378	1.334	1.357	1.332	1.336
15	VEN US-101 SB	Ventura/ San Buenaventura	3.37	North/South	4.016	0.671	0.656	0.66	0.658	0.658
16	VEN US-101 TO	Ventura/ Thousand Oaks	1.73	North/South	1.885	0.257	0.288	0.287	0.289	0.287

Source: Impact Sciences, 2019

1.1.3 Sensitive Receptors

Health risks are assessed at locations where persons would be exposed to DPM emissions. Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the level of activity. CARB has identified the following groups who are most likely to be affected by air pollution: children under 14 years of age, the elderly over 65 years of age, athletes, and people with cardiovascular and chronic respiratory diseases.[14] The South Coast Air Quality Management District (SCAQMD), the largest air district in the SCAG region, defines sensitive receptors as residences, schools, playgrounds, childcare centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes.[15] [16]

The HRA evaluates the health risk posed to residential, worker, school children, day care, and retirement home receptors within 1,000 meters of the perimeter of the 16 freeway segments, beginning at 100 meters away from the perimeter of the transportation segment. According to CARB, there is a drop of 70 percent in particulate pollution concentrations at 500 feet (152 meters) from freeways and high-traffic roads.[17] Therefore evaluating sensitive receptors within 1,000 meters of the transportation segment will ensure that the health risk impacts resulting from freeway traffic will be captured.

Sensitive receptors were identified through Google Earth. In areas where there were multiple residences and work locations, receptors were placed in a grid pattern with 100-meter spacing out to 500 meters and 250-meter spacing out to 1,000 meters from the transportation segment and the most impacted of each receptor was evaluated in the HRA. If any receptors were found to be closer than 100 meters, these receptors were also evaluated. Additionally, if any school, day care, or retirement home were not located on the grid pattern, these receptors were added to the evaluation.

1.2 Meteorological Data

To run the AERMOD dispersion model, worst-case meteorological data provided by the relevant Air District – SCAQMD, VAPCD, IAPCD, and MDAQMD – were used as shown in **Table 3, Meteorological**

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14 CARB. *Sensitive Receptor Assessment.* Available online at: https://ww2.arb.ca.gov/capp-resource-center/community-assessment/sensitive-receptor-assessment, accessed November 6, 2019.

15 SCAQMD. 2005. *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning.* May.

16 Other air districts in the SCAG region include the Ventura County Air Pollution Control District (VCAPCD), Imperial County Air Pollution Control District (ICAPCD), and the Mojave Desert Air Quality Management District (MDAQMD).

17 CARB. 2005. *Air Quality and Land Use Handbook: A Community Health Perspective, California Air Resources Board.* April.

Data Used for Dispersion Modeling. The nearest representative meteorological station to each of the transportation segments was used.

Table 3
Meteorological Data Used for Dispersion Modeling

Segment No.	Transportation Segment	County/Region	Meteorological Data Site	Years of Meteorological Data
1	IMP I-8	Imperial/El Centro	Imperial County Airport	2009-2014
2	IMP SR-78	Imperial/Westmoreland	Imperial County Airport	2009-2014
3	LA I-110	Los Angeles/Carson	Long Beach Airport	2012-2016
4	LA I-710	Los Angeles/Compton	Long Beach Airport	2012-2017
5	LA SR-60 DB	Los Angeles/Diamond Bar	Pico Rivera	2010-2012, 2015-2016
6	LA SR-60 SEM	Los Angeles/ South El Monte	Pico Rivera	2010-2012, 2015-2016
7	ORA I-5	Orange/ Orange	Fullerton Airport	2012-2016
8	ORA I-405	Orange/ Seal Beach	Long Beach Airport	2012-2016
9	RIV I-10	Riverside/ Banning	Banning	2011-2015
10	RIV SR-15	Riverside/ Temecula	Lake Elsinore	2012-2016
11	RIV SR-91	Riverside/ Corona	Fullerton Airport	2012-2016
12	SB I-15 ONT	San Bernardino/Ontario	Fontana	2011-2013, 2015-2016
13	SB I-15 VIC	San Bernardino/ Victorville	Sothern California Logistics Airport	2009-2014
14	SB SR-60	San Bernardino/ Ontario	Upland	2012-2016
15	VEN US-101 SB	Ventura/ San Buenaventura	Oxnard Airport	2009-2014
16	VEN US-101 TO	Ventura/ Thousand Oaks	Oxnard Airport	2009-2014

Source:
CARB, 2019. Meteorological Data. Available online at: https://ww3.arb.ca.gov/toxics/harp/metfiles2.htm.
SCAQMD. 2019. AERMOD Table 1, Meteorological Sites. Available online at: http://www.aqmd.gov/home/air-quality/meteorological-data/aermod-table-1.

Each segment was modeled as a series of volume sources for each direction of the freeway. A release height of two meters was chosen to represent the average height of exhaust tailpipes for HDDTs (HDDT represent the majority of diesel exhaust emissions from the corridors). No elevated or depressed transportation segments were modeled (i.e. assumed the segments would not include an overpass or off-ramp). Instead, the mean sea level elevations of each transportation segment was used in the model. This information was obtained from the United States Geological Survey digital elevation models/geographic information system (USGS DEM/GIS) data.

As previously discussed, one-mile portions of each transportation segment were modeled. The one-mile portion modeled represents the area of the segment with the densest number of sensitive receptors. Since DPM emissions were calculated through EMFAC2014 as grams per mile, the one-mile segment modeled will yield the same results as if a longer portion were modeled.

For the purposes of the dispersion model, unit emission rates, as in one gram per second (g/sec) for each direction were entered into the model. The concentrations modeled within AERMOD can then be multiplied by the emissions rate for the transportation segment to obtain the impact concentration, see **Attachment B, Health Risk Calculations for Each Transportation Segment, Receptor, and Evaluation Simulation**.

2.0 HEALTH RISK ASSESSMENT CALCULATIONS

The DPM concentrations determined by the dispersion model at the receptors of interest were used to evaluate the potential carcinogenic risk of the six simulations. This HRA evaluated the cancer risk posed to nearby sensitive receptors as the greatest potential health impact to receptors located near freeways is DPM.[18] Potential risk to five types of exposure at five different receptors were analyzed:

1. Residences
2. Workplace
3. Day care centers
4. Schools
5. Senior center facilities

2.1 Residential Health Risk Assessment

For a given ambient concentration of DPM, the potential cancer risk is a function of the types of persons exposed (e.g., adults, children, infants, pregnant women) and the duration of exposure. OEHHA has published guidelines for calculating potential cancer risks. The most recent version Air Toxic Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments[19] (OEHHA 2015 Guidance) released in February 2015 was used to calculate the DPM cancer risk for each of the segments. Cancer risk

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18 CARB. *Overview: Diesel Exhaust & Health.* Available online at: https://ww2.arb.ca.gov/resources/overview-diesel-exhaust-and-health, accessed November 12, 2019.

19 OEHHA. 2015. *The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*. Available at: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf, accessed August 6, 2019.

calculations were performed consistent with the CARB Hotspots Analysis and Reporting Program (HARP) Risk Assessment Standalone Tool (RAST).[20] The risk calculations were conducted outside of the RAST model due to the volume of data and need to make adjustments to large datasets. Consistent with the Guidance, potential cancer risk is calculated by first determining the dose of DPM and then multiplying the dose times the exposure duration and cancer potency factor, as shown in the following equation:

Inhalation Dose for Cancer Risk Assessment

$$Dose - air = C_{air} \times \{BR/BW\} \times A \times EF \times 10^{-6}$$

Where,

$Dose - air$ = *dose through inhalation, mg/kg/d*

C_{air} = *Concentration in air*

$\{BR/BW\}$ = *Daily Breathing rate normalized to body weight, L/kg body weight-day*

A = *Inhalation absorption factor (unitless)*

EF = *Exposure frequency (unitless), days/365 days*

10^{-6} = *Micrograms to milligrams conversion, liters to cubic meters conversion*

The OEHHA 2015 Guidance recommends that when conducting Tier 1 residential health risk assessments, an absorption rate of 1 should be used and an exposure frequency of 0.96 (assuming a resident is home 350 out of 365 days of the year). Consistent with SCAQMD's Risk Assessment Procedures for Rules 1401, 1401.1, and 212,[21] 95th percentile breathing rates were used for the 3rd trimester and infant receptor (0 to 2 years). In order to provide a conservative analysis and demonstrate consistency with the 2016-2040 RTP/SCS PEIR's HRA, the 95th percentile breathing rates for children and adult receptors were also used.[22] The breathing rates are summarized in **Table 4, Residential Cancer**

20 CARB. 2015. *User Manual for the Hotspots Analysis and Reporting Program Air Dispersion Modeling and Risk Assessment Tool Version 2.* Available at: https://ww3.arb.ca.gov/toxics/harp/docs2/harp2admrtuserguide.pdf, accessed November 20, 2019.

21 SCAQMD. 2017. *Risk Assessment Procedures for Rules 1401,1401.1, and 212.* Available at: http://www.aqmd.gov/docs/default-source/permitting/rule-1401-risk-assessment/riskassessproc-v8-1.pdf?sfvrsn=12, accessed August 6, 2019.

22 OEHHA. 2015. *The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments.* See Table 5.6. Available at: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf, accessed August 6, 2019.

Risk Assumptions. In order to calculate the health risk, the inhalation dose found in the equation above is multiplied by the cancer potency factor of the pollutant (DPM), age sensitivity factors, and the exposure duration, as shown in the equation below.

Cancer Risk

$$RISK_{inh\text{-}res} = DOSE_{air} \times CPF \times ASF \times ED/AT \times FAH$$

Where,

$RISK_{inh\text{-}res}$ = *Residential inhalation cancer risk*

$DOSE_{air}$ = *Daily inhalation dose (mg/kg-day)*

CPF = Inhalation cancer potency factor $(mg/kg\text{-}day^{-1})$

ASF = Age sensitivity factor for a specified age group (unitless)

ED = Exposure duration (in years) for a specific age group

AT = Averaging time for lifetime cancer risk (years)

FAH = Fraction of time spent at home (unitless)

OEHHA's 2015 Guidance recommends the following exposure durations: 0.25 years for the third trimester, 2 years for infants (0 to 2 years), 7 years for children (2 to 9 years) when conducting a 9-year HRA, 14 years for children (2 to 16 years) when conducting a 30-year or 70-year HRA, 14 years for adults (16 to 30 years) for a 30-year HRA, and 54 years for adults (16 to 70 years) for 70-year HRA. The Inhalation Cancer Potency Factor (CPF) for diesel exhaust is approximately 1.1.[23] OEHHA 2015 Guidance recommends age sensitivity factors (ASF), see **Table 4, Residential Cancer Risk Assumptions**, in order to account for the heightened sensitivity of children. Moreover, OEHHA and CARB recommend fraction of time at home (FAH) values, see **Table 4, Residential Cancer Risk Assumptions**. The SCAMQD recommends for the 3rd trimester (0.25 years) through childhood (2 to 16 years), the receptor spends 100 percent time at home and an adult receptor (16 to 30 years and 16 to 70 years) spends approximately 73

23 OEHHA. 2015. *The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments.* See Table 7.1. Available at: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf, accessed August 6, 2019.

percent of the time at home. [24] The cancer risk assumptions are consistent with those used in the 2016-2040 RTP/SCS in order to provide a conservative analysis.

Table 4
Residential Cancer Risk Assumptions

Receptor Scenario	EF	ED (years)	ASFs	FAH	DBR (L/kg-day)
3rd Trimester	350	0.25	10	1	361
0 to 2 Years	350	2	10	1	1090
2 to 9 Years	350	7	3	1	861
2 to 16 Years	350	14	3	1	745
16 to 30 Years	350	14	1	0.73	335
16 to 70 Years	350	54	1	0.73	290

Source:
OEHHA 2015 Guidance;
SCAQMD. 2017. Rule 1401, 1401.1, and 212.

OEHHA's 2015 Guidance recommends that the cancer risk for the maximally exposed individual residential receptor (MEIR) be calculated assuming a 30-year exposure period, starting in the 3rd trimester of life. Calculating the 9-year and 70-year cancer risks are recommended as well to show the range of cancer risks that the MEIR may be exposed to over a range of residency periods. These cancer risk durations show the average (9 year), high-end estimates (30 years) of residence time, and a lifetime residency (70 years).[25]

2.2 Workplace Health Risk Assessment

Cancer risk can also increase due to exposure at the workplace over time. In order to calculate the cancer risk posed to the maximally exposed individual worker (MEIW), OEHHA recommends using an exposure duration of 25 years, starting at age 16. The daily inhalation dose of a pollutant is calculated based on an adjusted 8-hour concentration for non-continuous sources and the amount of time the MEIW's schedule overlaps with the emission schedule. However, for the purpose of this calculation, it is assumed that freeway segments would be continuous sources of DPM emissions. Additionally, the MEIW is assumed to have a daily breathing rate of 230 L/kg-day and an EF that assumes the MEIW will

24 SCAQMD. 2017. *Risk Assessment Procedures for Rules 1401,1401.1, and 212.* Available at: http://www.aqmd.gov/docs/default-source/permitting/rule-1401-risk-assessment/riskassessproc-v8-1.pdf?sfvrsn=12, accessed August 6, 2019.

25 OEHHA. 2015. *The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments.* Available at: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf, accessed August 6, 2019.

be at work 5 days per week and 50 weeks per year (250 days per year). The worker cancer risk does not include a FAH value as the FAH only applies to residential receptors. The assumptions used to calculate the worker cancer risk are summarized in **Table 5, Worker Cancer Risk Assumptions.** The cancer risk assumptions are consistent with those used in the 2016-2040 RTP/SCS.

Table 5
Worker Cancer Risk Assumptions

Receptor Scenario	EF	ED (years)	ASFs	DBR (L/kg-day)
Worker	250	25	1	230

Source:
OEHHA 2015 Guidance.

2.3 Day Care Center Health Risk Assessment

Infants and children who attend day care centers could also be exposed to DPM from the freeway segments. The risk is calculated similarly to the residential cancer risk, with input factors changed to reflect children and day care exposure. Exposure duration is assumed to be 250 days per year over a period of six years. OEHHA 2015 Guidance recommends for children and schools and day cares that the 95th percentile breathing rates under moderate intensity of 1,200 L/kg-day and 640 L/kg-day for infants (0 to 2 years) and children (2 to 9 years), respectively. [26] The assumptions used to calculate the day care center cancer risk are summarized in **Table 6, Day Care Center Cancer Risk Assumptions.** The risk associated with adult workers at these facilities are summarized in **Table 5**, above. The cancer risk assumptions are consistent with those used in the 2016-2040 RTP/SCS in order to provide a conservative analysis.

Table 6
Day Care Center Cancer Risk Assumptions

Receptor Scenario	EF	ED (years)	ASFs	DBR (L/kg-day)
Infant (0 to 2 years)	250	2	10	1,200
Child (2 to 9 Years)	250	4	3	640

Source: OEHHA 2015 Guidance

26 OEHHA. 2015. *The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*. See Table 5.8. Available at: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf, accessed August 6, 2019.

2.4 School Health Risk Assessment

In order to calculate the maximally exposed individual school child (MEISC) receptor, it is assumed that the receptor attends elementary, middle, and/or high school near the transportation segment. The risk is calculated similarly to the residential cancer risk with the input factors changed to reflect school child exposure. Exposure duration is assumed to be 165 days of the year, where a student attends school 5 days per week for approximately 36 weeks over a seven-year period. OEHHA 2015 Guidance recommends that a 95th percentile breathing rate under moderate intensity of 520 L/kg-day be used to estimate the risk to the school child (2 to 16 years).[27] The assumptions used to calculate the day care center cancer risk are summarized in **Table 7, School Child Cancer Risk Assumptions.** The cancer risk assumptions are consistent with those used in the 2016-2040 RTP/SCS in order to provide a conservative analysis.

Table 7
School Child Cancer Risk Assumptions

Receptor Scenario	EF	ED (years)	ASFs	DBR (L/kg-day)
Child (2 to 16 Years)	165	7	3	520

Source: OEHHA 2015 Guidance

2.5 Senior Care Center Health Risk Assessment

According to CARB, elderly adults are identified as sensitive receptors that may be exposed to DPM emissions from the freeway segments. The risk is calculated similarly to the residential cancer risk, assuming that an adult receptor would only be exposed over a 30-year period. Consistent with the HRA conducted in the 2016-2040 RT/SCS PEIR, this HRA also assumes that the receptor would not leave the senior center, therefore the receptor would have an Exposure Frequency (EF) of 365 days and a Fraction of Time at Home factor of 1. The assumptions used to calculate the day care center cancer risk are summarized in **Table 8, Senior Care Cancer Risk Assumptions.** The cancer risk assumptions are consistent with those used in the 2016-2040 RTP/SCS in order to provide a conservative analysis.

27 *Ibid.*

Table 8
Senior Care Cancer Health Risk Assumptions

Receptor Scenario	EF	ED (Years)	ASFs	DBR (L/kg-day)
Adult (16 to 70 Years)	365	30	1	290

Source: OEHHA 2015 Guidelines

3.0 HEALTH RISK ASSESSMENT RESULTS

3.1 Maximum Exposed Individual Receptor

The residential risk for Simulations 2 through 6 ranges from 4.8 in a million to 41.3 in a million-cancer risk for 30-year exposure (**Table 9**). The residential risk for Simulations 2 through 6 from 3.4 in a million to 29.3 in a million-cancer risk for 9-year exposure (**Table 10**). The residential risk for Simulations 2 through 6 from 4.7 in a million to 47.0 in a million-cancer risk for 70-year exposure (**Table 11**). Risk calculation details are provided in **Attachments A** and **B** and the AERMOD output files showing the receptor concentrations are in **Attachment C, AERMOD Output Files**.

The MEIR risk results for each of the sixteen segments and evaluated simulations are summarized below in **Table 9, Maximum Exposed Individual Residential Cancer Risk for 30-year Exposure**; **Table 10, Maximum Exposed Individual Residential Cancer Risk for 9-Year Exposure**; and **Table 11, Maximum Exposed Individual Residential Cancer Risk for 70-Year Exposure**. The results are expressed as the total cancer risk per million exposed persons resulting from DPM on each corridor. The incremental risk compared to existing conditions can be derived by subtracting the existing conditions cancer risk from each future scenario.

3.2 Maximum Exposed Worker Receptor

The MEIW risk results for each of the segments and evaluated simulations are summarized in **Table 12, Maximum Exposed Worker Receptor Cancer Risk**. The results are expressed as the total cancer risk per million exposed persons. The worker risk for Simulations 2 through 6 ranges from 0.3 in a million to 6.1 in a million. Risk calculations are provided in **Attachments A** and **B** and AERMOD output files showing the receptor concentrations are contained in **Attachment C**.

Table 9
Maximum Exposed Individual Residential Cancer Risk for 30-Year Exposure

Segment No.	Transportation Segment	County/Region	Simulation 1 Existing Conditions (2019)	Simulation 2 No Project Alternative (2045)	Simulation 3 Local Input Alternative (2045)	Simulation 4 Connect SoCal Plan (2045)	Simulation 5 PEIR Intensified Land Use (2045)	Simulation 6 Accelerated Tomorrow (2045)
1	IMP I-8	Imperial/El Centro	24.5	14.2	14.6	14.5	14.2	14.2
2	IMP SR-78	Imperial/Westmoreland	64.6	37.1	20.8	18.9	19.6	18.3
3	LA I-110	Los Angeles/Carson	69.4	24.8	24.0	23.5	23.7	23.7
4	LA I-710	Los Angeles/Compton	63.8	31.2	31.1	30.9	31.3	31.1
5	LA SR-60 DB	Los Angeles/Diamond Bar	106.6	31.1	29.1	29.7	29.2	29.4
6	LA SR-60 SEM	Los Angeles/ South El Monte	64.4	18.4	16.4	16.3	16.9	16.9
7	ORA I-5	Orange/ Orange	24.8	5.36	5.5	5.5	5.6	5.6
8	ORA I-405	Orange/ Seal Beach	43.3	12.2	11.9	11.8	11.9	11.8
9	RIV I-10	Riverside/ Banning	10.5	5.0	5.0	4.8	4.8	4.8
10	RIV SR-15	Riverside/ Temecula	16.7	9.7	9.6	9.5	9.5	9.5
11	RIV SR-91	Riverside/ Corona	22.6	8.4	8.5	8.4	8.4	8.4
12	SB I-15 ONT	San Bernardino/Ontario	40.4	10.4	11.1	10.5	10.9	10.8
13	SB I-15 VIC	San Bernardino/ Victorville	109.9	40.6	40.7	41.3	41.0	40.9
14	SB SR-60	San Bernardino/ Ontario	71.9	19.1	18.5	18.8	18.5	18.5
15	VEN US-101 SB	Ventura/ San Buenaventura	21.2	4.9	4.8	4.9	4.9	4.8
16	VEN US-101 TO	Ventura/ Thousand Oaks	102.5	19.6	22.0	21.9	22.0	21.9

Source: Impact Sciences, 2019
Note: Unites are the amount of persons out of one million at risk to develop cancer related to vehicle exhaust

Table 10
Maximum Exposed Individual Residential Cancer Risk for 9-Year Exposure

Segment No.	Transportation Segment	County/Region	Simulation 1 Existing Conditions (2019)	Simulation 2 No Project Alternative (2045)	Simulation 3 Local Input Alternative (2045)	Simulation 4 Connect SoCal Plan (2045)	Simulation 5 PEIR Intensified Land Use (2045)	Simulation 6 Accelerated Tomorrow (2045)
1	IMP I-8	Imperial/El Centro	17.4	10.1	10.4	10.3	10.8	10.1
2	IMP SR-78	Imperial/Westmoreland	45.9	26.3	14.8	13.5	13.9	13.0
3	LA I-110	Los Angeles/Carson	49.3	17.7	17.0	16.7	16.9	16.8
4	LA I-710	Los Angeles/Compton	45.3	22.2	22.1	21.2	22.2	22.1
5	LA SR-60 DB	Los Angeles/Diamond Bar	75.7	22.1	20.6	21.1	20.7	20.9
6	LA SR-60 SEM	Los Angeles/ South El Monte	45.8	13.1	11.6	11.6	12.0	12.0
7	ORA I-5	Orange/ Orange	17.6	3.8	3.9	3.9	4.0	4.0
8	ORA I-405	Orange/ Seal Beach	30.8	8.7	8.5	8.4	8.4	8.4
9	RIV I-10	Riverside/ Banning	7.4	3.5	3.6	3.4	3.4	3.4
10	RIV SR-15	Riverside/ Temecula	11.9	6.9	6.8	6.8	6.8	6.8
11	RIV SR-91	Riverside/ Corona	16.0	6.0	6.0	6.0	6.0	6.0
12	SB I-15 ONT	San Bernardino/Ontario	28.7	7.4	7.9	7.4	7.7	7.7
13	SB I-15 VIC	San Bernardino/ Victorville	78.1	28.8	28.9	29.3	29.1	29.1
14	SB SR-60	San Bernardino/ Ontario	51.1	13.6	13.1	13.4	13.1	13.2
15	VEN US-101 SB	Ventura/ San Buenaventura	15.0	3.5	3.42	3.4	3.4	3.4
16	VEN US-101 TO	Ventura/ Thousand Oaks	72.8	13.9	15.6	15.6	15.6	15.6

Source: Impact Sciences, 2019
Note: Units are the amount of persons out of one million at risk to develop cancer related to vehicle exhaust.

Table 11
Maximum Exposed Individual Residential Cancer Risk for 70-Year Exposure

Segment No.	Transportation Segment	County/Region	Simulation 1 Existing Conditions (2019)	Simulation 2 No Project Alternative (2045)	Simulation 3 Local Input Alternative (2045)	Simulation 4 Connect SoCal Plan (2045)	Simulation 5 PEIR Intensified Land Use (2045)	Simulation 6 Accelerated Tomorrow (2045)
1	IMP I-8	Imperial/El Centro	28.0	16.2	16.7	16.6	16.2	16.2
2	IMP SR-78	Imperial/Westmoreland	73.6	42.3	23.8	21.6	22.4	20.8
3	LA I-110	Los Angeles/Carson	79.1	28.3	27.3	26.7	27.0	26.9
4	LA I-710	Los Angeles/Compton	72.7	35.6	35.4	35.2	35.7	35.4
5	LA SR-60 DB	Los Angeles/Diamond Bar	121.5	35.4	33.1	33.9	33.3	33.5
6	LA SR-60 SEM	Los Angeles/ South El Monte	73.4	21.0	18.7	18.6	19.3	19.3
7	ORA I-5	Orange/ Orange	28.2	6.1	6.3	6.3	6.4	6.4
8	ORA I-405	Orange/ Seal Beach	49.4	13.9	13.6	13.4	13.5	13.5
9	RIV I-10	Riverside/ Banning	11.9	5.7	5.7	5.5	5.5	5.5
10	RIV SR-15	Riverside/ Temecula	19.1	11.0	10.9	10.8	10.9	10.9
11	RIV SR-91	Riverside/ Corona	25.7	9.6	9.7	9.6	9.6	9.5
12	SB I-15 ONT	San Bernardino/Ontario	46.0	11.9	12.7	11.9	12.4	12.3
13	SB I-15 VIC	San Bernardino/ Victorville	125.3	46.2	46.3	47.0	4.7	4.7
14	SB SR-60	San Bernardino/ Ontario	81.9	21.8	21.1	21.4	21.1	21.1
15	VEN US-101 SB	Ventura/ San Buenaventura	24.1	5.6	5.5	5.5	5.5	5.5
16	VEN US-101 TO	Ventura/ Thousand Oaks	111.7	22.3	25.1	25.0	25.1	25.0

Source: Impact Sciences, 2019
Note: Units are the amount of persons out of one million at risk to develop cancer related to vehicle exhaust.

Table 12
Maximum Exposed Worker Receptor Cancer Risk

Segment No.	Transportation Segment	County/Region	Simulation 1 Existing Conditions (2019)	Simulation 2 No Project Alternative (2045)	Simulation 3 Local Input Alternative (2045)	Simulation 4 Connect SoCal Plan (2045)	Simulation 5 PEIR Intensified Land Use (2045)	Simulation 6 Accelerated Tomorrow (2045)
1	IMP I-8	Imperial/El Centro	1.5	0.9	0.9	0.9	0.9	0.9
2	IMP SR-78	Imperial/Westmoreland	3.7	2.1	1.2	1.1	1.1	1.1
3	LA I-110	Los Angeles/Carson	5.0	1.8	1.7	1.7	1.7	1.7
4	LA I-710	Los Angeles/Compton	2.6	1.3	1.2	1.3	1.3	1.3
5	LA SR-60 DB	Los Angeles/Diamond Bar	1.0	0.3	0.3	0.3	0.3	0.3
6	LA SR-60 SEM	Los Angeles/ South El Monte	2.4	0.7	6.1	0.6	0.6	0.6
7	ORA I-5	Orange/ Orange	1.3	2.8	0.3	0.3	0.3	0.3
8	ORA I-405	Orange/ Seal Beach	3.1	0.9	0.8	0.8	0.8	0.8
9	RIV I-10	Riverside/ Banning	1.6	0.8	0.8	0.8	0.8	0.8
10	RIV SR-15	Riverside/ Temecula	1.5	0.8	0.8	0.8	0.8	0.8
11	RIV SR-91	Riverside/ Corona	2.4	0.9	0.9	0.9	0.9	0.9
12	SB I-15 ONT	San Bernardino/Ontario	3.6	0.9	1.0	0.9	1.0	1.0
13	SB I-15 VIC	San Bernardino/ Victorville	4.2	1.5	1.5	1.6	1.6	1.6
14	SB SR-60	San Bernardino/ Ontario	4.1	1.1	1.1	1.1	1.1	1.1
15	VEN US-101 SB	Ventura/ San Buenaventura	5.1	1.2	1.2	1.2	1.2	1.2
16	VEN US-101 TO	Ventura/ Thousand Oaks	1.4	0.3	0.3	0.3	0.3	0.3

Source: Impact Sciences, 2019
Note: Units are the amount of persons out of one million at risk to develop cancer related to vehicle exhaust.

3.3 Maximum Exposed School Child, Day Care, and Senior Care Receptors

The health risks were also calculated for the school child, day care, and senior care receptors. The risks associated with these receptors are shown in **Table 13, Maximum Exposed Cancer Risks for School Children**; **Table 14, Maximum Exposed Cancer Risks for Day Care Center Children**; and **Table 15, Maximum Exposed Cancer Risks for Senior Care Centers**. The school child risk for Simulations 2 through 6 ranges from <0.01 to 1.82 in a million (**Table 13**). The day care risk for Simulations 2 through 6 ranges from 0.13 to 5.01 in a million (**Table 14**). The senior care risk for Simulations 2 through 6 from 0.09 to 4.19 in a million (**Table 15**). Risk calculations are provided in **Attachments A** and **B** and AERMOD output files showing the receptor concentrations are contained in **Attachment C**.

It should be noted that not all of the sixteen segments had school, day care, or retirement home receptors located within 1,000 meters of the transportation segment, these have been denoted as "no receptor" (NR) in the table.

Table 13
Maximum Exposed Cancer Risk for School Children

Segment No.	Transportation Segment	County/Region	Simulation 1 Existing Conditions (2019)	Simulation 2 No Project Alternative (2045)	Simulation 3 Local Input Alternative (2045)	Simulation 4 Connect SoCal Plan (2045)	Simulation 5 PEIR Intensified Land Use (2045)	Simulation 6 Accelerated Tomorrow (2045)
1	IMP I-8	Imperial/El Centro	0.15	0.08	0.09	0.09	0.08	0.08
2	IMP SR-78	Imperial/Westmoreland	0.74	0.43	0.24	0.22	0.23	0.21
3	LA I-110	Los Angeles/Carson	2.05	0.73	0.71	0.69	0.70	0.70
4	LA I-710	Los Angeles/Compton	2.07	1.01	0.96	1.00	1.02	1.01
5	LA SR-60 DB	Los Angeles/Diamond Bar	1.19	0.35	0.35	0.33	0.03	0.03
6	LA SR-60 SEM	Los Angeles/ South El Monte	1.63	0.47	0.42	0.41	0.43	0.43
7	ORA I-5	Orange/ Orange	0.13	0.03	0.03	0.03	0.03	0.03
8	ORA I-405	Orange/ Seal Beach	NR	NR	NR	NR	NR	NR
9	RIV I-10	Riverside/ Banning	0.32	0.02	0.02	0.01	0.02	0.01
10	RIV SR-15	Riverside/ Temecula	0.12	0.07	0.07	0.07	0.07	0.07
11	RIV SR-91	Riverside/ Corona	NR	NR	NR	NR	NR	NR
12	SB I-15 ONT	San Bernardino/Ontario	NR	NR	NR	NR	NR	NR
13	SB I-15 VIC	San Bernardino/ Victorville	4.89	1.80	1.81	1.83	1.82	1.82
14	SB SR-60	San Bernardino/ Ontario	1.35	0.04	0.03	0.04	0.03	0.03
15	VEN US-101 SB	Ventura/ San Buenaventura	0.08	<0.01	<0.01	<0.01	<0.01	<0.01
16	VEN US-101 TO	Ventura/ Thousand Oaks	0.39	0.01	0.01	0.01	0.01	0.01

Source: Impact Sciences, 2019
Note: Units are the amount of persons out of one million at risk to develop cancer related to vehicle exhaust.

Table 14
Maximum Exposed Cancer Risk for Day Care Attendee

Segment No.	Transportation Segment	County/Region	Simulation 1 Existing Conditions (2019)	Simulation 2 No Project Alternative (2045)	Simulation 3 Local Input Alternative (2045)	Simulation 4 Connect SoCal Plan (2045)	Simulation 5 PEIR Intensified Land Use (2045)	Simulation 6 Accelerated Tomorrow (2045)
1	IMP I-8	Imperial/El Centro	8.39	4.85	5.01	4.98	4.85	4.87
2	IMP SR-78	Imperial/Westmoreland	4.61	2.65	1.49	1.35	1.40	1.31
3	LA I-110	Los Angeles/Carson	2.22	0.79	0.77	0.75	0.76	0.76
4	LA I-710	Los Angeles/Compton	9.57	4.69	4.45	4.63	4.70	4.66
5	LA SR-60 DB	Los Angeles/Diamond Bar	17.01	4.96	4.64	4.47	4.66	4.69
6	LA SR-60 SEM	Los Angeles/ South El Monte	4.62	1.32	1.18	1.17	1.21	1.21
7	ORA I-5	Orange/ Orange	0.65	0.13	0.14	0.14	0.14	0.14
8	ORA I-405	Orange/ Seal Beach	NR	NR	NR	NR	NR	NR
9	RIV I-10	Riverside/ Banning	1.74	0.83	0.83	0.80	0.80	0.80
10	RIV SR-15	Riverside/ Temecula	6.26	3.61	3.56	3.56	3.56	3.56
11	RIV SR-91	Riverside/ Corona	NR	NR	NR	NR	NR	NR
12	SB I-15 ONT	San Bernardino/Ontario	NR	NR	NR	NR	NR	NR
13	SB I-15 VIC	San Bernardino/ Victorville	4.03	1.49	1.49	1.51	1.50	1.50
14	SB SR-60	San Bernardino/ Ontario	5.93	1.58	1.52	1.55	1.52	1.53
15	VEN US-101 SB	Ventura/ San Buenaventura	8.31	0.19	0.19	0.19	0.19	0.19
16	VEN US-101 TO	Ventura/ Thousand Oaks	1.99	0.38	0.43	0.43	0.43	0.43

Source: Impact Sciences, 2019
Note: Units are the amount of persons out of one million at risk to develop cancer related to vehicle exhaust.

Table 15
Maximum Exposed Cancer Risk for a Retirement Home Resident

Segment No.	Transportation Segment	County/Region	Simulation 1 Existing Conditions (2019)	Simulation 2 No Project Alternative (2045)	Simulation 3 Local Input Alternative (2045)	Simulation 4 Connect SoCal Plan (2045)	Simulation 5 PEIR Intensified Land Use (2045)	Simulation 6 Accelerated Tomorrow (2045)
1	IMP I-8	Imperial/El Centro	NR	NR	NR	NR	NR	NR
2	IMP SR-78	Imperial/Westmoreland	NR	NR	NR	NR	NR	NR
3	LA I-110	Los Angeles/Carson	2.14	0.77	0.74	0.72	0.73	0.73
4	LA I-710	Los Angeles/Compton	1.28	0.63	0.60	0.62	0.61	0.63
5	LA SR-60 DB	Los Angeles/Diamond Bar	NR	NR	NR	NR	NR	NR
6	LA SR-60 SEM	Los Angeles/ South El Monte	1.01	0.29	0.26	0.26	0.26	0.26
7	ORA I-5	Orange/ Orange	9.40	2.03	2.09	2.08	2.12	2.11
8	ORA I-405	Orange/ Seal Beach	NR	NR	NR	NR	NR	NR
9	RIV I-10	Riverside/ Banning	0.20	0.09	0.09	0.09	0.09	0.09
10	RIV SR-15	Riverside/ Temecula	NR	NR	NR	NR	NR	NR
11	RIV SR-91	Riverside/ Corona	NR	NR	NR	NR	NR	NR
12	SB I-15 ONT	San Bernardino/Ontario	NR	NR	NR	NR	NR	NR
13	SB I-15 VIC	San Bernardino/ Victorville	11.10	4.12	4.13	4.19	4.15	4.15
14	SB SR-60	San Bernardino/ Ontario	NR	NR	NR	NR	NR	NR
15	VEN US-101 SB	Ventura/ San Buenaventura	6.00	1.40	1.37	1.37	1.37	1.37
16	VEN US-101 TO	Ventura/ Thousand Oaks	1.91	0.13	0.41	0.41	0.41	0.41

Source: Impact Sciences, 2019
Note: Units are the amount of persons out of one million at risk to develop cancer related to vehicle exhaust.

4.0 HEALTH RISK COMPARISON TO THE 2016-2040 AND 2012-2035 RTP/SCS PEIRS

In general, health risks along major freeway corridors across the region are expected to be lower than results analyzed in the 2016-2040 RTP. **Table 16, Health Risk Comparisons to the 2016-2040 and 2012-2035 RTP/SCS Plan Cancer Risks,** shows the 70-year residential health risks presented for the 2016-2040 RTP/SCS PEIR and the 2012-2035 RTP/SCS PEIR. The cancer risks shown in the table below is a 70-year residential risk because the 2012-2035 RTP/SCS PEIR risk assessment methodology was based on 70-year exposure. The exception to this is segment number two (Imperial/Westmoreland), which sees vehicle traffic approximately double (both LM and HD vehicles), with LM vehicles increasing from 13,739 to 24,905 and HD vehicles increasing from 2,337 to 4,914. This increase in vehicle traffic accounts for the single segment increase in risk.

Table 16
Health Risk Comparisons to the 2016-2040 and 2012-2035 RTP/SCS Plan Cancer Risks

Segment No.	Transportation Segment	County/Region	2012-2035 Preferred Plan[1]	2016-2040 Preferred Plan	2020-2045 Connect SoCal Plan
1	IMP I-8	Imperial/El Centro	399	21	16.6
2	IMP SR-78	Imperial/Westmoreland	N/A	10	21.6
3	LA I-110	Los Angeles/Carson	N/A	53	26.7
4	LA I-710	Los Angeles/Compton	475	63	35.2
5	LA SR-60 DB	Los Angeles/Diamond Bar	536	68	33.9
6	LA SR-60 SEM	Los Angeles/ South El Monte	N/A	50	18.6
7	ORA I-5	Orange/ Orange	462	37	6.3
8	ORA I-405	Orange/ Seal Beach	N/A	89	13.4
9	RIV I-10	Riverside/ Banning	N/A	17	5.5
10	RIV SR-15	Riverside/ Temecula	N/A	43	10.8
11	RIV SR-91	Riverside/ Corona	668	63	9.6
12	SB I-15 ONT	San Bernardino/Ontario	354	29	11.9
13	SB I-15 VIC	San Bernardino/ Victorville	N/A	73	47.0
14	SB SR-60	San Bernardino/ Ontario	714	44	21.4
15	VEN US-101 SB	Ventura/ San Buenaventura	N/A	13	5.5
16	VEN US-101 TO	Ventura/ Thousand Oaks	199	56	25.0

Source: SCAG. Draft 2012 PEIR, Appendix F Health Risk Assessment; SCAG. Draft 2016 PEIR, Appendix D Health Risk Technical Report.
**Not Available (N/A) denotes segment locations that were not evaluated within the 2012-2035 RTP/SCS PEIR.*
Note: Units are the amount of persons out of one million at risk to develop cancer related to vehicle exhaust.
The 2012 analysis was performed prior to the issuance of the 2015 OEHHA HRA Guidance Manual and therefore the results may not be directly comparable to the 2016 or 2019 analyses.

As illustrated **in Table 16**, 2045 cancer risk is further reduced compared to the 2016-2040 RTP. There are several reasons for the decrease in cancer risk. First, the emission factors for the HDDT traffic from the EMFAC2014 modeling used for both the 2040 Preferred Plan and 2045 Connect SoCal Plan health risks are significantly lower than the emission factors from the EMFAC2007 modeling used for the 2012-2035 RTP/SCS. Moreover, the 2045 emission factor estimates from EMFAC2014 are lower than the 2040 emissions factor estimates. Second, the VMT projections for each of the 2045 Plans are reduced as compared to previous years because they rely on updated modeling from SCAG. Finally, state and federal policy aimed at reducing vehicle emissions from both HD and LM traffic will result in a decrease in emissions in the future.

It is important to note that despite the reduction in cancer risk compared to existing conditions, the Plan would still result in exposing sensitive receptors to substantial pollutant concentrations, however such emissions would be substantially less than under existing conditions. As shown in the tables above emissions under the Plan, on all segments, would decrease substantially. Due to the substantial reduction in DPM emissions and associated health risk, overall risk is reduced. The total health risk in analyzed segments under the Plan (268.7 in one million) would be less than the No Project (290.71 in one million). Additionally, the total health (268.7 in one million) risk under the Plan would be less than under existing conditions (857.1 in one million).

Figure 1, Overview Freeway Segments Evaluated in HRA

Attachment A

DPM Emissions for Each Transportation Segment and Evaluation Simulation

IMP I-8

		LM	HD
Region Type:	County	48,711	8,016
Region:	Imperial	Segment Length	
Calendar Year:	2019	3.01	miles
Season:	Annual		

Vehicle Class	Fuel	Speed	VMT	Proportion	IMP I-8 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	353468.9029	0.996597332	7988.72	0.01840164	147.0056292	0.323				
HHDT	Gas	65	1206.8437	0.003402668		0.000793638			3.01	35	105	1.61166E-05
		HHDT Total	354675.7466				**Total HD Emissions**	**0.323**				1.61166E-05
LDA	Gas	65	598611.8344			0.001584447						
LDA	Dsl	65	5746.843085	0.0049433	240.7930772	0.014833761	3.571866857	0.008				
LDT1	Gas	65	42496.33613			0.00323407						
LDT1	Dsl	65	51.81772286	4.45724E-05	2.171165761	0.133377489	0.289584637	0.001				
LDT2	Gas	65	200108.3533			0.001686282						
LDT2	Dsl	65	328.9630459	0.000282966	13.78357177	0.005492446	0.075705524	0.000				
LHDT1	Gas	65	23440.77161			0.001506394						
LHDT1	Dsl	65	36142.48423	0.031088918	1514.372303	0.030916965	46.8197954	0.103				
LHDT2	Gas	65	4886.369366			0.001013972						
LHDT2	Dsl	65	11513.31587	0.009903485	482.4086401	0.020911196	10.08774177	0.022				
MCY	Gas	65	6462.426116			0.001784716						
MDV	Gas	65	165856.6013			0.001715857						
MDV	Dsl	65	2149.232563	0.00184872	90.05297601	0.013699343	1.233666573	0.003				
MH	Gas	65	1730.065935			0.003633941						
MH	Dsl	65	408.9351012	0.000351756	17.13440579	0.180480251	3.092421865	0.007				
MHDT	Dsl	65	45815.78204	0.039409663	1919.684073	0.001419119	2.724259967	0.006				
MHDT	Gas	65	7485.286485			0.09705685						
OBUS	Dsl	65	6122.991657	0.005266854	256.5537254	0.000868787	0.222890449	0.000				
OBUS	Gas	65	2714.536722			0.014253786						
SBUS	Dsl	65	0	0		0.035736923						
UBUS	Gas	65	222.0756676		0	0.000896434						
UBUS	Dsl	65	256.6924823	0.000220801	10.75543073	0.099749064	0.009641538	0.000	3.01	35	105	
							Total LM Emissions	**0.150**				7.46901E-06
							Total DPM Emissions	***0.473***		***TOTAL Emissions***		***2.36E-05***

IMP SR-78

Region Type:	County	LM	HD
Region:	Imperial	18,814	3,491
Calendar Year:	2019	Segment Length	
Season:	Annual	0.87	miles

Vehicle Class	Fuel	Speed	VMT	Proportion	IMP SR-78 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources*	Emissions (g/s)
HHDT	Dsl	65	353468.9	0.996597332	3479.12	0.01840164	64.02153838	0.141				
HHDT	Gas	65	1206.8437			0.000793638			0.87	54	54	1.36933E-05
		HHDT Total	354675.75				**Total HD Emissio**	**0.141**				1.36933E-05
LDA	Gas	65	598611.83			0.001584447						
LDA	Dsl	65	5746.8431	0.0049433	93.0032427	0.014833761	1.379587835	0.003				
LDT1	Gas	65	42496.336			0.00323407						
LDT1	Dsl	65	51.817723	4.45724E-05	0.838584973	0.133377489	0.111848358	0.000				
LDT2	Gas	65	200108.35			0.001686282						
LDT2	Dsl	65	328.96305	0.000282966	5.323728096	0.005492446	0.029240289	0.000				
LHDT1	Gas	65	23440.772			0.001506394						
LHDT1	Dsl	65	36142.484	0.031088918	584.9069102	0.030916965	18.08354644	0.040				
LHDT2	Gas	65	4886.3694			0.001013972						
LHDT2	Dsl	65	11513.316	0.009903485	186.32416	0.020911196	3.896261083	0.009				
MCY	Gas	65	6462.4261			0.001784716						
MDV	Gas	65	165856.6			0.001715857						
MDV	Dsl	65	2149.2326	0.00184872	34.78180884	0.013699343	0.476487916	0.001				
MH	Gas	65	1730.0659			0.003633941						
MH	Dsl	65	408.9351	0.000351756	6.617944827	0.180480251	1.194408347	0.003				
MHDT	Dsl	65	45815.782	0.039409663	741.4533916	0.001419119	1.052210528	0.002				
MHDT	Gas	65	7485.2865			0.09705685						
OBUS	Dsl	65	6122.9917	0.005266854	99.09059125	0.000868787	0.086088582	0.000				
OBUS	Gas	65	2714.5367			0.014253786						
SBUS	Dsl	65	0	0	0	0.035736923	0	0.000				
UBUS	Gas	65	222.07567			0.000896434						
UBUS	Dsl	65	256.69248	0.000220801	4.154147395	0.099749064	0.414372314	0.001	0.87	54	54	
							Total LM Emissio	**0.059**				5.71588E-06
							Total DPM Emiss	***0.200***	***TOTAL Emissions***			***1.94E-05***

*modeled for entire segment length in AERSCREEN

LA I-110

		LM	HD
Region Type:	County	340,176	31,325
Region:	Los Angeles (SC)	Segment Length	
Calendar Year:	2019	4.01	miles
Season:	Annual		

Vehicle Class	Fuel	Speed	VMT	Proportion	LA I-110 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	704291.2502	0.992165319	31079.58	0.021440115	666.3497477	1.466				
HHDT	Gas	65	5561.469586			0.000718674			4.01	29	116	6.61812E-05
		HHDT Total	709852.7198				**Total HD Emissions**	**1.466**				6.61812E-05
LDA	Gas	65	4431187.582			0.001647154						
LDA	Dsl	65	41278.75174	0.004654251	1583.264647	0.020140285	31.88740134	0.070				
LDT1	Gas	65	382686.0335			0.002936996						
LDT1	Dsl	65	456.8351383	5.1509E-05	17.52211231	0.129940434	2.276830872	0.005				
LDT2	Gas	65	1680915.694			0.001610703						
LDT2	Dsl	65	2959.095195	0.000333643	113.4973954	0.005062972	0.574634148	0.001				
LHDT1	Gas	65	215820.887			0.001406922						
LHDT1	Dsl	65	292180.5369	0.032943867	11206.71278	0.018951018	212.3786109	0.467				
LHDT2	Gas	65	53313.68422			0.0009825						
LHDT2	Dsl	65	142264.9191	0.016040618	5456.633436	0.014840051	80.97671596	0.178				
MCY	Gas	65	40419.34754			0.001874315						
MDV	Gas	65	1021563.082			0.001830843						
MDV	Dsl	65	17547.22181	0.00197848	673.0313968	0.006889903	4.637120932	0.010				
MH	Gas	65	14356.06309			0.002076982						
MH	Dsl	65	4380.687206	0.00049393	168.0231812	0.142415437	23.92909477	0.053				
MHDT	Dsl	65	407721.4759	0.04597131	15638.33622	0.000914564	14.30226353	0.031				
MHDT	Gas	65	52939.20564			0.091157047						
OBUS	Dsl	65	36840.38952	0.004153818	1413.029315	0.000707654	0.999936389	0.002				
OBUS	Gas	65	20992.3803			0.0008422						
SBUS	Dsl	65	0	0	0	0.034991116	0	0.000				
UBUS	Gas	65	2485.718017			0.001502012						
UBUS	Dsl	65	6732.341005	0.000759083	258.2218952	0.420834693	9.035472267	0.020	4.01	29	116	
							Total LM Emissions	**0.838**				3.78403E-05
							Total DPM Emissions	***2.304***		***TOTAL Emissions***		***1.04E-04***

LA I-710

Region Type:	County	LM	HD
Region:	Los Angeles (SC)	258,877	31,402
Calendar Year:	2019	Segment Length	
Season:	Annual	2.1	miles

Vehicle Class	Fuel	Speed	VMT	Proportion	LA I-710 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	704291.2502	0.992165319	31155.98	0.021440115	667.9877024	1.470				
HHDT	Gas	65	5561.469586			0.000718674			2.1	23	48	0.000159733
		HHDT Tota	709852.7198				**Total HD Emissions**	**1.470**				0.000159733
LDA	Gas	65	4431187.582			0.001647154						
LDA	Dsl	65	41278.75174	0.004654251	1204.878657	0.020140285	24.26659964	0.053				
LDT1	Gas	65	382686.0335			0.002936996						
LDT1	Dsl	65	456.8351383	5.1509E-05	13.33448529	0.129940434	1.732688801	0.004				
LDT2	Gas	65	1680915.694			0.001610703						
LDT2	Dsl	65	2959.095195	0.000333643	86.37254022	0.005062972	0.437301762	0.001				
LHDT1	Gas	65	215820.887			0.001406922						
LHDT1	Dsl	65	292180.5369	0.032943867	8528.409366	0.018951018	161.6220358	0.356				
LHDT2	Gas	65	53313.68422			0.0009825						
LHDT2	Dsl	65	142264.9191	0.016040618	4152.547194	0.014840051	61.62401021	0.136				
MCY	Gas	65	40419.34754			0.001874315						
MDV	Gas	65	1021563.082			0.001830843						
MDV	Dsl	65	17547.22181	0.00197848	512.182955	0.006889903	3.528890797	0.008				
MH	Gas	65	14356.06309			0.002076982						
MH	Dsl	65	4380.687206	0.00049393	127.8671543	0.142415437	18.21025665	0.040				
MHDT	Dsl	65	407721.4759	0.04597131	11900.91472	0.000914564	10.88415137	0.024				
MHDT	Gas	65	52939.20564			0.091157047						
OBUS	Dsl	65	36840.38952	0.004153818	1075.328036	0.000707654	0.760960598	0.002				
OBUS	Gas	65	20992.3803			0.0008422						
SBUS	Dsl	65	0	0	0	0.034991116	0	0.000				
UBUS	Gas	65	2485.718017			0.001502012						
UBUS	Dsl	65	6732.341005	0.000759083	196.5091881	0.420834693	0.295159094	0.001	2.1	23	48	
							Total LM Emissions	**0.623**				6.7759E-05
							Total DPM Emissions	***2.093***		***TOTAL Emissions***		***2.27E-04***

LA SR-60 DB

Region Type:	County	LM	HD
Region:	Los Angeles (SC)	789,087	88,034
Calendar Year:	2019	Segment Length	
Season:	Annual	7.2	miles

Vehicle Class	Fuel	Speed	VMT	Proportion	LA SR-60 DB Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	704291.25	0.992165319	87344.28	0.021440115	1872.671467	4.120				
HHDT	Gas	65	5561.46959			0.000718674			7.2	29	209	0.000103587
		HHDT Total	709852.72				**Total HD Emissions**	**4.120**				0.000103587
LDA	Gas	65	4431187.58			0.001647154						
LDA	Dsl	65	41278.7517	0.004654251	3672.609327	0.020140285	73.96739883	0.163				
LDT1	Gas	65	382686.034			0.002936996						
LDT1	Dsl	65	456.835138	5.1509E-05	40.64505149	0.129940434	5.281435615	0.012				
LDT2	Gas	65	1680915.69			0.001610703						
LDT2	Dsl	65	2959.0952	0.000333643	263.2734798	0.005062972	1.332946286	0.003				
LHDT1	Gas	65	215820.887			0.001406922						
LHDT1	Dsl	65	292180.537	0.032943867	25995.5769	0.018951018	492.6426349	1.084				
LHDT2	Gas	65	53313.6842			0.0009825						
LHDT2	Dsl	65	142264.919	0.016040618	12657.44352	0.014840051	187.8371016	0.413				
MCY	Gas	65	40419.3475			0.001874315						
MDV	Gas	65	1021563.08			0.001830843						
MDV	Dsl	65	17547.2218	0.00197848	1561.192811	0.006889903	10.75646679	0.024				
MH	Gas	65	14356.0631			0.002076982						
MH	Dsl	65	4380.68721	0.00049393	389.7538567	0.142415437	55.50696582	0.122				
MHDT	Dsl	65	407721.476	0.04597131	36275.3628	0.000914564	33.17615065	0.073				
MHDT	Gas	65	52939.2056			0.091157047						
OBUS	Dsl	65	36840.3895	0.004153818	3277.72407	0.000707654	2.319495806	0.005				
OBUS	Gas	65	20992.3803			0.0008422						
SBUS	Dsl	65	0	0	0	0.034991116	0	0.000				
UBUS	Gas	65	2485.71802			0.001502012						
UBUS	Dsl	65	6732.34101	0.000759083	598.9827049	0.420834693	0.899679013	0.002	7.2	29	209	
							Total LM Emissions	**1.900**				4.77766E-05
							Total DPM Emissions	***6.020***	***TOTAL Emissions***			***1.51E-04***

LA SR-60 SEM

		LM	HD
Region Type:	County	367,370	33,368
Region:	Los Angeles (SC)	Segment Length	
Calendar Year:	2019	8.31	miles
Season:	Annual		

Vehicle Class	Fuel	Speed	VMT	Proportion	LA SR-60 SEM Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	704291.2502	0.992165319	33106.57	0.021440115	709.8087273	1.562				
HHDT	Gas	65	5561.469586			0.000718674			8.31	26	216	3.79437E-05
		HHDT Total	709852.7198				**Total HD Emissions**	**1.562**				3.79437E-05
LDA	Gas	65	4431187.582			0.001647154						
LDA	Dsl	65	41278.75174	0.004654251	1709.832361	0.020140285	34.43651119	0.076				
LDT1	Gas	65	382686.0335			0.002936996						
LDT1	Dsl	65	456.8351383	5.1509E-05	18.92284699	0.129940434	2.458842944	0.005				
LDT2	Gas	65	1680915.694			0.001610703						
LDT2	Dsl	65	2959.095195	0.000333643	122.5704875	0.005062972	0.62057096	0.001				
LHDT1	Gas	65	215820.887			0.001406922						
LHDT1	Dsl	65	292180.5369	0.032943867	12102.58829	0.018951018	229.3563635	0.505				
LHDT2	Gas	65	53313.68422			0.0009825						
LHDT2	Dsl	65	142264.9191	0.016040618	5892.842016	0.014840051	87.45007332	0.192				
MCY	Gas	65	40419.34754			0.001874315						
MDV	Gas	65	1021563.082			0.001830843						
MDV	Dsl	65	17547.22181	0.00197848	726.8341806	0.006889903	5.007816886	0.011				
MH	Gas	65	14356.06309			0.002076982						
MH	Dsl	65	4380.687206	0.00049393	181.4551176	0.142415437	25.84200986	0.057				
MHDT	Dsl	65	407721.4759	0.04597131	16888.48002	0.000914564	15.44560038	0.034				
MHDT	Gas	65	52939.20564			0.091157047						
OBUS	Dsl	65	36840.38952	0.004153818	1525.988252	0.000707654	1.079872275	0.002				
OBUS	Gas	65	20992.3803			0.0008422						
SBUS	Dsl	65	0	0	0	0.034991116	0	0.000				
UBUS	Gas	65	2485.718017			0.001502012						
UBUS	Dsl	65	6732.341005	0.000759083	278.8644044	0.420834693	0.41885759	0.001	8.31	26	216	
							Total LM Emissions	**0.885**				2.14956E-05
							Total DPM Emissions	***2.446***		***TOTAL Emissions***		***5.94E-05***

ORA I-5

		LM	HD
Region Type:	County	488,850	33,264
Region:	Orange	Segment Length	
Calendar Year:	2019	7.11	miles
Season:	Annual		

Vehicle Class	Fuel	Speed	VMT	Proportion	ORA I-5 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	91375.35	0.992193863	33004.34	0.022234621	733.8389165	1.614				
HHDT	Gas	65	718.900299			0.000804361			7.11	14	100	8.51482E-05
		HHDT Total	92094.2503				**Total HD Emissions**	**1.614**				8.51482E-05
LDA	Gas	65	2284885.55			0.00155607						
LDA	Dsl	65	23090.0337	0.005496547	2686.987199	0.012819766	34.44654774	0.076				
LDT1	Gas	65	188655.136			0.002210392						
LDT1	Dsl	65	124.276547	2.95838E-05	14.46206161	0.106295788	1.537256237	0.003				
LDT2	Gas	65	899950.408			0.001461549						
LDT2	Dsl	65	1631.99531	0.000388494	189.9152921	0.00379919	0.721524311	0.002				
LHDT1	Gas	65	41067.1448			0.001213966						
LHDT1	Dsl	65	60992.7388	0.014519229	7097.724939	0.021781741	154.6008057	0.340				
LHDT2	Gas	65	9747.00966			0.000893972						
LHDT2	Dsl	65	26600.8363	0.006332289	3095.539292	0.01632083	50.52177075	0.111				
MCY	Gas	65	20627.615			0.001854439						
MDV	Gas	65	500022.439			0.001545028						
MDV	Dsl	65	8635.55838	0.002055682	1004.919918	0.005217167	5.242835119	0.012				
MH	Gas	65	3125.28922			0.001764503						
MH	Dsl	65	1280.27595	0.000304768	148.9857101	0.188207309	28.0401996	0.062				
MHDT	Dsl	65	111493.577	0.026540876	12974.50739	0.000841116	10.91307008	0.024				
MHDT	Gas	65	10015.391			0.093706877						
OBUS	Dsl	65	4234.11531	0.001007925	492.7239928	0.000731483	0.360419256	0.001				
OBUS	Gas	65	3462.95736			0.018524254						
SBUS	Dsl	65	0	0	0	0.034991116	0	0.000				
UBUS	Gas	65	494.455487			0.001537319						
UBUS	Dsl	65	688.31381	0.000163852	80.09907716	0.376511988	0.123137872	0.000	7.11	14	100	
							Total LM Emissions	**0.630**				3.32438E-05
							Total DPM Emissions	***2.245***	***TOTAL Emissions***			***1.18E-04***

ORA I-405

Region Type:	County	LM	HD
Region:	Orange	459,825	45,385
Calendar Year:	2019	Segment Length	
Season:	Annual	4.9	miles

Vehicle Class	Fuel	Speed	VMT	Proportion	ORA I-405 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	91375.35	0.992193863	45030.72	0.022234621	1001.240958	2.203				
HHDT	Gas	65	718.9003			0.000804361			4.9	21	103	0.000112382
		HHDT Total	92094.25				**Total HD Emissions**	**2.203**				0.000112382
LDA	Gas	65	2284885.5			0.00155607						
LDA	Dsl	65	23090.034	0.005496547	2527.44991	0.012819766	32.401317	0.071				
LDT1	Gas	65	188655.14			0.002210392						
LDT1	Dsl	65	124.27655	2.95838E-05	13.60339057	0.106295788	1.445983122	0.003				
LDT2	Gas	65	899950.41			0.001461549						
LDT2	Dsl	65	1631.9953	0.000388494	178.6392538	0.00379919	0.678684496	0.001				
LHDT1	Gas	65	41067.145			0.001213966						
LHDT1	Dsl	65	60992.739	0.014519229	6676.304326	0.021781741	145.4215311	0.320				
LHDT2	Gas	65	9747.0097			0.000893972						
LHDT2	Dsl	65	26600.836	0.006332289	2911.744615	0.01632083	47.52208906	0.105				
MCY	Gas	65	20627.615			0.001854439						
MDV	Gas	65	500022.44			0.001545028						
MDV	Dsl	65	8635.5584	0.002055682	945.2537616	0.005217167	4.931546811	0.011				
MH	Gas	65	3125.2892			0.001764503						
MH	Dsl	65	1280.2759	0.000304768	140.1398264	0.188207309	26.37533964	0.058				
MHDT	Dsl	65	111493.58	0.026540876	12204.15845	0.000841116	10.26511701	0.023				
MHDT	Gas	65	10015.391			0.093706877						
OBUS	Dsl	65	4234.1153	0.001007925	463.4689782	0.000731483	0.339019708	0.001				
OBUS	Gas	65	3462.9574			0.018524254						
SBUS	Dsl	65	0	0	0	0.034991116	0	0.000				
UBUS	Gas	65	494.45549			0.001537319						
UBUS	Dsl	65	688.31381	0.000163852	75.34327126	0.376511988	0.115826679	0.000	4.9	21	103	
							Total LM Emissions	**0.593**				3.02489E-05
							Total DPM Emissions	***2.796***		***TOTAL Emissions***		***1.43E-04***

RIV I-10

		LM	HD
Region Type:	County	634,254	143,445
Region:	Riverside (MD/SCAQMD)	Segment Length	
Calendar Year:	2019	9.97	miles
Season:	Annual		

Vehicle Class	Fuel	Speed	VMT	Proportion	RIV I-10 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	17600.07	0.99805905	143166.58	0.014451913	2069.030961	4.552				
HHDT	Gas	65	34.22725			0.000796647			9.97	34	339	7.04961E-05
		HHDT Total	17634.3				**Total HD Emissions**	**4.552**				7.04961E-05
LDA	Gas	65	86942.61			0.001595661						
LDA	Dsl	65	893.9098	0.00584817	3709.223089	0.016787825	62.26978762	0.137				
LDT1	Gas	65	6935.496			0.002682941						
LDT1	Dsl	65	8.756155	5.7285E-05	36.33311908	0.148489256	5.395077818	0.012				
LDT2	Gas	65	31836.8			0.001586755						
LDT2	Dsl	65	56.08744	0.00036694	232.7313585	0.01043872	2.42941749	0.005				
LHDT1	Gas	65	1851.491			0.001473728						
LHDT1	Dsl	65	1149.4	0.00751964	4769.363729	0.030007116	143.1148516	0.315				
LHDT2	Gas	65	364.725			0.000957227						
LHDT2	Dsl	65	422.6091	0.00276481	1753.59013	0.021519288	37.73601138	0.083				
MCY	Gas	65	930.3679			0.001870835						
MDV	Gas	65	20330.82			0.001717851						
MDV	Dsl	65	330.8626	0.00216458	1372.893893	0.009637282	13.23096618	0.029				
MH	Gas	65	123.7053			0.002354884						
MH	Dsl	65	22.12969	0.00014478	91.825752	0.207110617	19.01808817	0.042				
MHDT	Dsl	65	173.1294	0.00113265	718.3897907	0.001019459	0.732369246	0.002				
MHDT	Gas	65	294.1683			0.037115165						
OBUS	Dsl	65	2.369655	1.5503E-05	9.832736245	0.000740622	0.007282337	0.000				
OBUS	Gas	65	135.5201			0.018690309						
SBUS	Dsl	65	0	0	0	0.036226893	0	0.000				
UBUS	Gas	65	16.21486			0.001350393						
UBUS	Dsl	65	32.09245	0.00020996	133.1656368	0.419298624	0.179825911	0.000	9.97	34	339	
							Total LM Emissions	**0.625**				9.68034E-06
							Total DPM Emissions	***5.177***	***TOTAL Emissions***			***8.02E-05***

RIV SR-15

		LM	HD
Region Type:	County	721,533	62,206
Region:	Riverside (MD/SCAQMD)	Segment Length	
Calendar Year:	2019	10.64	miles
Season:	Annual		

Vehicle Class	Fuel	Speed	VMT	Proportion	RIV SR-15 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	17600.07	0.998059052	62085.26	0.014451913	897.2507929	1.974				
HHDT	Gas	65	34.22725			0.000796647			10.64	23	245	4.23464E-05
		HHDT Total	17634.3				**Total HD Emissions**	**1.974**				4.23464E-05
LDA	Gas	65	86942.61			0.001595661						
LDA	Dsl	65	893.9098	0.005848167	4219.645226	0.016787825	70.83866506	0.156				
LDT1	Gas	65	6935.496			0.002682941						
LDT1	Dsl	65	8.756155	5.72848E-05	41.3328799	0.148489256	6.137488582	0.014				
LDT2	Gas	65	31836.8			0.001586755						
LDT2	Dsl	65	56.08744	0.000366937	264.7572664	0.01043872	2.763726977	0.006				
LHDT1	Gas	65	1851.491			0.001473728						
LHDT1	Dsl	65	1149.4	0.007519643	5425.670661	0.030007116	162.80873	0.358				
LHDT2	Gas	65	364.725			0.000957227						
LHDT2	Dsl	65	422.6091	0.002764807	1994.899752	0.021519288	42.92882267	0.094				
MCY	Gas	65	930.3679			0.001870835						
MDV	Gas	65	20330.82			0.001717851						
MDV	Dsl	65	330.8626	0.002164581	1561.816322	0.009637282	15.05166498	0.033				
MH	Gas	65	123.7053			0.002354884						
MH	Dsl	65	22.12969	0.000144778	104.4617934	0.207110617	21.6351465	0.048				
MHDT	Dsl	65	173.1294	0.001132653	817.2466249	0.001019459	0.833149778	0.002				
MHDT	Gas	65	294.1683			0.037115165						
OBUS	Dsl	65	2.369655	1.55028E-05	11.18580834	0.000740622	0.008284451	0.000				
OBUS	Gas	65	135.5201			0.018690309						
SBUS	Dsl	65	0	0	0	0.036226893	0	0.000				
UBUS	Gas	65	16.21486			0.001350393						
UBUS	Dsl	65	32.09245	0.000209956	151.4904146	0.419298624	0.204571558	0.000	10.64	23	245	
							Total LM Emissions	**0.711**				1.52542E-05
							Total DPM Emissions	***2.685***		***TOTAL Emissions***		***5.76E-05***

RIV SR-91

		LM	HD
Region Type:	County	587,908	67,331
Region:	Riverside (MD/SCAQMD)	Segment Length	
Calendar Year:	2019	6.53	miles
Season:	Annual		

Vehicle Class	Fuel	Speed	VMT	Proportion	RIV SR-15 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	17600.07	0.998059052	67200.31	0.014451913	971.1730884	2.137				
HHDT	Gas	65	34.22725			0.000796647			6.53	17	111	0.000101043
		HHDT Total	17634.3				**Total HD Emissions**	**2.137**				0.000101043
LDA	Gas	65	86942.61			0.001595661						
LDA	Dsl	65	893.9098	0.005848167	3438.183958	0.016787825	57.71963015	0.127				
LDT1	Gas	65	6935.496			0.002682941						
LDT1	Dsl	65	8.756155	5.72848E-05	33.67819733	0.148489256	5.000850464	0.011				
LDT2	Gas	65	31836.8			0.001586755						
LDT2	Dsl	65	56.08744	0.000366937	215.7252891	0.01043872	2.251895893	0.005				
LHDT1	Gas	65	1851.491			0.001473728						
LHDT1	Dsl	65	1149.4	0.007519643	4420.858349	0.030007116	132.6572102	0.292				
LHDT2	Gas	65	364.725			0.000957227						
LHDT2	Dsl	65	422.6091	0.002764807	1625.452368	0.021519288	34.97857795	0.077				
MCY	Gas	65	930.3679			0.001870835						
MDV	Gas	65	20330.82			0.001717851						
MDV	Dsl	65	330.8626	0.002164581	1272.574242	0.009637282	12.26415736	0.027				
MH	Gas	65	123.7053			0.002354884						
MH	Dsl	65	22.12969	0.000144778	85.1158908	0.207110617	17.62840467	0.039				
MHDT	Dsl	65	173.1294	0.001132653	665.8958478	0.001019459	0.678853801	0.001				
MHDT	Gas	65	294.1683			0.037115165						
OBUS	Dsl	65	2.369655	1.55028E-05	9.114241771	0.000740622	0.006750204	0.000				
OBUS	Gas	65	135.5201			0.018690309						
SBUS	Dsl	65	0	0	0	0.036226893	0	0.000				
UBUS	Gas	65	16.21486			0.001350393						
UBUS	Dsl	65	32.09245	0.000209956	123.4350011	0.419298624	0.166685731	0.000	6.53	17	111	
							Total LM Emissions	**0.579**				2.73999E-05
							Total DPM Emissions	***2.716***	***TOTAL Emissions***			***1.28E-04***

SB I-15 ONT
Region Type: County
Region: San Bernardino (SC)
Calendar Year: 2019
Season: Annual

LM 441,453
HD 53,167
Segment Length 5.9 miles

Vehicle Class	Fuel	Speed	VMT	Proportion	SB I-15 ONT Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	231053.946	0.99689035	53001.67	0.021247112	1126.1324	2.477				
HHDT	Gas	65	720.738254			0.000674467			5.9	26	153	8.47884E-05
		HHDT Total	231774.684				**Total HD Emissions**	**2.477**				8.47884E-05
LDA	Gas	65	1526606.19			0.001564608						
LDA	Dsl	65	13826.2184	0.004900985	2163.554399	0.011600761	25.0988775	0.055				
LDT1	Gas	65	113324.729			0.002858448						
LDT1	Dsl	65	120.262979	4.26297E-05	18.81899229	0.116640665	2.195059776	0.005				
LDT2	Gas	65	517369.764			0.001601508						
LDT2	Dsl	65	849.917481	0.000301271	132.9967928	0.005086146	0.676441105	0.001				
LHDT1	Gas	65	36167.8051			0.001359783						
LHDT1	Dsl	65	76541.1761	0.027131579	11977.31681	0.028459188	340.8647107	0.750				
LHDT2	Gas	65	7532.20716			0.000915139						
LHDT2	Dsl	65	29497.9186	0.010456138	4615.893488	0.021382235	98.6981193	0.217				
MCY	Gas	65	11162.2542			0.001757711						
MDV	Gas	65	377309.084			0.001663403						
MDV	Dsl	65	5373.68146	0.001904811	840.8844569	0.006582282	5.534938625	0.012				
MH	Gas	65	2266.02522			0.002010724						
MH	Dsl	65	990.456055	0.000351087	154.9885507	0.20866764	32.3410951	0.071				
MHDT	Dsl	65	92163.5647	0.032669253	14421.93953	0.001031866	14.88150905	0.033				
MHDT	Gas	65	4329.16797			0.088595818						
OBUS	Dsl	65	3002.72333	0.001064376	469.8721706	0.00076588	0.359865698	0.001				
OBUS	Gas	65	1864.11982			0.018524254						
SBUS	Dsl	65	0	0	0	0.034991116	0	0.000				
UBUS	Gas	65	371.922127			0.001279579						
UBUS	Dsl	65	441.066323	0.000156345	69.01894324	0.42560445	0.08831519	0.000	5.9	26	153	
							Total LM Emissions	**1.146**				3.92073E-05
							Total DPM Emissions	***3.623***	***TOTAL Emissions***			***1.24E-04***

SB I-15 VIC

Region Type: County

Region: San Bernardino (MD)

Calendar Year: 2019

Season: Annual

LM 320,364 HD 85,444

Segment Length 4.53 miles

Vehicle Class	Fuel	Speed	VMT	Proportion	SB I-15 VIC Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	231053.95	0.99689035	85178.30	0.021247112	1809.792857	3.982				
HHDT	Gas	65	720.73825			0.000674467			4.53	23	104	0.00020062
		HHDT Total	231774.68				**Total HD Emissions**	**3.982**				0.00020062
LDA	Gas	65	1526606.2			0.001564608						
LDA	Dsl	65	13826.218	0.004900985	1570.099063	0.011600761	18.21434397	0.040				
LDT1	Gas	65	113324.73			0.002858448						
LDT1	Dsl	65	120.26298	4.26297E-05	13.65700912	0.116640665	1.592962626	0.004				
LDT2	Gas	65	517369.76			0.001601508						
LDT2	Dsl	65	849.91748	0.000301271	96.51624185	0.005086146	0.490895697	0.001				
LHDT1	Gas	65	36167.805			0.001359783						
LHDT1	Dsl	65	76541.176	0.027131579	8691.981075	0.028459188	247.3667235	0.544				
LHDT2	Gas	65	7532.2072			0.000915139						
LHDT2	Dsl	65	29497.919	0.010456138	3349.770194	0.021382235	71.62557348	0.158				
MCY	Gas	65	11162.254			0.001757711						
MDV	Gas	65	377309.08			0.001663403						
MDV	Dsl	65	5373.6815	0.001904811	610.2328179	0.006582282	4.016724493	0.009				
MH	Gas	65	2266.0252			0.002010724						
MH	Dsl	65	990.45605	0.000351087	112.4757382	0.20866764	23.47004685	0.052				
MHDT	Dsl	65	92163.565	0.032669253	10466.05241	0.001031866	10.79956364	0.024				
MHDT	Gas	65	4329.168			0.088595818						
OBUS	Dsl	65	3002.7233	0.001064376	340.9878924	0.00076588	0.261155807	0.001				
OBUS	Gas	65	1864.1198			0.018524254						
SBUS	Dsl	65	0	0	0	0.034991116	0	0.000				
UBUS	Gas	65	371.92213			0.001279579						
UBUS	Dsl	65	441.06632	0.000156345	50.08729068	0.42560445	0.064090645	0.000	4.53	23	104	
							Total LM Emissions	**0.831**				4.18915E-05
							Total DPM Emissions	***4.813***		***TOTAL Emissions***		***2.43E-04***

SB SR-60

Region Type:	County	LM	HD	
Region:	San Bernardino (SC)	518,176	82,924	
Calendar Year:	2019	Segment Length		
Season:	Annual	8.76	miles	

Vehicle Class	Fuel	Speed	VMT	Proportion	SB SR-60 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	231053.946	0.99689035	82666.14	0.021247112	1756.416633	3.864				
HHDT	Gas	65	720.738254			0.000674467			8.76	28	245	8.27062E-05
		HHDT Total	231774.684				**Total HD Emissions**	**3.864**				8.27062E-05
LDA	Gas	65	1526606.19			0.001564608						
LDA	Dsl	65	13826.2184	0.004900985	2539.572649	0.011600761	29.46097534	0.065				
LDT1	Gas	65	113324.729			0.002858448						
LDT1	Dsl	65	120.262979	4.26297E-05	22.08966787	0.116640665	2.57655355	0.006				
LDT2	Gas	65	517369.764			0.001601508						
LDT2	Dsl	65	849.917481	0.000301271	156.111174	0.005086146	0.794004223	0.002				
LHDT1	Gas	65	36167.8051			0.001359783						
LHDT1	Dsl	65	76541.1761	0.027131579	14058.93292	0.028459188	400.105815	0.880				
LHDT2	Gas	65	7532.20716			0.000915139						
LHDT2	Dsl	65	29497.9186	0.010456138	5418.119764	0.021382235	115.85151	0.255				
MCY	Gas	65	11162.2542			0.001757711						
MDV	Gas	65	377309.084			0.001663403						
MDV	Dsl	65	5373.68146	0.001904811	987.0272585	0.006582282	6.496891757	0.014				
MH	Gas	65	2266.02522			0.002010724						
MH	Dsl	65	990.456055	0.000351087	181.9250231	0.20866764	37.96186524	0.084				
MHDT	Dsl	65	92163.5647	0.032669253	16928.42259	0.001031866	17.4678637	0.038				
MHDT	Gas	65	4329.16797			0.088595818						
OBUS	Dsl	65	3002.72333	0.001064376	551.5343239	0.00076588	0.422409108	0.001				
OBUS	Gas	65	1864.11982			0.018524254						
SBUS	Dsl	65	0	0	0	0.034991116	0	0.000				
UBUS	Gas	65	371.922127			0.001279579						
UBUS	Dsl	65	441.066323	0.000156345	81.01419615	0.42560445	0.103664064	0.000	8.76	28	245	
							Total LM Emissions	**1.345**				2.87821E-05
							Total DPM Emissions	***5.209***	***TOTAL Emissions***			***1.11E-04***

VEN US-101 SB

		LM	HD
Region Type:	County	350,922	27,041
Region:	Ventura	Segment Length	
Calendar Year:	2019	3.37	miles
Season:	Annual		

Vehicle Class	Fuel	Speed	VMT	Proportion	VEN US-101 SB Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	61116.79408	0.994630134	26895.79	0.030085692	809.1785709	1.780				
HHDT	Gas	65	329.9608427			0.000809414			3.37	34	115	8.15658E-05
		HHDT Total	61446.75492				**Total HD Emission**	**1.780**				8.15658E-05
LDA	Gas	65	960729.475			0.001611682						
LDA	Dsl	65	10309.28929	0.005843983	2050.78234	0.016421657	33.67724488	0.074				
LDT1	Gas	65	76152.89875			0.002517861						
LDT1	Dsl	65	74.96277831	4.24938E-05	14.91202135	0.13711813	2.044708479	0.004				
LDT2	Gas	65	331731.4325			0.001524109						
LDT2	Dsl	65	618.3660799	0.000350531	123.0088904	0.004736813	0.58267011	0.001				
LHDT1	Gas	65	28322.4404			0.001431637						
LHDT1	Dsl	65	54818.31369	0.031074627	10904.77011	0.028630331	312.2071817	0.687				
LHDT2	Gas	65	6310.911159			0.000864574						
LHDT2	Dsl	65	20571.32321	0.011661179	4092.164374	0.020951233	85.73588795	0.189				
MCY	Gas	65	7067.190545			0.001945475						
MDV	Gas	65	208347.4192			0.001627573						
MDV	Dsl	65	3330.902217	0.001888175	662.6019751	0.006599911	4.373114188	0.010				
MH	Gas	65	2806.109088			0.002169721						
MH	Dsl	65	1088.465217	0.000617014	216.5236791	0.226062112	48.94780019	0.108				
MHDT	Dsl	65	45334.02937	0.02569831	9018.102436	0.00108038	9.742975172	0.021				
MHDT	Gas	65	3508.668118			0.098818536						
OBUS	Dsl	65	1115.724721	0.000632466	221.9462943	0.000749633	0.16637829	0.000				
OBUS	Gas	65	1448.316485			0.018533045						
SBUS	Dsl	65	0	0	0	0.035560559	0	0.000				
UBUS	Gas	65	155.9653573			0.000734216						
UBUS	Dsl	65	243.8008823	0.000138202	48.49825531	0.307787246	0.035608185	0.000	3.37	34	115	
							Total LM Emissions	**1.095**				5.01497E-05
							Total DPM Emissions	***2.875***		***TOTAL Emissions***		***1.32E-04***

VEN US-101 TO

		LM	HD
Region Type:	County	160,122	12,868
Region:	Ventura	Segment Length	
Calendar Year:	2019	1.73	miles
Season:	Annual		

Vehicle Class	Fuel	Speed	VMT	Proportion	VEN US-101 TO Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	61116.794	0.994630134	12798.90	0.030085692	385.0637865	0.847				
HHDT	Gas	65	329.96084			0.000809414			1.73	24	42	0.000107114
		HHDT Total	61446.755				**Total HD Emissions**	**0.847**				0.000107114
LDA	Gas	65	960729.47			0.001611682						
LDA	Dsl	65	10309.289	0.005843983	935.7503088	0.016421657	15.36657093	0.034				
LDT1	Gas	65	76152.899			0.002517861						
LDT1	Dsl	65	74.962778	4.24938E-05	6.804197748	0.13711813	0.93297887	0.002				
LDT2	Gas	65	331731.43			0.001524109						
LDT2	Dsl	65	618.36608	0.000350531	56.12765673	0.004736813	0.265866214	0.001				
LHDT1	Gas	65	28322.44			0.001431637						
LHDT1	Dsl	65	54818.314	0.031074627	4975.731356	0.028630331	142.4568375	0.313				
LHDT2	Gas	65	6310.9112			0.000864574						
LHDT2	Dsl	65	20571.323	0.011661179	1867.211357	0.020951233	39.1203796	0.086				
MCY	Gas	65	7067.1905			0.001945475						
MDV	Gas	65	208347.42			0.001627573						
MDV	Dsl	65	3330.9022	0.001888175	302.3382787	0.006599911	1.995405788	0.004				
MH	Gas	65	2806.1091			0.002169721						
MH	Dsl	65	1088.4652	0.000617014	98.79746652	0.226062112	22.33436394	0.049				
MHDT	Dsl	65	45334.029	0.02569831	4114.864837	0.00108038	4.445616606	0.010				
MHDT	Gas	65	3508.6681			0.098818536						
OBUS	Dsl	65	1115.7247	0.000632466	101.2717485	0.000749633	0.075916656	0.000				
OBUS	Gas	65	1448.3165			0.018533045						
SBUS	Dsl	65	0	0	0	0.035560559	0	0.000				
UBUS	Gas	65	155.96536			0.000734216						
UBUS	Dsl	65	243.80088	0.000138202	22.12924136	0.307787246	0.016247638	0.000	1.73	24	42	
							Total LM Emissions	**0.499**				6.31481E-05
							Total DPM Emissions	***1.347***	***TOTAL Emissions***			***1.70E-04***

IMP I-8

		LM	HD
Region Type:	County	70,801	25,315
Region:	Imperial	Segment Length	
Calendar Year:	2045	3.01	miles
Season:	Annual		

Vehicle Class	Fuel	Speed	VMT	Proportion	IMP I-8 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	467877.9752	0.997337503	25247.60	0.004314442	108.9293014	0.240				
HHDT	Gas	65	1249.049462	0.002662497		0.001021521			3.01	35	105	1.19422E-05
		HHDT Total	469127.0246				**Total HD Emissions**	**0.240**				1.19422E-05
LDA	Gas	65	686767.7192			0.000609809						
LDA	Dsl	65	9567.830576	0.007581909	536.8067157	0.000543682	0.291851955	0.001				
LDT1	Gas	65	42942.47491			0.000644397						
LDT1	Dsl	65	24.07088072	1.90747E-05	1.350505772	0.003737102	0.005046978	0.000				
LDT2	Gas	65	243651.7037			0.00061275						
LDT2	Dsl	65	535.8929266	0.000424662	30.06647323	0.003161459	0.095053913	0.000				
LHDT1	Gas	65	9714.948108			0.001001585						
LHDT1	Dsl	65	23708.87896	0.018787807	1330.195528	0.005516684	7.338268376	0.016				
LHDT2	Gas	65	3824.71362			0.001022476						
LHDT2	Dsl	65	11786.67135	0.009340202	661.2956077	0.005277536	3.490011601	0.008				
MCY	Gas	65	8004.239877			0.002201437						
MDV	Gas	65	137013.6997			0.000671022						
MDV	Dsl	65	3823.978024	0.003030264	214.5457183	0.000697516	0.149649083	0.000				
MH	Gas	65	1274.502975			0.001016116						
MH	Dsl	65	400.8689421	0.000317664	22.49090204	0.016149733	0.363222066	0.001				
MHDT	Dsl	65	54313.77906	0.043040281	3047.294903	0.001018837	3.104696239	0.007				
MHDT	Gas	65	9463.411087			0.002461454						
OBUS	Dsl	65	11101.80773	0.00879749	622.8710782	0.001022508	0.636890758	0.001				
OBUS	Gas	65	3284.94502			0.002768269						
SBUS	Dsl	65	0	0	0	0.002199722						
UBUS	Gas	65	363.5124097			0.001012229						
UBUS	Dsl	65	359.3736322	0.000284781	20.16279215	0.00619609	0.124930465	0.000	3.01	35	105	
							Total LM Emissions	**0.034**				1.71022E-06
							Total DPM Emissions	***0.274***		***TOTAL Emissions***		***1.3652E-05***

IMP SR-78

		LM	HD
Region Type:	County	27,455	5,506
Region:	Imperial	Segment Length	
Calendar Year:	2045	0.87	miles
Season:	Annual		

Vehicle Class	Fuel	Speed	VMT	Proportion	IMP SR-78 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	467877.9752	0.997337503	5491.34	0.004314442	23.69206928	0.052				
HHDT	Gas	65	1249.049462			0.001021521			0.87	54	54	5.06736E-06
		HHDT Total	469127.0246				**Total HD Emissions**	**0.052**				5.06736E-06
LDA	Gas	65	686767.7192			0.000609809						
LDA	Dsl	65	9567.830576	0.03563191	978.2740878	0.000543682	0.531869659	0.001				
LDT1	Gas	65	42942.47491			0.000644397						
LDT1	Dsl	65	24.07088072	8.96433E-05	2.461155504	0.003737102	0.00919759	0.000				
LDT2	Gas	65	243651.7037			0.00061275						
LDT2	Dsl	65	535.8929266	0.001995739	54.79300243	0.003161459	0.173225813	0.000				
LHDT1	Gas	65	9714.948108			0.001001585						
LHDT1	Dsl	65	23708.87896	0.088295109	2424.142208	0.005516684	13.37322651	0.029				
LHDT2	Gas	65	3824.71362			0.001022476						
LHDT2	Dsl	65	11786.67135	0.043895177	1205.142072	0.005277536	6.360181078	0.014				
MCY	Gas	65	8004.239877			0.002201437						
MDV	Gas	65	137013.6997			0.000671022						
MDV	Dsl	65	3823.978024	0.014241017	390.9871296	0.000697516	0.272719799	0.001				
MH	Gas	65	1274.502975			0.001016116						
MH	Dsl	65	400.8689421	0.001492891	40.98731635	0.016149733	0.661934221	0.001				
MHDT	Dsl	65	54313.77906	0.202271943	5553.376205	0.001018837	5.657984135	0.012				
MHDT	Gas	65	9463.411087			0.002461454						
OBUS	Dsl	65	11101.80773	0.041344651	1135.117386	0.001022508	1.160666786	0.003				
OBUS	Gas	65	3284.94502			0.002768269						
SBUS	Dsl	65	0	0	0	0.002199722						
UBUS	Gas	65	363.5124097			0.001012229						
UBUS	Dsl	65	359.3736322	0.001338357	36.7445796	0.00619609	0.227672705	0.001	0.87	54	54	
							Total LM Emissions	**0.063**				6.08044E-06
							Total DPM Emissions	***0.115***		***TOTAL Emissions***		***1.1148E-05***

*modeled for entire segment length in AERSCREEN

LA I-110

Region Type:	County	LM	339,888	HD	53,899
Region:	Los Angeles (SC)	Segment Length			
Calendar Year:	2045		4.01	miles	
Season:	Annual				

Vehicle Class	Fuel	Speed	VMT	Proportion	LA I-110 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	804712	0.994214532	53587.17	0.004489986	240.6056192	0.529				
HHDT	Gas	65	4682.727			0.001025111			4.01	29	116	2.38966E-05
		HHDT Total	809394.7				**Total HD Emissions**	**0.529**				2.38966E-05
LDA	Gas	65	3554539			0.000617625						
LDA	Dsl	65	49409.08	0.006360479	2161.850343	0.000557467	1.205161176	0.003				
LDT1	Gas	65	351918.8			0.000677843						
LDT1	Dsl	65	198.1513	2.55082E-05	8.669932535	0.00425494	0.036890044	0.000				
LDT2	Gas	65	1685801			0.000617054						
LDT2	Dsl	65	3707.939	0.000477327	162.2375549	0.003216718	0.521872444	0.001				
LHDT1	Gas	65	77238.96			0.001006258						
LHDT1	Dsl	65	336226.9	0.043282808	14711.30689	0.004688288	68.97084255	0.152				
LHDT2	Gas	65	34788.99			0.001022679						
LHDT2	Dsl	65	170424.6	0.021938917	7456.774627	0.005337568	39.80104017	0.088				
MCY	Gas	65	42645.52			0.002202991						
MDV	Gas	65	909824			0.000668995						
MDV	Dsl	65	25783.82	0.003319176	1128.147925	0.000687321	0.77539952	0.002				
MH	Gas	65	8910.371			0.001012904						
MH	Dsl	65	3547.172	0.000456631	155.2033466	0.015106615	2.344597179	0.005				
MHDT	Dsl	65	416990.2	0.053679547	18245.03393	0.001022603	18.65742982	0.041				
MHDT	Gas	65	34913.98			0.002338275						
OBUS	Dsl	65	41629.97	0.005359066	1821.482127	0.001021766	1.861128503	0.004				
OBUS	Gas	65	14765.97			0.003045399						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	2395.642			0.001006684						
UBUS	Dsl	65	2478.472	0.000319056	108.4433225	0.148869079	0.10916814	0.000	4.01	29	116	
							Total LM Emissions	**0.295**				1.33368E-05
							Total DPM Emissions	***0.825***	***TOTAL Emissions***			***3.7233E-05***

LA I-710

		LM	HD
Region Type:	County	402,225	68,588
Region:	Los Angeles (SC)	Segment Length	
Calendar Year:	2045	2.1	miles
Season:	Annual		

Vehicle Class	Fuel	Speed	VMT	Proportion	LA I-710 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	804712	0.994214532	68191.19	0.004489986	306.1774469	0.674				
HHDT	Gas	65	4682.727			0.001025111			2.1	23	48	7.32147E-05
		HHDT Total	809394.7				**Total HD Emissions**	**0.674**				7.32147E-05
LDA	Gas	65	3554539			0.000617625						
LDA	Dsl	65	49409.08	0.006360479	2558.343497	0.000557467	1.426193199	0.003				
LDT1	Gas	65	351918.8			0.000677843						
LDT1	Dsl	65	198.1513	2.55082E-05	10.26003747	0.00425494	0.043655845	0.000				
LDT2	Gas	65	1685801			0.000617054						
LDT2	Dsl	65	3707.939	0.000477327	191.9926579	0.003216718	0.617586216	0.001				
LHDT1	Gas	65	77238.96			0.001006258						
LHDT1	Dsl	65	336226.9	0.043282808	17409.42727	0.004688288	81.62040774	0.180				
LHDT2	Gas	65	34788.99			0.001022679						
LHDT2	Dsl	65	170424.6	0.021938917	8824.380898	0.005337568	47.10073136	0.104				
MCY	Gas	65	42645.52			0.002202991						
MDV	Gas	65	909824			0.000668995						
MDV	Dsl	65	25783.82	0.003319176	1335.055368	0.000687321	0.917611306	0.002				
MH	Gas	65	8910.371			0.001012904						
MH	Dsl	65	3547.172	0.000456631	183.6683439	0.015106615	2.77460693	0.006				
MHDT	Dsl	65	416990.2	0.053679547	21591.25587	0.001022603	22.07928703	0.049				
MHDT	Gas	65	34913.98			0.002338275						
OBUS	Dsl	65	41629.97	0.005359066	2155.550206	0.001021766	2.202467907	0.005				
OBUS	Gas	65	14765.97			0.003045399						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	2395.642			0.001006684						
UBUS	Dsl	65	2478.472	0.000319056	128.3323195	0.148869079	0.129190072	0.000	2.1	23	48	
							Total LM Emissions	**0.350**				3.79998E-05
							Total DPM Emissions	***1.023***	***TOTAL Emissions***			***1.1121E-04***

LA SR-60 DB

Region Type:	County	LM	HD
Region:	Los Angeles (SC)	759,035	110,961
Calendar Year:	2045	Segment Length	
Season:	Annual	7.2	miles

Vehicle Class	Fuel	Speed	VMT	Proportion	LA I-710 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	804712	0.994214532	110319.04	0.004489986	495.3308987	1.090				
HHDT	Gas	65	4682.727			0.001025111			7.2	29	209	2.73992E-05
		HHDT Total	809394.7				**Total HD Emissions**	**1.090**				2.73992E-05
LDA	Gas	65	3554539			0.000617625						
LDA	Dsl	65	49409.08	0.006360479	4827.825858	0.000557467	2.69135572	0.006				
LDT1	Gas	65	351918.8			0.000677843						
LDT1	Dsl	65	198.1513	2.55082E-05	19.36161983	0.00425494	0.082382534	0.000				
LDT2	Gas	65	1685801			0.000617054						
LDT2	Dsl	65	3707.939	0.000477327	362.3075322	0.003216718	1.165441117	0.003				
LHDT1	Gas	65	77238.96			0.001006258						
LHDT1	Dsl	65	336226.9	0.043282808	32853.16583	0.004688288	154.0251009	0.339				
LHDT2	Gas	65	34788.99			0.001022679						
LHDT2	Dsl	65	170424.6	0.021938917	16652.40588	0.005337568	88.88334547	0.196				
MCY	Gas	65	42645.52			0.002202991						
MDV	Gas	65	909824			0.000668995						
MDV	Dsl	65	25783.82	0.003319176	2519.370381	0.000687321	1.731615633	0.004				
MH	Gas	65	8910.371			0.001012904						
MH	Dsl	65	3547.172	0.000456631	346.5987978	0.015106615	5.235934542	0.012				
MHDT	Dsl	65	416990.2	0.053679547	40744.6551	0.001022603	41.6656141	0.092				
MHDT	Gas	65	34913.98			0.002338275						
OBUS	Dsl	65	41629.97	0.005359066	4067.718443	0.001021766	4.156256394	0.009				
OBUS	Gas	65	14765.97			0.003045399						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	2395.642			0.001006684						
UBUS	Dsl	65	2478.472	0.000319056	242.1747084	0.148869079	0.243793366	0.001	7.2	29	209	
							Total LM Emissions	**0.660**				1.65879E-05
							Total DPM Emissions	***1.749***	***TOTAL Emissions***			***4.3987E-05***

LA SR-60 SEM

Region Type:	County	LM	HD
Region:	Los Angeles (SC)	362,602	39,110
Calendar Year:	2045	Segment Length	
Season:	Annual	8.31	miles

Vehicle Class	Fuel	Speed	VMT	Proportion	LA I-710 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	804712	0.994214532	38883.73	0.004489986	174.5873906	0.384				
HHDT	Gas	65	4682.727			0.001025111			8.31	26	216	9.33278E-06
		HHDT Total	809394.7				**Total HD Emissions**	**0.384**				9.33278E-06
LDA	Gas	65	3554539			0.000617625						
LDA	Dsl	65	49409.08	0.006360479	2306.322254	0.000557467	1.285699562	0.003				
LDT1	Gas	65	351918.8			0.000677843						
LDT1	Dsl	65	198.1513	2.55082E-05	9.249325887	0.00425494	0.039355328	0.000				
LDT2	Gas	65	1685801			0.000617054						
LDT2	Dsl	65	3707.939	0.000477327	173.0795494	0.003216718	0.556748081	0.001				
LHDT1	Gas	65	77238.96			0.001006258						
LHDT1	Dsl	65	336226.9	0.043282808	15694.43258	0.004688288	73.58001886	0.162				
LHDT2	Gas	65	34788.99			0.001022679						
LHDT2	Dsl	65	170424.6	0.021938917	7955.095189	0.005337568	42.46085995	0.093				
MCY	Gas	65	42645.52			0.002202991						
MDV	Gas	65	909824			0.000668995						
MDV	Dsl	65	25783.82	0.003319176	1203.539677	0.000687321	0.827217838	0.002				
MH	Gas	65	8910.371			0.001012904						
MH	Dsl	65	3547.172	0.000456631	165.5752597	0.015106615	2.501281676	0.006				
MHDT	Dsl	65	416990.2	0.053679547	19464.31117	0.001022603	19.90426661	0.044				
MHDT	Gas	65	34913.98			0.002338275						
OBUS	Dsl	65	41629.97	0.005359066	1943.207946	0.001021766	1.985503805	0.004				
OBUS	Gas	65	14765.97			0.003045399						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	2395.642			0.001006684						
UBUS	Dsl	65	2478.472	0.000319056	115.6903616	0.148869079	0.116463618	0.000	8.31	26	216	
							Total LM Emissions	**0.315**				7.658E-06
							Total DPM Emissions	***0.699***		***TOTAL Emissions***		***1.6991E-05***

ORA I-5

Region Type:	County	LM	HD
Region:	Orange	365,751	35,868
Calendar Year:	2045	Segment Length	
Season:	Annual	7.11	miles

Vehicle Class	Fuel	Speed	VMT	Proportion	ORA I-5 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	153993.1	0.993334547	35628.92	0.004390344	156.4232309	0.344				
HHDT	Gas	65	1033.321			0.001025276			7.11	14	100	1.815E-05
		HHDT Total	155026.4				**Total HD Emissions**	**0.344**				1.815E-05
LDA	Gas	65	2247130			0.000606964						
LDA	Dsl	65	31292.79	0.007321937	2678.005627	0.00053549	1.434046539	0.003				
LDT1	Gas	65	200126.8			0.000650632						
LDT1	Dsl	65	110.67	2.58947E-05	9.471029991	0.003325643	0.031497268	0.000				
LDT2	Gas	65	983956.1			0.000605762						
LDT2	Dsl	65	2165.695	0.000506733	185.3379984	0.003119863	0.578229246	0.001				
LHDT1	Gas	65	17717.03			0.001003301						
LHDT1	Dsl	65	70955.25	0.01660222	6072.278423	0.004895683	29.72795203	0.065				
LHDT2	Gas	65	7951.384			0.001022359						
LHDT2	Dsl	65	35749.33	0.008364683	3059.391247	0.005344754	16.35169501	0.036				
MCY	Gas	65	23932.04			0.002200421						
MDV	Gas	65	471900.4			0.000654405						
MDV	Dsl	65	13390.65	0.003133165	1145.958135	0.000658269	0.75434843	0.002				
MH	Gas	65	2253.591			0.001010546						
MH	Dsl	65	864.9048	0.000202372	74.01768279	0.020018122	1.481694984	0.003				
MHDT	Dsl	65	145509.7	0.034046599	12452.57746	0.00102122	12.71681626	0.028				
MHDT	Gas	65	7722.828			0.002341319						
OBUS	Dsl	65	6168.257	0.001443258	527.8732133	0.001022419	0.539707377	0.001				
OBUS	Gas	65	3827.042			0.003045399						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	556.9458			0.000998951						
UBUS	Dsl	65	559.8969	0.000131006	47.9154142	0.150386559	0.047865167	0.000	7.11	14	100	
							Total LM Emissions	**0.140**				7.38699E-06
							Total DPM Emissions	***0.484***	***TOTAL Emissions***			***2.5537E-05***

ORA I-4055

		LM	HD
Region Type:	County	451,179	64,272
Region:	Orange	Segment Length	
Calendar Year:	2045	4.9	miles
Season:	Annual		

Vehicle Class	Fuel	Speed	VMT	Proportion	ORA I-405 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	153993.1	0.993334547	63843.60	0.004390344	280.2953579	0.617				
HHDT	Gas	65	1033.321			0.001025276			4.9	21	103	3.1461E-05
		HHDT Tota	155026.4				**Total HD Emissio**	**0.617**				3.1461E-05
LDA	Gas	65	2247130			0.000606964						
LDA	Dsl	65	31292.79	0.007321937	3303.504025	0.00053549	1.768994982	0.004				
LDT1	Gas	65	200126.8			0.000650632						
LDT1	Dsl	65	110.67	2.58947E-05	11.68316653	0.003325643	0.038854045	0.000				
LDT2	Gas	65	983956.1			0.000605762						
LDT2	Dsl	65	2165.695	0.000506733	228.627161	0.003119863	0.713285522	0.002				
LHDT1	Gas	65	17717.03			0.001003301						
LHDT1	Dsl	65	70955.25	0.01660222	7490.57284	0.004895683	36.67147231	0.081				
LHDT2	Gas	65	7951.384			0.001022359						
LHDT2	Dsl	65	35749.33	0.008364683	3773.969404	0.005344754	20.1709398	0.044				
MCY	Gas	65	23932.04			0.002200421						
MDV	Gas	65	471900.4			0.000654405						
MDV	Dsl	65	13390.65	0.003133165	1413.618133	0.000658269	0.930540642	0.002				
MH	Gas	65	2253.591			0.001010546						
MH	Dsl	65	864.9048	0.000202372	91.30589965	0.020018122	1.827772614	0.004				
MHDT	Dsl	65	145509.7	0.034046599	15361.11028	0.00102122	15.68706701	0.035				
MHDT	Gas	65	7722.828			0.002341319						
OBUS	Dsl	65	6168.257	0.001443258	651.1678943	0.001022419	0.665766149	0.001				
OBUS	Gas	65	3827.042			0.003045399						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	556.9458			0.000998951						
UBUS	Dsl	65	559.8969	0.000131006	59.1069571	0.150386559	0.059044973	0.000	4.9	21	103	
							Total LM Emissions	**0.173**				8.81482E-06
							Total DPM Emissions	***0.789***	***TOTAL Emissions***			***4.0276E-05***

RIV I-10

		LM	HD
Region Type:	County	747,848	251,961
Region:	Riverside (MD/SCAQMD)	Segment Length	
Calendar Year:	2045	9.97	miles
Season:	Annual		

Vehicle Class	Fuel	Speed	VMT	Proportion	RIV I-10 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	57425.04	0.99857921	251603.02	0.004249092	1069.0844	2.352				
HHDT	Gas	65	81.70511			0.00102492			9.97	34	339	3.64259E-05
		HHDT Total	57506.74				**Total HD Emissions**	**2.352**				3.64259E-05
LDA	Gas	65	122364.3			0.000612601						
LDA	Dsl	65	1703.7	0.00784019	5863.27253	0.000557169	3.266833946	0.007				
LDT1	Gas	65	9258.936			0.000651602						
LDT1	Dsl	65	5.167844	2.3782E-05	17.78510555	0.00367529	0.065365426	0.000				
LDT2	Gas	65	50483.5			0.000617877						
LDT2	Dsl	65	111.0284	0.00051094	382.1034358	0.003194747	1.220723945	0.003				
LHDT1	Gas	65	1139.796			0.000999681						
LHDT1	Dsl	65	1439.036	0.00662224	4952.432633	0.005310935	26.30204547	0.058				
LHDT2	Gas	65	458.2873			0.001022422						
LHDT2	Dsl	65	718.9859	0.00330867	2474.385713	0.005329699	13.18773042	0.029				
MCY	Gas	65	1316.038			0.002195013						
MDV	Gas	65	25891.78			0.000662681						
MDV	Dsl	65	732.8776	0.0033726	2522.194004	0.000678552	1.71144009	0.004				
MH	Gas	65	151.5598			0.001009549						
MH	Dsl	65	35.07567	0.00016141	120.7127223	0.020786562	2.509202459	0.006				
MHDT	Dsl	65	516.9635	0.002379	1779.126691	0.001022495	1.81914875	0.004				
MHDT	Gas	65	610.4961			0.002541873						
OBUS	Dsl	65	7.730711	3.5576E-05	26.6051954	0.001022049	0.027191814	0.000				
OBUS	Gas	65	296.2124			0.003099277						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	30.7059			0.001002961						
UBUS	Dsl	65	31.09691	0.0001431	107.0198122	0.134787715	0.107336661	0.000	9.97	34	339	
							Total LM Emissions	**0.110**				1.711E-06
							Total DPM Emissions	***2.462***	***TOTAL Emissions***			***3.8137E-05***

RIV I-15

Region Type:	County	LM	HD
Region:	Riverside (MD/SCAQMD)	1,199,647	146,822
Calendar Year:	2045	Segment Length	
Season:	Annual	10.64	miles

Vehicle Class	Fuel	Speed	VMT	Proportion	RIV I-15 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	57425.04	0.99857921	146613.40	0.004249092	622.9738324	1.371				
HHDT	Gas	65	81.70511			0.00102492			10.64	23	245	2.94017E-05
		HHDT Tota	57506.74				**Total HD Emissions**	**1.371**				2.94017E-05
LDA	Gas	65	122364.3			0.000612601						
LDA	Dsl	65	1703.7	0.00784019	9405.463812	0.000557169	5.240433273	0.012				
LDT1	Gas	65	9258.936			0.000651602						
LDT1	Dsl	65	5.167844	2.3782E-05	28.52965913	0.00367529	0.104854779	0.000				
LDT2	Gas	65	50483.5			0.000617877						
LDT2	Dsl	65	111.0284	0.00051094	612.9443956	0.003194747	1.958202494	0.004				
LHDT1	Gas	65	1139.796			0.000999681						
LHDT1	Dsl	65	1439.036	0.00662224	7944.356274	0.005310935	42.19195604	0.093				
LHDT2	Gas	65	458.2873			0.001022422						
LHDT2	Dsl	65	718.9859	0.00330867	3969.241608	0.005329699	21.154862	0.047				
MCY	Gas	65	1316.038			0.002195013						
MDV	Gas	65	25891.78			0.000662681						
MDV	Dsl	65	732.8776	0.0033726	4045.932423	0.000678552	2.745376026	0.006				
MH	Gas	65	151.5598			0.001009549						
MH	Dsl	65	35.07567	0.00016141	193.6391555	0.020786562	4.025092268	0.009				
MHDT	Dsl	65	516.9635	0.002379	2853.954276	0.001022495	2.918154947	0.006				
MHDT	Gas	65	610.4961			0.002541873						
OBUS	Dsl	65	7.730711	3.5576E-05	42.67824858	0.001022049	0.043619262	0.000				
OBUS	Gas	65	296.2124			0.003099277						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	30.7059			0.001002961						
UBUS	Dsl	65	31.09691	0.0001431	171.6739186	0.134787715	0.172182186	0.000	10.64	23	245	
							Total LM Emissions	**0.177**				3.80184E-06
							Total DPM Emissions	***1.548***	***TOTAL Emissions***			***3.3204E-05***

RIV SR-91

Region Type:	County	LM	HD
Region:	Riverside (SC)	602,487	84,613
Calendar Year:	2045	Segment Length	
Season:	Annual	6.53	miles

Vehicle Class	Fuel	Speed	VMT	Proportion	RIV SR-91 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)	
HHDT	Dsl	65	603495.4	0.99835852	84474.11	0.004249092	358.9382749	0.790					
HHDT	Gas	65	992.2554			0.00102492			6.53	17	111	3.73448E-05	
		HHDT Tota	604487.6				**Total HD Emissic**	**0.790**				3.73448E-05	
LDA	Gas	65	2904962			0.000612601							0.002208
LDA	Dsl	65	40432.59	0.00785878	4734.814429	0.000557169	2.638092025	0.006					
LDT1	Gas	65	193669.1			0.000651602							
LDT1	Dsl	65	107.2822	2.0852E-05	12.56316071	0.00367529	0.046173263	0.000					
LDT2	Gas	65	1109613			0.000617877							
LDT2	Dsl	65	2441.039	0.00047446	285.8551924	0.003194747	0.913235123	0.002					
LHDT1	Gas	65	23046.24			0.000999681							
LHDT1	Dsl	65	81179.12	0.01577859	9506.393095	0.005310935	50.48783133	0.111					
LHDT2	Gas	65	9022.063			0.001022422							
LHDT2	Dsl	65	40978.08	0.00796481	4798.692945	0.005329699	25.57558774	0.056					
MCY	Gas	65	20904.38			0.002195013							
MDV	Gas	65	555323.3			0.000662681							
MDV	Dsl	65	15657.8	0.00304337	1833.589927	0.000678552	1.244186334	0.003					
MH	Gas	65	2513.068			0.001009549							
MH	Dsl	65	973.1266	0.00018914	113.9569283	0.020786562	2.36877273	0.005					
MHDT	Dsl	65	126901.9	0.0246656	14860.70478	0.001022495	15.19500138	0.033					
MHDT	Gas	65	7409.194			0.002541873							
OBUS	Dsl	65	4781.432	0.00092936	559.9244561	0.001022049	0.572270243	0.001					
OBUS	Gas	65	3882.403			0.003099277							
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000					
UBUS	Gas	65	553.727			0.001002961							
UBUS	Dsl	65	541.2736	0.00010521	63.38525106	0.134787715	0.063572913	0.000	6.53	17	111		
							Total LM Emissions	**0.218**				1.03123E-05	
							Total DPM Emissions	***1.008***		***TOTAL Emissions***		***4.7657E-05***	

SB I-15 ONT

Region Type: County

Region: San Bernardino (SC)

Calendar Year: 2045

Season: Annual

LM 495,333

HD 75,816

Segment Length 5.9 miles

Vehicle Class	Fuel	Speed	VMT	Proportion	SB I-15 ONT Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	200129.6	0.997902691	75656.99	0.004434	335.4911093	0.738				
HHDT	Gas	65	420.6157			0.001025			5.9	26	153	2.52597E-05
		HHDT Tota	200550.2				**Total HD Emission**	**0.738**				2.52597E-05
LDA	Gas	65	1246500			0.000612						
LDA	Dsl	65	17343.7	0.007551791	3740.65128	0.000548	2.048527284	0.005				
LDT1	Gas	65	87185.77			0.000655						
LDT1	Dsl	65	48.8438	2.12676E-05	10.53452327	0.003523	0.03711609	0.000				
LDT2	Gas	65	495944.1			0.000618						
LDT2	Dsl	65	1090.208	0.000474698	235.1336495	0.003191	0.750340889	0.002				
LHDT1	Gas	65	8901.691			0.000999						
LHDT1	Dsl	65	39538.39	0.017215801	8527.554257	0.005194	44.29566114	0.097				
LHDT2	Gas	65	3454.679			0.001022						
LHDT2	Dsl	65	19878.11	0.008655325	4287.268138	0.005269	22.59165998	0.050				
MCY	Gas	65	9472.724			0.002198						
MDV	Gas	65	268924.6			0.000665						
MDV	Dsl	65	7577.061	0.003299203	1634.203943	0.000674	1.101951779	0.002				
MH	Gas	65	799.499			0.001005						
MH	Dsl	65	376.1138	0.000163767	81.11941282	0.0222	1.800874632	0.004				
MHDT	Dsl	65	81834.98	0.035632575	17649.99033	0.001023	18.06229318	0.040				
MHDT	Gas	65	3138.391			0.002343						
OBUS	Dsl	65	2647.007	0.001152559	570.900664	0.001023	0.583876505	0.001				
OBUS	Gas	65	1450.8			0.003045						
SBUS	Dsl	65	0	0	0	0.0022	0	0.000				
UBUS	Gas	65	264.6003			0.001009						
UBUS	Dsl	65	262.2719	0.000114198	56.56622801	0.14977	0.05709099	0.000	5.9	26	153	
							Total LM Emissions	**0.201**				6.87634E-06
							Total DPM Emissions	***0.939***	***TOTAL Emissions***			***3.2136E-05***

SB I-15 VIC
Region Type: County
Region: San Bernardino (MD)
Calendar Year: 2045
Season: Annual

LM 377,670 HD 173,351
Segment Length 4.53 miles

Vehicle Class	Fuel	Speed	VMT	Proportion	SB I-15 VIC Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	939957.36	0.995648355	172596.64	0.00443437	765.357401	1.684				
HHDT	Gas	65	4108.2383			0.00102483			4.53	23	104	8.4842E-05
		HHDT Tota	944065.6				**Total HD Emissions**	**1.684**				8.4842E-05
LDA	Gas	65	3345467.7			0.0006121						
LDA	Dsl	65	46569.982	0.007936382	2997.33334	0.000547639	1.64145724	0.004				
LDT1	Gas	65	223199			0.00065544						
LDT1	Dsl	65	124.45102	2.12087E-05	8.009906021	0.003523281	0.028221153	0.000				
LDT2	Gas	65	1246398.7			0.000617766						
LDT2	Dsl	65	2741.1446	0.000467141	176.4253201	0.003191125	0.562995266	0.001				
LHDT1	Gas	65	40465.477			0.000999365						
LHDT1	Dsl	65	63822.562	0.010876539	4107.742434	0.005194416	21.33732151	0.047				
LHDT2	Gas	65	15958.609			0.001021923						
LHDT2	Dsl	65	31739.671	0.005409024	2042.826098	0.005269477	10.76462472	0.024				
MCY	Gas	65	53702.04			0.002198055						
MDV	Gas	65	625131.6			0.000664508						
MDV	Dsl	65	17603.569	0.002999972	1132.999425	0.000674305	0.7639871	0.002				
MH	Gas	65	5635.3217			0.001005371						
MH	Dsl	65	1525.7386	0.000260014	98.19946093	0.022200292	2.180056683	0.005				
MHDT	Dsl	65	94731.451	0.016143982	6097.097755	0.00102336	6.239525638	0.014				
MHDT	Gas	65	30676.327			0.002343175						
OBUS	Dsl	65	3642.0987	0.000620681	234.4124553	0.001022729	0.23974035	0.001				
OBUS	Gas	65	15609.667			0.003045399						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	1577.6807			0.001009277						
UBUS	Dsl	65	1588.1633	0.000270652	102.2172315	0.149770499	0.103165496	0.000	4.53	23	104	
							Total LM Emissions	**0.096**				4.86212E-06
							Total DPM Emissions	***1.780***	***TOTAL Emissions***			***8.9704E-05***

SB SR-60

Region Type:	County	LM	HD
Region:	San Bernardino (SC)	538,296	119,162
Calendar Year:	2045	Segment Length	
Season:	Annual	8.76	miles

Vehicle Class	Fuel	Speed	VMT	Proportion	SB SR-60 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	200129.6	0.997902691	118912.08	0.00443437	527.3001948	1.160				
HHDT	Gas	65	420.6157			0.00102483			8.76	28	245	2.48295E-05
		HHDT Total	200550.2				**Total HD Emissions**	**1.160**				2.48295E-05
LDA	Gas	65	1246500			0.0006121						
LDA	Dsl	65	17343.7	0.007551791	4065.098876	0.000547639	2.226207507	0.005				
LDT1	Gas	65	87185.77			0.00065544						
LDT1	Dsl	65	48.8438	2.12676E-05	11.44824136	0.003523281	0.040335376	0.000				
LDT2	Gas	65	495944.1			0.000617766						
LDT2	Dsl	65	1090.208	0.000474698	255.5281053	0.003191125	0.815422148	0.002				
LHDT1	Gas	65	8901.691			0.000999365						
LHDT1	Dsl	65	39538.39	0.017215801	9267.196707	0.005194416	48.13767144	0.106				
LHDT2	Gas	65	3454.679			0.001021923						
LHDT2	Dsl	65	19878.11	0.008655325	4659.126869	0.005269477	24.55116094	0.054				
MCY	Gas	65	9472.724			0.002198055						
MDV	Gas	65	268924.6			0.000664508						
MDV	Dsl	65	7577.061	0.003299203	1775.947586	0.000674305	1.197530217	0.003				
MH	Gas	65	799.499			0.001005371						
MH	Dsl	65	376.1138	0.000163767	88.15535295	0.022200292	1.957074556	0.004				
MHDT	Dsl	65	81834.98	0.035632575	19180.87266	0.00102336	19.62893683	0.043				
MHDT	Gas	65	3138.391			0.002343175						
OBUS	Dsl	65	2647.007	0.001152559	620.4180699	0.001022729	0.634519378	0.001				
OBUS	Gas	65	1450.8			0.003045399						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	264.6003			0.001009277						
UBUS	Dsl	65	262.2719	0.000114198	61.47253317	0.149770499	0.062042811	0.000	8.76	28	245	
							Total LM Emissions	**0.218**				4.67353E-06
							Total DPM Emissions	***1.378***	***TOTAL Emissions***			***2.9503E-05***

VEN US-101 SB

Region Type:	County	LM	HD
Region:	Ventura	358,463	53,836
Calendar Year:	2045	Segment Length	
Season:	Annual	3.37	miles

Vehicle Class	Fuel	Speed	VMT	Proportion	VEN US-101 SB Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	70034.90839	0.993256128	53472.94	0.004309139	230.4223001	0.507				
HHDT	Gas	65	475.5132292			0.001025323			3.37	34	115	2.32267E-05
		HHDT Tota	70510.42162				**Total HD Emissior**	**0.507**				2.32267E-05
LDA	Gas	65	997729.0145			0.000613515						
LDA	Dsl	65	13887.76055	0.007860461	2817.684481	0.000564513	1.590620603	0.003				
LDT1	Gas	65	73374.10961			0.000646402						
LDT1	Dsl	65	40.86191799	2.31278E-05	8.290464956	0.003672462	0.030446415	0.000				
LDT2	Gas	65	362178.7202			0.000603877						
LDT2	Dsl	65	797.3479665	0.000451298	161.7737419	0.003103117	0.502002842	0.001				
LHDT1	Gas	65	8575.401186			0.001000033						
LHDT1	Dsl	65	35784.9118	0.020254231	7260.392362	0.005309288	38.54751666	0.085				
LHDT2	Gas	65	3809.008255			0.001021503						
LHDT2	Dsl	65	17871.35862	0.010115174	3625.915759	0.005326302	19.3127241	0.042				
MCY	Gas	65	6967.471097			0.002194021						
MDV	Gas	65	177765.6253			0.000643782						
MDV	Dsl	65	5047.56836	0.00285692	1024.099961	0.000627726	0.642854309	0.001				
MH	Gas	65	1073.513606			0.000997337						
MH	Dsl	65	423.5448782	0.000239726	85.93292099	0.029177471	2.507305268	0.006				
MHDT	Dsl	65	54488.02204	0.030840176	11055.06201	0.001023363	11.31334047	0.025				
MHDT	Gas	65	3548.425005			0.002346996						
OBUS	Dsl	65	1327.10641	0.000751141	269.2563082	0.001022489	0.275311523	0.001				
OBUS	Gas	65	1619.295978			0.002952713						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	238.5062521			0.001013263						
UBUS	Dsl	65	239.4277363	0.000135516	48.57743725	0.090379155	0.04922174	0.000	3.37	34	115	
							Total LM Emissions	**0.164**				7.537E-06
							Total DPM Emissions	***0.671***	***TOTAL Emissions***			***3.0764E-05***

VEN US-101 TO

Region Type:	County	LM	HD
Region:	Ventura	160,863	19,462
Calendar Year:	2016	Segment Length	
Season:	Annual	1.73	miles

Vehicle Class	Fuel	Speed	VMT	Proportion	VEN US-101 TO Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	70034.91	0.993256128	19330.75	0.004309139	83.29888559	0.183				
HHDT	Gas	65	475.5132			0.001025323			1.73	24	42	2.31715E-05
		HHDT Total	70510.42				**Total HD Emissions**	**0.183**				2.31715E-05
LDA	Gas	65	997729			0.000613515						
LDA	Dsl	65	13887.76	0.007860461	1264.45736	0.000564513	0.713803104	0.002				
LDT1	Gas	65	73374.11			0.000646402						
LDT1	Dsl	65	40.86192	2.31278E-05	3.720409259	0.003672462	0.01366306	0.000				
LDT2	Gas	65	362178.7			0.000603877						
LDT2	Dsl	65	797.348	0.000451298	72.59719816	0.003103117	0.225277597	0.000				
LHDT1	Gas	65	8575.401			0.001000033						
LHDT1	Dsl	65	35784.91	0.020254231	3258.156341	0.005309288	17.29849154	0.038				
LHDT2	Gas	65	3809.008			0.001021503						
LHDT2	Dsl	65	17871.36	0.010115174	1627.157299	0.005326302	8.666731953	0.019				
MCY	Gas	65	6967.471			0.002194021						
MDV	Gas	65	177765.6			0.000643782						
MDV	Dsl	65	5047.568	0.00285692	459.5726532	0.000627726	0.288485765	0.001				
MH	Gas	65	1073.514			0.000997337						
MH	Dsl	65	423.5449	0.000239726	38.56305245	0.029177471	1.125172325	0.002				
MHDT	Dsl	65	54488.02	0.030840176	4961.043233	0.001023363	5.076947656	0.011				
MHDT	Gas	65	3548.425			0.002346996						
OBUS	Dsl	65	1327.106	0.000751141	120.830818	0.001022489	0.123548142	0.000				
OBUS	Gas	65	1619.296			0.002952713						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	238.5063			0.001013263						
UBUS	Dsl	65	239.4277	0.000135516	21.79949475	0.090379155	0.022088631	0.000	1.73	24	42	
							Total LM Emissions	**0.074**				9.33388E-06
							Total DPM Emissions	***0.257***	***TOTAL Emissions***			***3.2505E-05***

IMP I-8

Region Type:	County	LM	HD
Region:	Imperial	72,724	26,141
Calendar Year:	2045	Segment Length	
Season:	Annual	3.01	miles

Vehicle Class	Fuel	Speed	VMT	Proportion	IMP I-8 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	467877.9752	0.997337503	26071.40	0.004314442	112.4835421	0.247				
HHDT	Gas	65	1249.049462	0.002662497		0.001021521			3.01	35	105	1.23318E-05
		HHDT Total	469127.0246				**Total HD Emissions**	**0.247**				1.23318E-05
LDA	Gas	65	686767.7192			0.000609809						
LDA	Dsl	65	9567.830576	0.007581909	551.3867348	0.000543682	0.299778843	0.001				
LDT1	Gas	65	42942.47491			0.000644397						
LDT1	Dsl	65	24.07088072	1.90747E-05	1.387186387	0.003737102	0.005184058	0.000				
LDT2	Gas	65	243651.7037			0.00061275						
LDT2	Dsl	65	535.8929266	0.000424662	30.88309818	0.003161459	0.097635639	0.000				
LHDT1	Gas	65	9714.948108			0.001001585						
LHDT1	Dsl	65	23708.87896	0.018787807	1366.324503	0.005516684	7.537580512	0.017				
LHDT2	Gas	65	3824.71362			0.001022476						
LHDT2	Dsl	65	11786.67135	0.009340202	679.256826	0.005277536	3.584802583	0.008				
MCY	Gas	65	8004.239877			0.002201437						
MDV	Gas	65	137013.6997			0.000671022						
MDV	Dsl	65	3823.978024	0.003030264	220.3729194	0.000697516	0.153713649	0.000				
MH	Gas	65	1274.502975			0.001016116						
MH	Dsl	65	400.8689421	0.000317664	23.10176955	0.016149733	0.373087413	0.001				
MHDT	Dsl	65	54313.77906	0.043040281	3130.061412	0.001018837	3.189021806	0.007				
MHDT	Gas	65	9463.411087			0.002461454						
OBUS	Dsl	65	11101.80773	0.00879749	639.7886613	0.001022508	0.654189125	0.001				
OBUS	Gas	65	3284.94502			0.002768269						
SBUS	Dsl	65	0	0	0	0.002199722						
UBUS	Gas	65	363.5124097			0.001012229						
UBUS	Dsl	65	359.3736322	0.000284781	20.71042668	0.00619609	0.128323658	0.000	3.01	35	105	
							Total LM Emissions	**0.035**				1.75667E-06
							Total DPM Emissions	***0.283***	***TOTAL Emissions***			***1.4088E-05***

IMP SR-78

Region Type:	County	LM	HD
Region:	Imperial	27,045	5,428
Calendar Year:	2045	Segment Length	
Season:	Annual	0.87	miles

Vehicle Class	Fuel	Speed	VMT	Proportion	IMP SR-78 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	467877.9752	0.997337503	5413.55	0.004314442	23.3564388	0.051				
HHDT	Gas	65	1249.049462			0.001021521			3.01	54	54	4.99557E-06
		HHDT Total	469127.0246				**Total HD Emissions**	**0.051**				4.99557E-06
LDA	Gas	65	686767.7192			0.000609809						
LDA	Dsl	65	9567.830576	0.007581927	205.0532107	0.000543682	0.111483665	0.000				
LDT1	Gas	65	42942.47491			0.000644397						
LDT1	Dsl	65	24.07088072	1.90747E-05	0.515875708	0.003737102	0.00192788	0.000				
LDT2	Gas	65	243651.7037			0.00061275						
LDT2	Dsl	65	535.8929266	0.000424663	11.48500324	0.003161459	0.036309363	0.000				
LHDT1	Gas	65	9714.948108			0.001001585						
LHDT1	Dsl	65	23708.87896	0.018787852	508.1174582	0.005516684	2.803123447	0.006				
LHDT2	Gas	65	3824.71362			0.001022476						
LHDT2	Dsl	65	11786.67135	0.009340224	252.6063546	0.005277536	1.333139216	0.003				
MCY	Gas	65	8004.239877			0.002201437						
MDV	Gas	65	137013.6997			0.000671022						
MDV	Dsl	65	3823.978024	0.003030271	81.95368482	0.000697516	0.057164011	0.000				
MH	Gas	65	1274.502975			0.001016116						
MH	Dsl	65	400.8689421	0.000317664	8.591233194	0.016149733	0.138746123	0.000				
MHDT	Dsl	65	54313.77906	0.043040384	1164.027173	0.001018837	1.18595374	0.003				
MHDT	Gas	65	9463.411087			0.002461454						
OBUS	Dsl	65	11101.80773	0.008797511	237.9286821	0.001022508	0.243284018	0.001				
OBUS	Gas	65	3284.94502			0.002768269						
SBUS	Dsl	65	0	0	0	0.002199722						
UBUS	Gas	65	363.5124097			0.001012229						
UBUS	Dsl	65	359.3736322	0.000284782	7.701925377	0.00619609	0.047721819	0.000	3.01	54	54	
							Total LM Emissions	**0.013**				1.2745E-06
							Total DPM Emissions	***0.064***	***TOTAL Emissions***			***6.2701E-06***

*modeled for entire segment length in AERSCREEN

LA I-110

		LM	HD
Region Type:	County	329,680	51,814
Region:	Los Angeles (SC)	Segment Length	
Calendar Year:	2045	4.01	miles
Season:	Annual		

Vehicle Class	Fuel	Speed	VMT	Proportion	LA I-110 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	804712.0007	0.994214532	51514.23	0.004489986	231.2981605	0.509				
HHDT	Gas	65	4682.727405			0.001025111			4.01	29	116	2.29722E-05
		HHDT Tota	809394.7281				**Total HD Emissions**	**0.509**				2.29722E-05
LDA	Gas	65	3554539.187			0.000617625						
LDA	Dsl	65	49409.08171	0.006360479	2096.922578	0.000557467	1.168966061	0.003				
LDT1	Gas	65	351918.8238			0.000677843						
LDT1	Dsl	65	198.1512765	2.55082E-05	8.409544786	0.00425494	0.03578211	0.000				
LDT2	Gas	65	1685801.242			0.000617054						
LDT2	Dsl	65	3707.938726	0.000477327	157.3650058	0.003216718	0.506198828	0.001				
LHDT1	Gas	65	77238.95924			0.001006258						
LHDT1	Dsl	65	336226.8654	0.043282808	14269.47599	0.004688288	66.89941208	0.147				
LHDT2	Gas	65	34788.99327			0.001022679						
LHDT2	Dsl	65	170424.5569	0.021938917	7232.822163	0.005337568	38.6056787	0.085				
MCY	Gas	65	42645.5219			0.002202991						
MDV	Gas	65	909824.0021			0.000668995						
MDV	Dsl	65	25783.8167	0.003319176	1094.265781	0.000687321	0.752111618	0.002				
MH	Gas	65	8910.37144			0.001012904						
MH	Dsl	65	3547.17192	0.000456631	150.5420589	0.015106615	2.2741809	0.005				
MHDT	Dsl	65	416990.184	0.053679547	17697.07312	0.001022603	18.09708335	0.040				
MHDT	Gas	65	34913.98133			0.002338275						
OBUS	Dsl	65	41629.96737	0.005359066	1766.776784	0.001021766	1.805232444	0.004				
OBUS	Gas	65	14765.97186			0.003045399						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	2395.641847			0.001006684						
UBUS	Dsl	65	2478.47174	0.000319056	105.1863984	0.148869079	0.105889447	0.000	4.01	29	116	
							Total LM Emissions	**0.287**				1.29363E-05
							Total DPM Emissions	***0.795***	***TOTAL Emissions***			***3.5908E-05***

LA I-710

Region Type:	County		LM	HD	
Region:	Los Angeles (SC)		334,915	73,920	
Calendar Year:	2045		Segment Length		
Season:	Annual		2.1	miles	

Vehicle Class	Fuel	Speed	VMT	Proportion	LA I-710 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	804712.0007	0.994214532	73492.34	0.004489986	329.9795427	0.726				
HHDT	Gas	65	4682.727405			0.001025111			2.1	23	48	7.89064E-05
		HHDT Total	809394.7281				**Total HD Emissions**	**0.726**				7.89064E-05
LDA	Gas	65	3554539.187			0.000617625						
LDA	Dsl	65	49409.08171	0.006360479	2130.219683	0.000557467	1.187528113	0.003				
LDT1	Gas	65	351918.8238		0	0.000677843						
LDT1	Dsl	65	198.1512765	2.55082E-05	8.543080235	0.00425494	0.036350295	0.000				
LDT2	Gas	65	1685801.242		0	0.000617054						
LDT2	Dsl	65	3707.938726	0.000477327	159.8638101	0.003216718	0.514236776	0.001				
LHDT1	Gas	65	77238.95924		0	0.001006258						
LHDT1	Dsl	65	336226.8654	0.043282808	14496.06149	0.004688288	67.96171013	0.150				
LHDT2	Gas	65	34788.99327		0	0.001022679						
LHDT2	Dsl	65	170424.5569	0.021938917	7347.672393	0.005337568	39.21869959	0.086				
MCY	Gas	65	42645.5219		0	0.002202991						
MDV	Gas	65	909824.0021		0	0.000668995						
MDV	Dsl	65	25783.8167	0.003319176	1111.641665	0.000687321	0.764054424	0.002				
MH	Gas	65	8910.37144		0	0.001012904						
MH	Dsl	65	3547.17192	0.000456631	152.9325214	0.015106615	2.310292697	0.005				
MHDT	Dsl	65	416990.184	0.053679547	17978.08555	0.001022603	18.38444755	0.040				
MHDT	Gas	65	34913.98133		0	0.002338275						
OBUS	Dsl	65	41629.96737	0.005359066	1794.831493	0.001021766	1.833897791	0.004				
OBUS	Gas	65	14765.97186		0	0.003045399						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	2395.641847		0	0.001006684						
UBUS	Dsl	65	2478.47174	0.000319056	106.8566568	0.148869079	0.10757087	0.000	2.1	23	48	
							Total LM Emissions	**0.291**				3.16408E-05
							Total DPM Emissions	***1.017***	***TOTAL Emissions***			***1.1055E-04***

LA SR-60 DB

Region Type:	County	LM	HD
Region:	Los Angeles (SC)	720,800	102,760
Calendar Year:	2045	Segment Length	
Season:	Annual	7.2	miles

Vehicle Class	Fuel	Speed	VMT	Proportion	LA I-710 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	804712.0007	0.994214532	102165.49	0.004489986	458.7215612	1.009				
HHDT	Gas	65	4682.727405			0.001025111			7.2	29	209	2.53741E-05
		HHDT Total	809394.7281				**Total HD Emissions**	**1.009**				2.53741E-05
LDA	Gas	65	3554539.187			0.000617625						
LDA	Dsl	65	49409.08171	0.006360479	4584.63296	0.000557467	2.555783598	0.006				
LDT1	Gas	65	351918.8238		0	0.000677843						
LDT1	Dsl	65	198.1512765	2.55082E-05	18.38631364	0.00425494	0.078232664	0.000				
LDT2	Gas	65	1685801.242		0	0.000617054						
LDT2	Dsl	65	3707.938726	0.000477327	344.0569528	0.003216718	1.106734152	0.002				
LHDT1	Gas	65	77238.95924		0	0.001006258						
LHDT1	Dsl	65	336226.8654	0.043282808	31198.24768	0.004688288	146.2663681	0.322				
LHDT2	Gas	65	34788.99327		0	0.001022679						
LHDT2	Dsl	65	170424.5569	0.021938917	15813.57139	0.005337568	84.40600949	0.186				
MCY	Gas	65	42645.5219		0	0.002202991						
MDV	Gas	65	909824.0021		0	0.000668995						
MDV	Dsl	65	25783.8167	0.003319176	2392.461705	0.000687321	1.644388662	0.004				
MH	Gas	65	8910.37144		0	0.001012904						
MH	Dsl	65	3547.17192	0.000456631	329.1395172	0.015106615	4.972183915	0.011				
MHDT	Dsl	65	416990.184	0.053679547	38692.21761	0.001022603	39.56678499	0.087				
MHDT	Gas	65	34913.98133		0	0.002338275						
OBUS	Dsl	65	41629.96737	0.005359066	3862.814566	0.001021766	3.946892579	0.009				
OBUS	Gas	65	14765.97186		0	0.003045399						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	2395.641847		0	0.001006684						
UBUS	Dsl	65	2478.47174	0.000319056	229.9756004	0.148869079	0.231512721	0.001	7.2	29	209	
							Total LM Emissions	**0.627**				1.57523E-05
							Total DPM Emissions	***1.636***	***TOTAL Emissions***			***4.1126E-05***

LA SR-60 SEM

Region Type:	County	LM	HD
Region:	Los Angeles (SC)	348,992	32,485
Calendar Year:	2045	Segment Length	
Season:	Annual	8.31	miles

Vehicle Class	Fuel	Speed	VMT	Proportion	LA I-710 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	804712.0007	0.994214532	32297.06	0.004489986	145.0133312	0.319				
HHDT	Gas	65	4682.727405			0.001025111			8.31	26	216	7.75186E-06
		HHDT Tota	809394.7281				**Total HD Emissions**	**0.319**				7.75186E-06
LDA	Gas	65	3554539.187			0.000617625						
LDA	Dsl	65	49409.08171	0.006360479	2219.75614	0.000557467	1.237441772	0.003				
LDT1	Gas	65	351918.8238		0	0.000677843						
LDT1	Dsl	65	198.1512765	2.55082E-05	8.902159227	0.00425494	0.037878155	0.000				
LDT2	Gas	65	1685801.242		0	0.000617054						
LDT2	Dsl	65	3707.938726	0.000477327	166.5831355	0.003216718	0.53585095	0.001				
LHDT1	Gas	65	77238.95924		0	0.001006258						
LHDT1	Dsl	65	336226.8654	0.043282808	15105.35357	0.004688288	70.81824685	0.156				
LHDT2	Gas	65	34788.99327		0	0.001022679						
LHDT2	Dsl	65	170424.5569	0.021938917	7656.506528	0.005337568	40.86712273	0.090				
MCY	Gas	65	42645.5219		0	0.002202991						
MDV	Gas	65	909824.0021		0	0.000668995						
MDV	Dsl	65	25783.8167	0.003319176	1158.365698	0.000687321	0.796168824	0.002				
MH	Gas	65	8910.37144		0	0.001012904						
MH	Dsl	65	3547.17192	0.000456631	159.3605139	0.015106615	2.407397903	0.005				
MHDT	Dsl	65	416990.184	0.053679547	18733.73253	0.001022603	19.15717457	0.042				
MHDT	Gas	65	34913.98133		0	0.002338275						
OBUS	Dsl	65	41629.96737	0.005359066	1870.271061	0.001021766	1.910979377	0.004				
OBUS	Gas	65	14765.97186		0	0.003045399						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	2395.641847		0	0.001006684						
UBUS	Dsl	65	2478.47174	0.000319056	111.3480088	0.148869079	0.112092241	0.000	8.31	26	216	
							Total LM Emissions	**0.303**				7.37056E-06
							Total DPM Emissions	***0.622***	***TOTAL Emissions***			***1.5122E-05***

ORA I-5

Region Type:	County		LM	HD	
Region:	Orange		381,542	36,592	
Calendar Year:	2045		Segment Length		
Season:	Annual		7.11	miles	

Vehicle Class	Fuel	Speed	VMT	Proportion	ORA I-5 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	153993.0915	0.993335	36348.10	0.004390344	159.5806531	0.351				
HHDT	Gas	65	1033.321324			0.001025276			7.11	14	100	1.85163E-05
		HHDT Total	155026.4129				**Total HD Emissior**	**0.351**				1.85163E-05
LDA	Gas	65	2247129.503			0.000606964						
LDA	Dsl	65	31292.79203	0.007322	2793.626328	0.00053549	1.495960325	0.003				
LDT1	Gas	65	200126.7569			0.000650632						
LDT1	Dsl	65	110.6700333	2.59E-05	9.879933957	0.003325643	0.032857136	0.000				
LDT2	Gas	65	983956.1484			0.000605762						
LDT2	Dsl	65	2165.695016	0.000507	193.3398147	0.003119863	0.60319382	0.001				
LHDT1	Gas	65	17717.03289			0.001003301						
LHDT1	Dsl	65	70955.24518	0.016602	6334.444073	0.004895683	31.01143202	0.068				
LHDT2	Gas	65	7951.384008			0.001022359						
LHDT2	Dsl	65	35749.3252	0.008365	3191.47796	0.005344754	17.05766606	0.038				
MCY	Gas	65	23932.03555			0.002200421						
MDV	Gas	65	471900.4302			0.000654405						
MDV	Dsl	65	13390.6476	0.003133	1195.43394	0.000658269	0.786916806	0.002				
MH	Gas	65	2253.590748			0.001010546						
MH	Dsl	65	864.9048123	0.000202	77.21333565	0.020018122	1.545665952	0.003				
MHDT	Dsl	65	145509.7453	0.034047	12990.2073	0.00102122	13.2658544	0.029				
MHDT	Gas	65	7722.828122			0.002341319						
OBUS	Dsl	65	6168.256899	0.001443	550.6637072	0.001022419	0.563008801	0.001				
OBUS	Gas	65	3827.041697			0.003045399						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	556.9458034			0.000998951						
UBUS	Dsl	65	559.8969161	0.000131	49.98412299	0.150386559	0.049931706	0.000	7.11	14	100	
							Total LM Emissions	**0.146**				7.70592E-06
							Total DPM Emissions	***0.497***	***TOTAL Emissions***			***2.6222E-05***

ORA I-4055

		LM	HD
Region Type:	County	419,156	63,583
Region:	Orange	Segment Length	
Calendar Year:	2045	4.9	miles
Season:	Annual		

Vehicle Class	Fuel	Speed	VMT	Proportion	ORA I-405 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	153993.0915	0.993334547	63159.19	0.004390344	277.2905735	0.610				
HHDT	Gas	65	1033.321324			0.001025276			4.9	21	103	3.11238E-05
		HHDT Total	155026.4129				**Total HD Emissions**	**0.610**				3.11238E-05
LDA	Gas	65	2247129.503			0.000606964						
LDA	Dsl	65	31292.79203	0.007321937	3069.03365	0.00053549	1.643438326	0.004				
LDT1	Gas	65	200126.7569			0.000650632						
LDT1	Dsl	65	110.6700333	2.58947E-05	10.85393901	0.003325643	0.03609633	0.000				
LDT2	Gas	65	983956.1484			0.000605762						
LDT2	Dsl	65	2165.695016	0.000506733	212.4000592	0.003119863	0.66265918	0.001				
LHDT1	Gas	65	17717.03289			0.001003301						
LHDT1	Dsl	65	70955.24518	0.01660222	6958.919961	0.004895683	34.06866819	0.075				
LHDT2	Gas	65	7951.384008			0.001022359						
LHDT2	Dsl	65	35749.3252	0.008364683	3506.107154	0.005344754	18.73928185	0.041				
MCY	Gas	65	23932.03555			0.002200421						
MDV	Gas	65	471900.4302			0.000654405						
MDV	Dsl	65	13390.6476	0.003133165	1313.284798	0.000658269	0.864494343	0.002				
MH	Gas	65	2253.590748			0.001010546						
MH	Dsl	65	864.9048123	0.000202372	84.82534797	0.020018122	1.698044142	0.004				
MHDT	Dsl	65	145509.7453	0.034046599	14270.83606	0.00102122	14.57365759	0.032				
MHDT	Gas	65	7722.828122			0.002341319						
OBUS	Dsl	65	6168.256899	0.001443258	604.9504297	0.001022419	0.618512555	0.001				
OBUS	Gas	65	3827.041697			0.003045399						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	556.9458034			0.000998951						
UBUS	Dsl	65	559.8969161	0.000131006	54.91176608	0.150386559	0.054854182	0.000	4.9	21	103	
							Total LM Emissions	**0.161**				8.18917E-06
							Total DPM Emissions	***0.771***	***TOTAL Emissions***			***3.9313E-05***

RIV I-10
Region Type: County
Region: Riverside (MD/SCAQMD)
Calendar Year: 2045
Season: Annual

LM 723,144
HD 253,336
Segment Length 9.97 miles

Vehicle Class	Fuel	Speed	VMT	Proportion	RIV I-10 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	57425.03667	0.99857921	252976.06	0.004249092	1074.918601	2.365				
HHDT	Gas	65	81.70511388			0.00102492			9.97	34	339	3.66247E-05
		HHDT Total	57506.74178				**Total HD Emissio**	**2.365**				3.66247E-05
LDA	Gas	65	122364.2875			0.000612601						
LDA	Dsl	65	1703.699775	0.00784019	5669.588406	0.000557169	3.158919148	0.007				
LDT1	Gas	65	9258.935654		0	0.000651602						
LDT1	Dsl	65	5.167844437	2.3782E-05	17.19760214	0.00367529	0.06320618	0.000				
LDT2	Gas	65	50483.50114		0	0.000617877						
LDT2	Dsl	65	111.0283608	0.00051094	369.4812408	0.003194747	1.180399221	0.003				
LHDT1	Gas	65	1139.795528		0	0.000999681						
LHDT1	Dsl	65	1439.035679	0.00662224	4788.836694	0.005310935	25.43319815	0.056				
LHDT2	Gas	65	458.2873117		0	0.001022422						
LHDT2	Dsl	65	718.9859183	0.00330867	2392.648215	0.005329699	12.75209418	0.028				
MCY	Gas	65	1316.037979		0	0.002195013						
MDV	Gas	65	25891.77914		0	0.000662681						
MDV	Dsl	65	732.877644	0.0033726	2438.877233	0.000678552	1.654905319	0.004				
MH	Gas	65	151.5598152		0	0.001009549						
MH	Dsl	65	35.07567434	0.00016141	116.7251645	0.020786562	2.426314844	0.005				
MHDT	Dsl	65	516.9634753	0.002379	1720.355997	0.001022495	1.75905599	0.004				
MHDT	Gas	65	610.4960727		0	0.002541873						
OBUS	Dsl	65	7.730710997	3.5576E-05	25.72633399	0.001022049	0.026293575	0.000				
OBUS	Gas	65	296.2124272		0	0.003099277						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	30.70590264		0	0.001002961						
UBUS	Dsl	65	31.09690521	0.0001431	103.4845786	0.134787715	0.103790961	0.000	9.97	34	339	
							Total LM Emissions	**0.107**				1.65448E-06
							Total DPM Emissions	***2.472***	***TOTAL Emissions***			***3.8279E-05***

RIV I-15

Region Type:	County	LM	HD
Region:	Riverside (MD/SCAQMD)	1,156,784	146,056
Calendar Year:	2045	Segment Length	
Season:	Annual	10.64	miles

Vehicle Class	Fuel	Speed	VMT	Proportion	RIV I-15 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	57425.03667	0.99857921	145848.48	0.004249092	619.7236522	1.363				
HHDT	Gas	65	81.70511388			0.00102492			10.64	23	245	2.92483E-05
		HHDT Tota	57506.74178				**Total HD Emissions**	**1.363**				2.92483E-05
LDA	Gas	65	122364.2875			0.000612601						
LDA	Dsl	65	1703.699775	0.00784019	9069.409627	0.000557169	5.053194284	0.011				
LDT1	Gas	65	9258.935654			0.000651602						
LDT1	Dsl	65	5.167844437	2.3782E-05	27.51030362	0.00367529	0.101108352	0.000				
LDT2	Gas	65	50483.50114			0.000617877						
LDT2	Dsl	65	111.0283608	0.00051094	591.0440903	0.003194747	1.888236551	0.004				
LHDT1	Gas	65	1139.795528			0.000999681						
LHDT1	Dsl	65	1439.035679	0.00662224	7660.506989	0.005310935	40.68445107	0.090				
LHDT2	Gas	65	458.2873117			0.001022422						
LHDT2	Dsl	65	718.9859183	0.00330867	3827.421887	0.005329699	20.39900561	0.045				
MCY	Gas	65	1316.037979			0.002195013						
MDV	Gas	65	25891.77914			0.000662681						
MDV	Dsl	65	732.877644	0.0033726	3901.372563	0.000678552	2.647284627	0.006				
MH	Gas	65	151.5598152			0.001009549						
MH	Dsl	65	35.07567434	0.00016141	186.720491	0.020786562	3.881277021	0.009				
MHDT	Dsl	65	516.9634753	0.002379	2751.983411	0.001022495	2.813890213	0.006				
MHDT	Gas	65	610.4960727			0.002541873						
OBUS	Dsl	65	7.730710997	3.5576E-05	41.15336854	0.001022049	0.04206076	0.000				
OBUS	Gas	65	296.2124272			0.003099277						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	30.70590264			0.001002961						
UBUS	Dsl	65	31.09690521	0.0001431	165.5400649	0.134787715	0.166030172	0.000	10.64	23	245	
							Total LM Emissions	**0.171**				3.666E-06
							Total DPM Emissions	***1.534***		***TOTAL Emissions***		***3.2914E-05***

RIV SR-91

			LM	HD
Region Type:	County		601,441	85,765
Region:	Riverside (SC)	Segment Length		
Calendar Year:	2045		6.53	miles
Season:	Annual			

Vehicle Class	Fuel	Speed	VMT	Proportion	RIV SR-91 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	603495.3518	0.99835852	85624.22	0.004249092	363.825194	0.800				
HHDT	Gas	65	992.2554051			0.00102492			6.53	17	111	3.78532E-05
		HHDT Total	604487.6072				**Total HD Emissio**	**0.800**				3.78532E-05
LDA	Gas	65	2904962.144			0.000612601						
LDA	Dsl	65	40432.58932	0.00785878	4726.594142	0.000557169	2.633511936	0.006				
LDT1	Gas	65	193669.0801			0.000651602						
LDT1	Dsl	65	107.2821597	2.0852E-05	12.54134934	0.00367529	0.0460931	0.000				
LDT2	Gas	65	1109612.908			0.000617877						
LDT2	Dsl	65	2441.038772	0.00047446	285.3589086	0.003194747	0.911649622	0.002				
LHDT1	Gas	65	23046.23807			0.000999681						
LHDT1	Dsl	65	81179.12407	0.01577859	9489.888694	0.005310935	50.40017753	0.111				
LHDT2	Gas	65	9022.063228			0.001022422						
LHDT2	Dsl	65	40978.07508	0.00796481	4790.361756	0.005329699	25.53118502	0.056				
MCY	Gas	65	20904.3844			0.002195013						
MDV	Gas	65	555323.3392			0.000662681						
MDV	Dsl	65	15657.80235	0.00304337	1830.406564	0.000678552	1.242026256	0.003				
MH	Gas	65	2513.067667			0.001009549						
MH	Dsl	65	973.1265612	0.00018914	113.7590835	0.020786562	2.364660216	0.005				
MHDT	Dsl	65	126901.8633	0.0246656	14834.90456	0.001022495	15.16862078	0.033				
MHDT	Gas	65	7409.193806			0.002541873						
OBUS	Dsl	65	4781.432499	0.00092936	558.9523505	0.001022049	0.571276704	0.001				
OBUS	Gas	65	3882.402715			0.003099277						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	553.7270488			0.001002961						
UBUS	Dsl	65	541.2735523	0.00010521	63.27520558	0.134787715	0.063462542	0.000	6.53	17	111	
							Total LM Emissions	**0.218**				1.02932E-05
							Total DPM Emissions	***1.018***	***TOTAL Emissions***			***4.8146E-05***

SB I-15 ONT

Region Type:	County	LM	HD
Region:	San Bernardino (SC)	406,188	85,507
Calendar Year:	2045	Segment Length	
Season:	Annual	5.9	miles

Vehicle Class	Fuel	Speed	VMT	Proportion	SB I-15 ONT Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	200129.5545	0.997902691	85327.67	0.00443437	378.374463	0.832				
HHDT	Gas	65	420.6157035			0.00102483			5.9	26	153	2.84885E-05
		HHDT Total	200550.1702				**Total HD Emissions**	**0.832**				2.84885E-05
LDA	Gas	65	1246500.433			0.0006121						
LDA	Dsl	65	17343.69992	0.007551791	3067.446874	0.000547639	1.67985416	0.004				
LDT1	Gas	65	87185.77028			0.00065544						
LDT1	Dsl	65	48.84379664	2.12676E-05	8.63862682	0.003523281	0.030436313	0.000				
LDT2	Gas	65	495944.1253			0.000617766						
LDT2	Dsl	65	1090.207868	0.000474698	192.8166846	0.003191125	0.61530216	0.001				
LHDT1	Gas	65	8901.691224			0.000999365						
LHDT1	Dsl	65	39538.39345	0.017215801	6992.851695	0.005194416	36.32377816	0.080				
LHDT2	Gas	65	3454.678617			0.001021923						
LHDT2	Dsl	65	19878.11386	0.008655325	3515.689183	0.005269477	18.52584258	0.041				
MCY	Gas	65	9472.723827			0.002198055						
MDV	Gas	65	268924.6384			0.000664508						
MDV	Dsl	65	7577.060964	0.003299203	1340.096523	0.000674305	0.903633695	0.002				
MH	Gas	65	799.4989937			0.001005371						
MH	Dsl	65	376.1138498	0.000163767	66.5203652	0.022200292	1.476771515	0.003				
MHDT	Dsl	65	81834.98352	0.035632575	14473.52442	0.00102336	14.81162519	0.033				
MHDT	Gas	65	3138.391106			0.002343175						
OBUS	Dsl	65	2647.006914	0.001152559	468.1557637	0.001022729	0.478796345	0.001				
OBUS	Gas	65	1450.800385			0.003045399						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	264.6002512			0.001009277						
UBUS	Dsl	65	262.2718908	0.000114198	46.38601309	0.149770499	0.046816334	0.000	5.9	26	153	
							Total LM Emissions	**0.165**				5.63881E-06
							Total DPM Emissions	***0.997***	***TOTAL Emissions***			***3.4127E-05***

SB I-15 VIC

		LM	HD
Region Type:	County	374,475	173,857
Region:	San Bernardino (MD)	Segment Length	
Calendar Year:	2045	4.53	miles
Season:	Annual		

Vehicle Class	Fuel	Speed	VMT	Proportion	SB I-15 VIC Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	939957.3646	0.995648355	173100.44	0.00443437	767.5914281	1.689				
HHDT	Gas	65	4108.238294			0.00102483			4.53	23	104	8.50896E-05
		HHDT Total	944065.6029				**Total HD Emissions**	**1.689**				8.50896E-05
LDA	Gas	65	3345467.725			0.0006121						
LDA	Dsl	65	46569.98247	0.007936382	2971.9766	0.000547639	1.627570896	0.004				
LDT1	Gas	65	223198.9989			0.00065544						
LDT1	Dsl	65	124.4510172	2.12087E-05	7.942144087	0.003523281	0.027982409	0.000				
LDT2	Gas	65	1246398.67			0.000617766						
LDT2	Dsl	65	2741.144588	0.000467141	174.9328031	0.003191125	0.558232457	0.001				
LHDT1	Gas	65	40465.47663			0.000999365						
LHDT1	Dsl	65	63822.56206	0.010876539	4072.991892	0.005194416	21.15681276	0.047				
LHDT2	Gas	65	15958.60853			0.001021923						
LHDT2	Dsl	65	31739.67148	0.005409024	2025.544266	0.005269477	10.67355851	0.023				
MCY	Gas	65	53702.03968			0.002198055						
MDV	Gas	65	625131.5956			0.000664508						
MDV	Dsl	65	17603.56869	0.002999972	1123.414514	0.000674305	0.757523948	0.002				
MH	Gas	65	5635.321691			0.001005371						
MH	Dsl	65	1525.7386	0.000260014	97.36871642	0.022200292	2.161613913	0.005				
MHDT	Dsl	65	94731.45069	0.016143982	6045.517731	0.00102336	6.186740708	0.014				
MHDT	Gas	65	30676.32694			0.002343175						
OBUS	Dsl	65	3642.098724	0.000620681	232.4293807	0.001022729	0.237712203	0.001				
OBUS	Gas	65	15609.66688			0.003045399						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	1577.680665			0.001009277						
UBUS	Dsl	65	1588.163257	0.000270652	101.3524976	0.149770499	0.10229274	0.000	4.53	23	104	
							Total LM Emissions	**0.096**				4.82099E-06
							Total DPM Emissions	***1.784***	***TOTAL Emissions***			***8.9911E-05***

SB SR-60

		LM	HD
Region Type:	County	485,642	116,756
Region:	San Bernardino (SC)	Segment Length	
Calendar Year:	2045	8.76	miles
Season:	Annual		

Vehicle Class	Fuel	Speed	VMT	Proportion	SB SR-60 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	200129.5545	0.997902691	116511.13	0.00443437	516.6534763	1.137				
HHDT	Gas	65	420.6157035			0.00102483			8.76	28	245	2.43282E-05
		HHDT Total	200550.1702				**Total HD Emissions**	**1.137**				2.43282E-05
LDA	Gas	65	1246500.433			0.0006121						
LDA	Dsl	65	17343.69992	0.007551791	3667.466874	0.000547639	2.008448634	0.004				
LDT1	Gas	65	87185.77028			0.00065544						
LDT1	Dsl	65	48.84379664	2.12676E-05	10.32841937	0.003523281	0.036389928	0.000				
LDT2	Gas	65	495944.1253			0.000617766						
LDT2	Dsl	65	1090.207868	0.000474698	230.5333499	0.003191125	0.735660757	0.002				
LHDT1	Gas	65	8901.691224			0.000999365						
LHDT1	Dsl	65	39538.39345	0.017215801	8360.715931	0.005194416	43.42903353	0.096				
LHDT2	Gas	65	3454.678617			0.001021923						
LHDT2	Dsl	65	19878.11386	0.008655325	4203.389382	0.005269477	22.14966282	0.049				
MCY	Gas	65	9472.723827			0.002198055						
MDV	Gas	65	268924.6384			0.000664508						
MDV	Dsl	65	7577.060964	0.003299203	1602.23137	0.000674305	1.080392515	0.002				
MH	Gas	65	799.4989937			0.001005371						
MH	Dsl	65	376.1138498	0.000163767	79.53234265	0.022200292	1.765641211	0.004				
MHDT	Dsl	65	81834.98352	0.035632575	17304.67505	0.00102336	17.70891135	0.039				
MHDT	Gas	65	3138.391106			0.002343175						
OBUS	Dsl	65	2647.006914	0.001152559	559.7312117	0.001022729	0.572453186	0.001				
OBUS	Gas	65	1450.800385			0.003045399						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	264.6002512			0.001009277						
UBUS	Dsl	65	262.2718908	0.000114198	55.45953147	0.149770499	0.055974027	0.000	8.76	28	245	
							Total LM Emissions	**0.197**				4.21638E-06
							Total DPM Emissions	***1.334***	***TOTAL Emissions***			***2.8545E-05***

VEN US-101 SB

			LM	HD
Region Type:	County		286,318	55,704
Region:	Ventura	Segment Length		
Calendar Year:	2045		3.37	miles
Season:	Annual			

Vehicle Class	Fuel	Speed	VMT	Proportion	VEN US-101 SB Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	70034.90839	0.993256128	55328.34	0.004309139	238.4174865	0.525				
HHDT	Gas	65	475.5132292			0.001025323			3.37	34	115	2.40327E-05
		HHDT Total	70510.42162				**Total HD Emissio**	**0.525**				2.40327E-05
LDA	Gas	65	997729.0145			0.000613515						
LDA	Dsl	65	13887.76055	0.007860461	2250.591512	0.000564513	1.270489032	0.003				
LDT1	Gas	65	73374.10961			0.000646402						
LDT1	Dsl	65	40.86191799	2.31278E-05	6.621908943	0.003672462	0.024318707	0.000				
LDT2	Gas	65	362178.7202			0.000603877						
LDT2	Dsl	65	797.3479665	0.000451298	129.2148262	0.003103117	0.400968718	0.001				
LHDT1	Gas	65	8575.401186			0.001000033						
LHDT1	Dsl	65	35784.9118	0.020254231	5799.150875	0.005309288	30.78936424	0.068				
LHDT2	Gas	65	3809.008255			0.001021503						
LHDT2	Dsl	65	17871.35862	0.010115174	2896.156503	0.005326302	15.42580556	0.034				
MCY	Gas	65	6967.471097			0.002194021						
MDV	Gas	65	177765.6253			0.000643782						
MDV	Dsl	65	5047.56836	0.00285692	817.9874981	0.000627726	0.51347213	0.001				
MH	Gas	65	1073.513606			0.000997337						
MH	Dsl	65	423.5448782	0.000239726	68.63788472	0.029177471	2.002679857	0.004				
MHDT	Dsl	65	54488.02204	0.030840176	8830.097514	0.001023363	9.036394316	0.020				
MHDT	Gas	65	3548.425005			0.002346996						
OBUS	Dsl	65	1327.10641	0.000751141	215.0652303	0.001022489	0.21990176	0.000				
OBUS	Gas	65	1619.295978			0.002952713						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	238.5062521			0.001013263						
UBUS	Dsl	65	239.4277363	0.000135516	38.80064241	0.090379155	0.039315272	0.000	3.37	34	115	
							Total LM Emissions	**0.131**				6.02009E-06
							Total DPM Emissions	***0.656***	***TOTAL Emissions***			***3.0053E-05***

VEN US-101 TO

Region Type:	County	LM	HD
Region:	Ventura	208,936	20,449
Calendar Year:	2016	Segment Length	
Season:	Annual	1.73	miles

Vehicle Class	Fuel	Speed	VMT	Proportion	VEN US-101 TO Diesel VMT	PM_10R UNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	70034.90839	0.993256128	20311.09	0.004309	87.52332296	0.193				
HHDT	Gas	65	475.5132292			0.001025			1.73	24	42	2.43466E-05
		HHDT Total	70510.42162				**Total HD Emissions**	**0.193**				2.43466E-05
LDA	Gas	65	997729.0145			0.000614						
LDA	Dsl	65	13887.76055	0.007860461	1642.333309	0.000565	0.927119134	0.002				
LDT1	Gas	65	73374.10961			0.000646						
LDT1	Dsl	65	40.86191799	2.31278E-05	4.832232577	0.003672	0.017746189	0.000				
LDT2	Gas	65	362178.7202			0.000604						
LDT2	Dsl	65	797.3479665	0.000451298	94.29246125	0.003103	0.292600535	0.001				
LHDT1	Gas	65	8575.401186			0.001						
LHDT1	Dsl	65	35784.9118	0.020254231	4231.837982	0.005309	22.46804814	0.049				
LHDT2	Gas	65	3809.008255			0.001022						
LHDT2	Dsl	65	17871.35862	0.010115174	2113.424078	0.005326	11.2567359	0.025				
MCY	Gas	65	6967.471097			0.002194						
MDV	Gas	65	177765.6253			0.000644						
MDV	Dsl	65	5047.56836	0.00285692	596.9133478	0.000628	0.374698108	0.001				
MH	Gas	65	1073.513606			0.000997						
MH	Dsl	65	423.5448782	0.000239726	50.08740311	0.029177	1.461423727	0.003				
MHDT	Dsl	65	54488.02204	0.030840176	6443.623014	0.001023	6.59416482	0.015				
MHDT	Gas	65	3548.425005			0.002347						
OBUS	Dsl	65	1327.10641	0.000751141	156.9404262	0.001022	0.160469807	0.000				
OBUS	Gas	65	1619.295978			0.002953						
SBUS	Dsl	65	0	0	0	0.0022	0	0.000				
UBUS	Gas	65	238.5062521			0.001013						
UBUS	Dsl	65	239.4277363	0.000135516	28.31415078	0.090379	0.028689693	0.000	1.73	24	42	
							Total LM Emissions	**0.096**				1.21233E-05
							Total DPM Emissions	***0.288***		***TOTAL Emissions***		***3.6470E-05***

IMP I-8

Region Type:	County	LM	HD
Region:	Imperial	68,510	26,191
Calendar Year:	2045	Segment Length	
Season:	Annual	3.01	miles

Vehicle Class	Fuel	Speed	VMT	Proportion	IMP I-8 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	467877.9752	0.997337503	26121.27	0.004314442	112.6986899	0.248				
HHDT	Gas	65	1249.049462	0.002662497		0.001021521			3.01	35	105	1.23554E-05
		HHDT Total	469127.0246				**Total HD Emissions**	**0.248**				1.23554E-05
LDA	Gas	65	686767.7192			0.000609809						
LDA	Dsl	65	9567.830576	0.007581909	519.4365629	0.000543682	0.282408121	0.001				
LDT1	Gas	65	42942.47491			0.000644397						
LDT1	Dsl	65	24.07088072	1.90747E-05	1.306805702	0.003737102	0.004883667	0.000				
LDT2	Gas	65	243651.7037			0.00061275						
LDT2	Dsl	65	535.8929266	0.000424662	29.09357327	0.003161459	0.09197813	0.000				
LHDT1	Gas	65	9714.948108			0.001001585						
LHDT1	Dsl	65	23708.87896	0.018787807	1287.152662	0.005516684	7.100814486	0.016				
LHDT2	Gas	65	3824.71362			0.001022476						
LHDT2	Dsl	65	11786.67135	0.009340202	639.897206	0.005277536	3.377080758	0.007				
MCY	Gas	65	8004.239877			0.002201437						
MDV	Gas	65	137013.6997			0.000671022						
MDV	Dsl	65	3823.978024	0.003030264	207.6033836	0.000697516	0.144806693	0.000				
MH	Gas	65	1274.502975			0.001016116						
MH	Dsl	65	400.8689421	0.000317664	21.76313468	0.016149733	0.351468817	0.001				
MHDT	Dsl	65	54313.77906	0.043040281	2948.689621	0.001018837	3.004233547	0.007				
MHDT	Gas	65	9463.411087			0.002461454						
OBUS	Dsl	65	11101.80773	0.00879749	602.716029	0.001022508	0.616282056	0.001				
OBUS	Gas	65	3284.94502			0.002768269						
SBUS	Dsl	65	0	0	0	0.002199722						
UBUS	Gas	65	363.5124097			0.001012229						
UBUS	Dsl	65	359.3736322	0.000284781	19.51035847	0.00619609	0.120887928	0.000	3.01	35	105	
							Total LM Emissions	**0.033**				1.65488E-06
							Total DPM Emissions	***0.281***	***TOTAL Emissions***			***1.4010E-05***

IMP SR-78

Region Type:	County	LM	HD
Region:	Imperial	24,905	4,914
Calendar Year:	2045	Segment Length	
Season:	Annual	0.87	miles

Vehicle Class	Fuel	Speed	VMT	Proportion	IMP SR-78 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	467877.9752	0.997337503	4900.92	0.004314442	21.14472002	0.047				
HHDT	Gas	65	1249.049462			0.001021521			3.01	54	54	4.52252E-06
		HHDT Total	469127.0246				**Total HD Emissions**	**0.047**				4.52252E-06
LDA	Gas	65	686767.7192			0.000609809						
LDA	Dsl	65	9567.830576	0.007581909	188.827435	0.000543682	0.102662009	0.000				
LDT1	Gas	65	42942.47491			0.000644397						
LDT1	Dsl	65	24.07088072	1.90747E-05	0.475054677	0.003737102	0.001775328	0.000				
LDT2	Gas	65	243651.7037			0.00061275						
LDT2	Dsl	65	535.8929266	0.000424662	10.57619969	0.003161459	0.033436218	0.000				
LHDT1	Gas	65	9714.948108			0.001001585						
LHDT1	Dsl	65	23708.87896	0.018787807	467.910334	0.005516684	2.581313449	0.006				
LHDT2	Gas	65	3824.71362			0.001022476						
LHDT2	Dsl	65	11786.67135	0.009340201	232.6177183	0.005277536	1.227648461	0.003				
MCY	Gas	65	8004.239877			0.002201437						
MDV	Gas	65	137013.6997			0.000671022						
MDV	Dsl	65	3823.978024	0.003030264	75.46872364	0.000697516	0.052640646	0.000				
MH	Gas	65	1274.502975			0.001016116						
MH	Dsl	65	400.8689421	0.000317664	7.911412465	0.016149733	0.1277672	0.000				
MHDT	Dsl	65	54313.77906	0.04304028	1071.918185	0.001018837	1.092109711	0.002				
MHDT	Gas	65	9463.411087			0.002461454						
OBUS	Dsl	65	11101.80773	0.00879749	219.101484	0.001022508	0.224033054	0.000				
OBUS	Gas	65	3284.94502			0.002768269						
SBUS	Dsl	65	0	0	0	0.002199722						
UBUS	Gas	65	363.5124097			0.001012229						
UBUS	Dsl	65	359.3736322	0.000284781	7.092475209	0.00619609	0.043945611	0.000	3.01	54	54	
							Total LM Emissions	**0.012**				1.17365E-06
							Total DPM Emissions	***0.059***	***TOTAL Emissions***			***5.6962E-06***

*modeled for entire segment length in AERSCREEN

LA I-110

Region Type:	County		LM	HD	
Region:	Los Angeles (SC)		310,964	51,764	
Calendar Year:	2045		Segment Length		
Season:	Annual		4.01	miles	

Vehicle Class	Fuel	Speed	VMT	Proportion	LA I-110 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	804712.0007	0.994214532	51464.52	0.004489986	231.07496	0.508				
HHDT	Gas	65	4682.727405			0.001025111			4.01	29	116	2.295E-05
		HHDT Total	809394.7281				**Total HD Emissions**	**0.508**				2.295E-05
LDA	Gas	65	3554539.187			0.000617625						
LDA	Dsl	65	49409.08171	0.006360479	1977.879861	0.000557467	1.102603622	0.002				
LDT1	Gas	65	351918.8238			0.000677843						
LDT1	Dsl	65	198.1512765	2.55082E-05	7.932133235	0.00425494	0.033750752	0.000				
LDT2	Gas	65	1685801.242			0.000617054						
LDT2	Dsl	65	3707.938726	0.000477327	148.4313628	0.003216718	0.477461818	0.001				
LHDT1	Gas	65	77238.95924			0.001006258						
LHDT1	Dsl	65	336226.8654	0.043282808	13459.39497	0.004688288	63.10151898	0.139				
LHDT2	Gas	65	34788.99327			0.001022679						
LHDT2	Dsl	65	170424.5569	0.021938917	6822.213392	0.005337568	36.41402655	0.080				
MCY	Gas	65	42645.5219			0.002202991						
MDV	Gas	65	909824.0021			0.000668995						
MDV	Dsl	65	25783.8167	0.003319176	1032.144092	0.000687321	0.70941409	0.002				
MH	Gas	65	8910.37144			0.001012904						
MH	Dsl	65	3547.17192	0.000456631	141.9957559	0.015106615	2.145075193	0.005				
MHDT	Dsl	65	416990.184	0.053679547	16692.40671	0.001022603	17.06970828	0.038				
MHDT	Gas	65	34913.98133			0.002338275						
OBUS	Dsl	65	41629.96737	0.005359066	1666.47651	0.001021766	1.702749034	0.004				
OBUS	Gas	65	14765.97186			0.003045399						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	2395.641847			0.001006684						
UBUS	Dsl	65	2478.47174	0.000319056	99.21494533	0.148869079	0.099878082	0.000	4.01	29	116	
							Total LM Emissions	**0.270**				1.22019E-05
							Total DPM Emissions	***0.779***	***TOTAL Emissions***			***3.5152E-05***

LA I-710

Region Type:	County	LM	HD
Region:	Los Angeles (SC)	334,577	73,387
Calendar Year:	2045	Segment Length	
Season:	Annual	2.1	miles

Vehicle Class	Fuel	Speed	VMT	Proportion	LA I-710 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	804712.0007	0.994214532	72962.42	0.004489986	327.6002259	0.721				
HHDT	Gas	65	4682.727405			0.001025111			2.1	23	48	7.83375E-05
		HHDT Total	809394.7281				**Total HD Emissions**	**0.721**				7.83375E-05
LDA	Gas	65	3554539.187			0.000617625						
LDA	Dsl	65	49409.08171	0.006360479	2128.069842	0.000557467	1.186329646	0.003				
LDT1	Gas	65	351918.8238		0	0.000677843						
LDT1	Dsl	65	198.1512765	2.55082E-05	8.534458462	0.00425494	0.03631361	0.000				
LDT2	Gas	65	1685801.242		0	0.000617054						
LDT2	Dsl	65	3707.938726	0.000477327	159.7024738	0.003216718	0.513717803	0.001				
LHDT1	Gas	65	77238.95924		0	0.001006258						
LHDT1	Dsl	65	336226.8654	0.043282808	14481.4319	0.004688288	67.89312241	0.149				
LHDT2	Gas	65	34788.99327		0	0.001022679						
LHDT2	Dsl	65	170424.5569	0.021938917	7340.257039	0.005337568	39.17911964	0.086				
MCY	Gas	65	42645.5219		0	0.002202991						
MDV	Gas	65	909824.0021		0	0.000668995						
MDV	Dsl	65	25783.8167	0.003319176	1110.519784	0.000687321	0.763283332	0.002				
MH	Gas	65	8910.37144		0	0.001012904						
MH	Dsl	65	3547.17192	0.000456631	152.7781801	0.015106615	2.307961123	0.005				
MHDT	Dsl	65	416990.184	0.053679547	17959.94186	0.001022603	18.36589376	0.040				
MHDT	Gas	65	34913.98133		0	0.002338275						
OBUS	Dsl	65	41629.96737	0.005359066	1793.020129	0.001021766	1.832047001	0.004				
OBUS	Gas	65	14765.97186		0	0.003045399						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	2395.641847		0	0.001006684						
UBUS	Dsl	65	2478.47174	0.000319056	106.7488158	0.148869079	0.107462308	0.000	2.1	23	48	
							Total LM Emissions	**0.291**				3.16088E-05
							Total DPM Emissions	***1.012***	***TOTAL Emissions***			***1.0995E-04***

LA SR-60 DB

Region Type:	County	LM	HD
Region:	Los Angeles (SC)	694,684	108,871
Calendar Year:	2045	Segment Length	
Season:	Annual	7.2	miles

Vehicle Class	Fuel	Speed	VMT	Proportion	LA I-710 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	804712.0007	0.994214532	108241.13	0.004489986	486.00112	1.069				
HHDT	Gas	65	4682.727405			0.001025111			7.2	29	209	2.68831E-05
		HHDT Total	809394.7281				**Total HD Emissions**	**1.069**				2.68831E-05
LDA	Gas	65	3554539.187			0.000617625						
LDA	Dsl	65	49409.08171	0.006360479	4418.522701	0.000557467	2.463182537	0.005				
LDT1	Gas	65	351918.8238		0	0.000677843						
LDT1	Dsl	65	198.1512765	2.55082E-05	17.72014138	0.00425494	0.075398141	0.000				
LDT2	Gas	65	1685801.242		0	0.000617054						
LDT2	Dsl	65	3707.938726	0.000477327	331.5910935	0.003216718	1.066634999	0.002				
LHDT1	Gas	65	77238.95924		0	0.001006258						
LHDT1	Dsl	65	336226.8654	0.043282808	30067.87388	0.004688288	140.9668502	0.310				
LHDT2	Gas	65	34788.99327		0	0.001022679						
LHDT2	Dsl	65	170424.5569	0.021938917	15240.61463	0.005337568	81.34781395	0.179				
MCY	Gas	65	42645.5219		0	0.002202991						
MDV	Gas	65	909824.0021		0	0.000668995						
MDV	Dsl	65	25783.8167	0.003319176	2305.778118	0.000687321	1.584809231	0.003				
MH	Gas	65	8910.37144		0	0.001012904						
MH	Dsl	65	3547.17192	0.000456631	317.2141459	0.015106615	4.792031924	0.011				
MHDT	Dsl	65	416990.184	0.053679547	37290.32256	0.001022603	38.13320264	0.084				
MHDT	Gas	65	34913.98133		0	0.002338275						
OBUS	Dsl	65	41629.96737	0.005359066	3722.857206	0.001021766	3.803888907	0.008				
OBUS	Gas	65	14765.97186		0	0.003045399						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	2395.641847		0	0.001006684						
UBUS	Dsl	65	2478.47174	0.000319056	221.6431326	0.148869079	0.22312456	0.000	7.2	29	209	
							Total LM Emissions	**0.604**				1.51816E-05
							Total DPM Emissions	***1.673***	***TOTAL Emissions***			***4.2065E-05***

LA SR-60 SEM

		LM	HD
Region Type:	County	338,836	33,134
Region:	Los Angeles (SC)	Segment Length	
Calendar Year:	2045	8.31	miles
Season:	Annual		

Vehicle Class	Fuel	Speed	VMT	Proportion	LA I-710 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	804712.0007	0.994214532	32942.30	0.004489986	147.910473	0.325				
HHDT	Gas	65	4682.727405			0.001025111			8.31	26	216	7.90673E-06
		HHDT Tota	809394.7281				**Total HD Emissions**	**0.325**				7.90673E-06
LDA	Gas	65	3554539.187			0.000617625						
LDA	Dsl	65	49409.08171	0.006360479	2155.15912	0.000557467	1.201431037	0.003				
LDT1	Gas	65	351918.8238		0	0.000677843						
LDT1	Dsl	65	198.1512765	2.55082E-05	8.643097904	0.00425494	0.036775864	0.000				
LDT2	Gas	65	1685801.242		0	0.000617054						
LDT2	Dsl	65	3707.938726	0.000477327	161.7354074	0.003216718	0.520257177	0.001				
LHDT1	Gas	65	77238.95924		0	0.001006258						
LHDT1	Dsl	65	336226.8654	0.043282808	14665.77338	0.004688288	68.75736833	0.151				
LHDT2	Gas	65	34788.99327		0	0.001022679						
LHDT2	Dsl	65	170424.5569	0.021938917	7433.694887	0.005337568	39.67785049	0.087				
MCY	Gas	65	42645.5219		0	0.002202991						
MDV	Gas	65	909824.0021		0	0.000668995						
MDV	Dsl	65	25783.8167	0.003319176	1124.656152	0.000687321	0.772999552	0.002				
MH	Gas	65	8910.37144		0	0.001012904						
MH	Dsl	65	3547.17192	0.000456631	154.7229709	0.015106615	2.337340329	0.005				
MHDT	Dsl	65	416990.184	0.053679547	18188.56305	0.001022603	18.59968252	0.041				
MHDT	Gas	65	34913.98133		0	0.002338275						
OBUS	Dsl	65	41629.96737	0.005359066	1815.84439	0.001021766	1.855368055	0.004				
OBUS	Gas	65	14765.97186		0	0.003045399						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	2395.641847		0	0.001006684						
UBUS	Dsl	65	2478.47174	0.000319056	108.1076755	0.148869079	0.10883025	0.000	8.31	26	216	

Total LM Emissions	**0.295**		7.15607E-06
Total DPM Emissions	***0.620***	***TOTAL Emissions***	***1.5063E-05***

ORA I-5

		LM	HD
Region Type:	County	362,162	37,257
Region:	Orange	Segment Length	
Calendar Year:	2045	7.11	miles
Season:	Annual		

Vehicle Class	Fuel	Speed	VMT	Proportion	ORA I-5 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	153993.0915	0.993334547	37008.67	0.004390344	162.4807715	0.357				
HHDT	Gas	65	1033.321324			0.001025276			7.11	14	100	1.88528E-05
		HHDT Total	155026.4129				**Total HD Emissio**	**0.357**				1.88528E-05
LDA	Gas	65	2247129.503			0.000606964						
LDA	Dsl	65	31292.79203	0.007321937	2651.727197	0.00053549	1.41997469	0.003				
LDT1	Gas	65	200126.7569			0.000650632						
LDT1	Dsl	65	110.6700333	2.58947E-05	9.37809374	0.003325643	0.031188195	0.000				
LDT2	Gas	65	983956.1484			0.000605762						
LDT2	Dsl	65	2165.695016	0.000506733	183.5193346	0.003119863	0.572555263	0.001				
LHDT1	Gas	65	17717.03289			0.001003301						
LHDT1	Dsl	65	70955.24518	0.01660222	6012.693057	0.004895683	29.43624095	0.065				
LHDT2	Gas	65	7951.384008			0.001022359						
LHDT2	Dsl	65	35749.3252	0.008364683	3029.370399	0.005344754	16.19124095	0.036				
MCY	Gas	65	23932.03555			0.002200421						
MDV	Gas	65	471900.4302			0.000654405						
MDV	Dsl	65	13390.6476	0.003133165	1134.713207	0.000658269	0.746946245	0.002				
MH	Gas	65	2253.590748			0.001010546						
MH	Dsl	65	864.9048123	0.000202372	73.29137045	0.020018122	1.467155575	0.003				
MHDT	Dsl	65	145509.7453	0.034046599	12330.38422	0.00102122	12.59203013	0.028				
MHDT	Gas	65	7722.828122			0.002341319						
OBUS	Dsl	65	6168.256899	0.001443258	522.6933588	0.001022419	0.534411398	0.001				
OBUS	Gas	65	3827.041697			0.003045399						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	556.9458034			0.000998951						
UBUS	Dsl	65	559.8969161	0.000131006	47.44523525	0.150386559	0.047395481	0.000	7.11	14	100	
							Total LM Emissions	**0.139**				7.31451E-06
							Total DPM Emissions	***0.496***	***TOTAL Emissions***			***2.6167E-05***

ORA I-4055

		LM	HD
Region Type:	County	404,006	63,210
Region:	Orange	Segment Length	
Calendar Year:	2045	4.9	miles
Season:	Annual		

Vehicle Class	Fuel	Speed	VMT	Proportion	ORA I-405 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	153993.0915	0.993334547	62788.68	0.004390344	275.6638905	0.606				
HHDT	Gas	65	1033.321324			0.001025276			4.9	21	103	3.09412E-05
		HHDT Total	155026.4129				**Total HD Emissions**	**0.606**				3.09412E-05
LDA	Gas	65	2247129.503			0.000606964						
LDA	Dsl	65	31292.79203	0.007321937	2958.106311	0.00053549	1.584037791	0.003				
LDT1	Gas	65	200126.7569			0.000650632						
LDT1	Dsl	65	110.6700333	2.58947E-05	10.46163358	0.003325643	0.034791662	0.000				
LDT2	Gas	65	983956.1484			0.000605762						
LDT2	Dsl	65	2165.695016	0.000506733	204.7230585	0.003119863	0.638707986	0.001				
LHDT1	Gas	65	17717.03289			0.001003301						
LHDT1	Dsl	65	70955.24518	0.01660222	6707.396334	0.004895683	32.83728817	0.072				
LHDT2	Gas	65	7951.384008			0.001022359						
LHDT2	Dsl	65	35749.3252	0.008364683	3379.382203	0.005344754	18.0619681	0.040				
MCY	Gas	65	23932.03555			0.002200421						
MDV	Gas	65	471900.4302			0.000654405						
MDV	Dsl	65	13390.6476	0.003133165	1265.817352	0.000658269	0.833248007	0.002				
MH	Gas	65	2253.590748			0.001010546						
MH	Dsl	65	864.9048123	0.000202372	81.75941543	0.020018122	1.636669931	0.004				
MHDT	Dsl	65	145509.7453	0.034046599	13755.03009	0.00102122	14.04690642	0.031				
MHDT	Gas	65	7722.828122			0.002341319						
OBUS	Dsl	65	6168.256899	0.001443258	583.0850645	0.001022419	0.596156999	0.001				
OBUS	Gas	65	3827.041697			0.003045399						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	556.9458034			0.000998951						
UBUS	Dsl	65	559.8969161	0.000131006	52.92703186	0.150386559	0.052871529	0.000	4.9	21	103	
							Total LM Emissions	**0.155**				7.89318E-06
							Total DPM Emissions	***0.761***	***TOTAL Emissions***			***3.8834E-05***

RIV I-10

Region Type:	County	LM	HD
Region:	Riverside	689,301	245,273
Calendar Year:	2045	Segment Length	
Season:	Annual	9.97	miles

Vehicle Class	Fuel	Speed	VMT	Proportion	RIV I-10 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	57425.03667	0.99857921	244924.52	0.004249092	1040.706848	2.290				
HHDT	Gas	65	81.70511388			0.00102492			9.97	34	339	3.5459E-05
		HHDT Tota	57506.74178				**Total HD Emissions**	**2.290**				3.5459E-05
LDA	Gas	65	122364.2875			0.000612601						
LDA	Dsl	65	1703.699775	0.00784019	5404.25276	0.000557169	3.01108234	0.007				
LDT1	Gas	65	9258.935654			0.000651602						
LDT1	Dsl	65	5.167844437	2.3782E-05	16.39275767	0.00367529	0.060248143	0.000				
LDT2	Gas	65	50483.50114			0.000617877						
LDT2	Dsl	65	111.0283608	0.00051094	352.1895898	0.003194747	1.125156765	0.002				
LHDT1	Gas	65	1139.795528			0.000999681						
LHDT1	Dsl	65	1439.035679	0.00662224	4564.720058	0.005310935	24.24292937	0.053				
LHDT2	Gas	65	458.2873117			0.001022422						
LHDT2	Dsl	65	718.9859183	0.00330867	2280.672739	0.005329699	12.15529863	0.027				
MCY	Gas	65	1316.037979			0.002195013						
MDV	Gas	65	25891.77914			0.000662681						
MDV	Dsl	65	732.877644	0.0033726	2324.738248	0.000678552	1.577456068	0.003				
MH	Gas	65	151.5598152			0.001009549						
MH	Dsl	65	35.07567434	0.00016141	111.2624493	0.020786562	2.312763776	0.005				
MHDT	Dsl	65	516.9634753	0.002379	1639.843668	0.001022495	1.676732508	0.004				
MHDT	Gas	65	610.4960727			0.002541873						
OBUS	Dsl	65	7.730710997	3.5576E-05	24.52234651	0.001022049	0.02506304	0.000				
OBUS	Gas	65	296.2124272			0.003099277						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	30.70590264			0.001002961						
UBUS	Dsl	65	31.09690521	0.0001431	98.6415202	0.134787715	0.098933564	0.000	9.97	34	339	
							Total LM Emissions	**0.102**				1.57705E-06
							Total DPM Emissions	***2.391***		***TOTAL Emissions***		***3.7036E-05***

RIV I-15

Region Type:	County	LM	HD
Region:	Riverside	1,149,936	145,421
Calendar Year:	2045	Segment Length	
Season:	Annual	10.64	miles

Vehicle Class	Fuel	Speed	VMT	Proportion	RIV I-15 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	57425.03667	0.99857921	145214.39	0.004249	617.0293	1.357				
HHDT	Gas	65	81.70511388			0.001025			10.64	23	245	2.91212E-05
		HHDT Total	57506.74178				**Total HD E**	**1.357**				2.91212E-05
LDA	Gas	65	122364.2875			0.000613						
LDA	Dsl	65	1703.699775	0.00784019	9015.719986	0.000557	5.02328	0.011				
LDT1	Gas	65	9258.935654			0.000652						
LDT1	Dsl	65	5.167844437	2.3782E-05	27.34744645	0.003675	0.10051	0.000				
LDT2	Gas	65	50483.50114			0.000618						
LDT2	Dsl	65	111.0283608	0.00051094	587.5451917	0.003195	1.877058	0.004				
LHDT1	Gas	65	1139.795528			0.001						
LHDT1	Dsl	65	1439.035679	0.00662224	7615.157856	0.005311	40.4436	0.089				
LHDT2	Gas	65	458.2873117			0.001022						
LHDT2	Dsl	65	718.9859183	0.00330867	3804.764083	0.00533	20.27825	0.045				
MCY	Gas	65	1316.037979			0.002195						
MDV	Gas	65	25891.77914			0.000663						
MDV	Dsl	65	732.877644	0.0033726	3878.276982	0.000679	2.631613	0.006				
MH	Gas	65	151.5598152			0.00101						
MH	Dsl	65	35.07567434	0.00016141	185.6151317	0.020787	3.8583	0.008				
MHDT	Dsl	65	516.9634753	0.002379	2735.692053	0.001022	2.797232	0.006				
MHDT	Gas	65	610.4960727			0.002542						
OBUS	Dsl	65	7.730710997	3.5576E-05	40.90974633	0.001022	0.041812	0.000				
OBUS	Gas	65	296.2124272			0.003099						
SBUS	Dsl	65	0	0	0	0.0022	0	0.000				
UBUS	Gas	65	30.70590264			0.001003						
UBUS	Dsl	65	31.09690521	0.0001431	164.5600908	0.134788	0.165047	0.000	10.64	23	245	
						Total LM Emissions		**0.170**				3.6443E-06
						Total DPM Emissions		***1.527***		***TOTAL Emissions***		***3.2765E-05***

RIV SR-91

Region Type:	County	LM	HD
Region:	Riverside	588,819	85,234
Calendar Year:	2045	Segment Length	
Season:	Annual	6.53	miles

Vehicle Class	Fuel	Speed	VMT	Proportion	RIV SR-91 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	603495.3518	0.99835852	85094.09	0.004249092	361.5726297	0.795				
HHDT	Gas	65	992.2554051			0.00102492			6.53	17	111	3.76189E-05
		HHDT Total	604487.6072				**Total HD Emissions**	**0.795**				3.76189E-05
LDA	Gas	65	2904962.144			0.000612601						
LDA	Dsl	65	40432.58932	0.00785878	4627.400586	0.000557169	2.578244357	0.006				
LDT1	Gas	65	193669.0801			0.000651602						
LDT1	Dsl	65	107.2821597	2.0852E-05	12.27815327	0.00367529	0.045125778	0.000				
LDT2	Gas	65	1109612.908			0.000617877						
LDT2	Dsl	65	2441.038772	0.00047446	279.370291	0.003194747	0.892517502	0.002				
LHDT1	Gas	65	23046.23807			0.000999681						
LHDT1	Dsl	65	81179.12407	0.01577859	9290.731378	0.005310935	49.34246607	0.109				
LHDT2	Gas	65	9022.063228			0.001022422						
LHDT2	Dsl	65	40978.07508	0.00796481	4689.829957	0.005329699	24.99538081	0.055				
MCY	Gas	65	20904.3844			0.002195013						
MDV	Gas	65	555323.3392			0.000662681						
MDV	Dsl	65	15657.80235	0.00304337	1791.993167	0.000678552	1.215960764	0.003				
MH	Gas	65	2513.067667			0.001009549						
MH	Dsl	65	973.1265612	0.00018914	111.3717052	0.020786562	2.315034831	0.005				
MHDT	Dsl	65	126901.8633	0.0246656	14523.57533	0.001022495	14.85028809	0.033				
MHDT	Gas	65	7409.193806			0.002541873						
OBUS	Dsl	65	4781.432499	0.00092936	547.2220286	0.001022049	0.55928774	0.001				
OBUS	Gas	65	3882.402715			0.003099277						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	553.7270488			0.001002961						
UBUS	Dsl	65	541.2735523	0.00010521	61.94729537	0.134787715	0.0621307	0.000	6.53	17	111	
							Total LM Emissions	**0.213**				1.00772E-05
							Total DPM Emissions	***1.009***		***TOTAL Emissions***		***4.7696E-05***

SB I-15 ONT

Region Type: County

Region: San Bernardino

Calendar Year: 2045

Season: Annual

LM 395,054

HD 83,224

Segment Length 5.9 miles

Vehicle Class	Fuel	Speed	VMT	Proportion	SB I-15 ONT Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	200129.5545	0.997902691	83049.45	0.00443437	368.2720281	0.810				
HHDT	Gas	65	420.6157035			0.00102483			5.9	26	153	2.77278E-05
		HHDT Total	200550.1702				**Total HD Emissions**	**0.810**				2.77278E-05
LDA	Gas	65	1246500.433			0.0006121						
LDA	Dsl	65	17343.69992	0.007551791	2983.365233	0.000547639	1.633807757	0.004				
LDT1	Gas	65	87185.77028			0.00065544						
LDT1	Dsl	65	48.84379664	2.12676E-05	8.40183383	0.003523281	0.029602025	0.000				
LDT2	Gas	65	495944.1253			0.000617766						
LDT2	Dsl	65	1090.207868	0.000474698	187.5313956	0.003191125	0.598436142	0.001				
LHDT1	Gas	65	8901.691224			0.000999365						
LHDT1	Dsl	65	39538.39345	0.017215801	6801.170969	0.005194416	35.3281088	0.078				
LHDT2	Gas	65	3454.678617			0.001021923						
LHDT2	Dsl	65	19878.11386	0.008655325	3419.320794	0.005269477	18.01803159	0.040				
MCY	Gas	65	9472.723827			0.002198055						
MDV	Gas	65	268924.6384			0.000664508						
MDV	Dsl	65	7577.060964	0.003299203	1303.363201	0.000674305	0.878864235	0.002				
MH	Gas	65	799.4989937			0.001005371						
MH	Dsl	65	376.1138498	0.000163767	64.69697862	0.022200292	1.436291801	0.003				
MHDT	Dsl	65	81834.98352	0.035632575	14076.79133	0.00102336	14.40562444	0.032				
MHDT	Gas	65	3138.391106			0.002343175						
OBUS	Dsl	65	2647.006914	0.001152559	455.3231683	0.001022729	0.465672081	0.001				
OBUS	Gas	65	1450.800385			0.003045399						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	264.6002512			0.001009277						
UBUS	Dsl	65	262.2718908	0.000114198	45.11452828	0.149770499	0.045533054	0.000	5.9	26	153	
							Total LM Emissions	**0.160**				5.48424E-06
							Total DPM Emissions	***0.970***		***TOTAL Emissions***		***3.3212E-05***

SB I-15 VIC

Region Type:	County	LM	HD		
Region:	San Bernardino		394,964	175,993	
Calendar Year:	2045	Segment Length			
Season:	Annual		4.53	miles	

Vehicle Class	Fuel	Speed	VMT	Proportion	SB I-15 VIC Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	939957.3646	0.995648355	175227.14	0.00443437	777.0220251	1.709				
HHDT	Gas	65	4108.238294			0.00102483			4.53	23	104	8.6135E-05
		HHDT Total	944065.6029				**Total HD Emissions**	**1.709**				8.6135E-05
LDA	Gas	65	3345467.725			0.0006121						
LDA	Dsl	65	46569.98247	0.007936382	3134.585128	0.000547639	1.7166217	0.004				
LDT1	Gas	65	223198.9989			0.00065544						
LDT1	Dsl	65	124.4510172	2.12087E-05	8.376690025	0.003523281	0.029513436	0.000				
LDT2	Gas	65	1246398.67			0.000617766						
LDT2	Dsl	65	2741.144588	0.000467141	184.5040647	0.003191125	0.58877555	0.001				
LHDT1	Gas	65	40465.47663			0.000999365						
LHDT1	Dsl	65	63822.56206	0.010876539	4295.841297	0.005194416	22.31438519	0.049				
LHDT2	Gas	65	15958.60853			0.001021923						
LHDT2	Dsl	65	31739.67148	0.005409024	2136.369759	0.005269477	11.25755088	0.025				
MCY	Gas	65	53702.03968			0.002198055						
MDV	Gas	65	625131.5956			0.000664508						
MDV	Dsl	65	17603.56869	0.002999972	1184.88094	0.000674305	0.798971062	0.002				
MH	Gas	65	5635.321691			0.001005371						
MH	Dsl	65	1525.7386	0.000260014	102.6961418	0.022200292	2.279884311	0.005				
MHDT	Dsl	65	94731.45069	0.016143982	6376.291783	0.00102336	6.525241624	0.014				
MHDT	Gas	65	30676.32694			0.002343175						
OBUS	Dsl	65	3642.098724	0.000620681	245.1465062	0.001022729	0.250718373	0.001				
OBUS	Gas	65	15609.66688			0.003045399						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	1577.680665			0.001009277						
UBUS	Dsl	65	1588.163257	0.000270652	106.8978914	0.149770499	0.107889578	0.000	4.53	23	104	
							Total LM Emissions	**0.101**				5.08476E-06
							Total DPM Emissions	***1.810***	***TOTAL Emissions***			***9.1220E-05***

SB SR-60

		LM	HD
Region Type:	County	463,006	120,075
Region:	San Bernardino	Segment Length	
Calendar Year:	2045	8.76	miles
Season:	Annual		

Vehicle Class	Fuel	Speed	VMT	Proportion	SB SR-60 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	200129.5545	0.997902691	119823.17	0.00443437	531.3402837	1.169				
HHDT	Gas	65	420.6157035			0.00102483			8.76	28	245	2.50198E-05
		HHDT Total	200550.1702				**Total HD Emissio**	**1.169**				2.50198E-05
LDA	Gas	65	1246500.433			0.0006121						
LDA	Dsl	65	17343.69992	0.007551791	3496.524534	0.000547639	1.914833907	0.004				
LDT1	Gas	65	87185.77028			0.00065544						
LDT1	Dsl	65	48.84379664	2.12676E-05	9.847006927	0.003523281	0.034693776	0.000				
LDT2	Gas	65	495944.1253			0.000617766						
LDT2	Dsl	65	1090.207868	0.000474698	219.788083	0.003191125	0.701371266	0.002				
LHDT1	Gas	65	8901.691224			0.000999365						
LHDT1	Dsl	65	39538.39345	0.017215801	7971.019064	0.005194416	41.40478604	0.091				
LHDT2	Gas	65	3454.678617			0.001021923						
LHDT2	Dsl	65	19878.11386	0.008655325	4007.467444	0.005269477	21.11725671	0.046				
MCY	Gas	65	9472.723827			0.002198055						
MDV	Gas	65	268924.6384			0.000664508						
MDV	Dsl	65	7577.060964	0.003299203	1527.550619	0.000674305	1.030034917	0.002				
MH	Gas	65	799.4989937			0.001005371						
MH	Dsl	65	376.1138498	0.000163767	75.82530309	0.022200292	1.683343851	0.004				
MHDT	Dsl	65	81834.98352	0.035632575	16498.09608	0.00102336	16.88349073	0.037				
MHDT	Gas	65	3138.391106			0.002343175						
OBUS	Dsl	65	2647.006914	0.001152559	533.641879	0.001022729	0.545770876	0.001				
OBUS	Gas	65	1450.800385			0.003045399						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	264.6002512			0.001009277						
UBUS	Dsl	65	262.2718908	0.000114198	52.87453685	0.149770499	0.053365052	0.000	8.76	28	245	
							Total LM Emissions	**0.188**				4.01985E-06
							Total DPM Emissions	***1.357***		***TOTAL Emissions***		***2.9040E-05***

VEN US-101 SB

Region Type:	County	LM	HD
Region:	Ventura	285,247	56,206
Calendar Year:	2045	Segment Length	
Season:	Annual	3.37	miles

Vehicle Class	Fuel	Speed	VMT	Proportion	VEN US-101 SB Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	70034.90839	0.993256128	55826.95	0.004309139	240.5660859	0.529				
HHDT	Gas	65	475.5132292			0.001025323			3.37	34	115	2.42492E-05
		HHDT Total	70510.42162				**Total HD Emission**	**0.529**				2.42492E-05
LDA	Gas	65	997729.0145			0.000613515						
LDA	Dsl	65	13887.76055	0.007860461	2242.172959	0.000564513	1.265736645	0.003				
LDT1	Gas	65	73374.10961			0.000646402						
LDT1	Dsl	65	40.86191799	2.31278E-05	6.597139056	0.003672462	0.02422774	0.000				
LDT2	Gas	65	362178.7202			0.000603877						
LDT2	Dsl	65	797.3479665	0.000451298	128.7314857	0.003103117	0.399468856	0.001				
LHDT1	Gas	65	8575.401186			0.001000033						
LHDT1	Dsl	65	35784.9118	0.020254231	5777.458594	0.005309288	30.67419367	0.067				
LHDT2	Gas	65	3809.008255			0.001021503						
LHDT2	Dsl	65	17871.35862	0.010115174	2885.323151	0.005326302	15.36810385	0.034				
MCY	Gas	65	6967.471097			0.002194021						
MDV	Gas	65	177765.6253			0.000643782						
MDV	Dsl	65	5047.56836	0.00285692	814.9277373	0.000627726	0.511551438	0.001				
MH	Gas	65	1073.513606			0.000997337						
MH	Dsl	65	423.5448782	0.000239726	68.38113812	0.029177471	1.995188641	0.004				
MHDT	Dsl	65	54488.02204	0.030840176	8797.067685	0.001023363	9.002592814	0.020				
MHDT	Gas	65	3548.425005			0.002346996						
OBUS	Dsl	65	1327.10641	0.000751141	214.2607581	0.001022489	0.219079197	0.000				
OBUS	Gas	65	1619.295978			0.002952713						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	238.5062521			0.001013263						
UBUS	Dsl	65	239.4277363	0.000135516	38.65550487	0.090379155	0.039168209	0.000	3.37	34	115	
							Total LM Emissions	**0.131**				5.99757E-06
							Total DPM Emissions	***0.660***	***TOTAL Emissions***			***3.0247E-05***

VEN US-101 TO

		LM	HD
Region Type:	County	197,972	20,857
Region:	Ventura	Segment Length	
Calendar Year:	2016	1.73	miles
Season:	Annual		

Vehicle Class	Fuel	Speed	VMT	Proportion	VEN US-101 TO Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	70034.90839	0.993256128	20716.34	0.004309139	89.26959494	0.196				
HHDT	Gas	65	475.5132292			0.001025323			1.73	24	42	2.48324E-05
		HHDT Total	70510.42162				**Total HD Emissions**	**0.196**				2.48324E-05
LDA	Gas	65	997729.0145			0.000613515						
LDA	Dsl	65	13887.76055	0.007860461	1556.151213	0.000564513	0.878468188	0.002				
LDT1	Gas	65	73374.10961			0.000646402						
LDT1	Dsl	65	40.86191799	2.31278E-05	4.578659243	0.003672462	0.016814951	0.000				
LDT2	Gas	65	362178.7202			0.000603877						
LDT2	Dsl	65	797.3479665	0.000451298	89.34442671	0.003103117	0.277246205	0.001				
LHDT1	Gas	65	8575.401186			0.001000033						
LHDT1	Dsl	65	35784.9118	0.020254231	4009.770595	0.005309288	21.28902835	0.047				
LHDT2	Gas	65	3809.008255			0.001021503						
LHDT2	Dsl	65	17871.35862	0.010115174	2002.521305	0.005326302	10.66603419	0.023				
MCY	Gas	65	6967.471097			0.002194021						
MDV	Gas	65	177765.6253			0.000643782						
MDV	Dsl	65	5047.56836	0.00285692	565.5900816	0.000627726	0.355035675	0.001				
MH	Gas	65	1073.513606			0.000997337						
MH	Dsl	65	423.5448782	0.000239726	47.45904664	0.029177471	1.384734933	0.003				
MHDT	Dsl	65	54488.02204	0.030840176	6105.491324	0.001023363	6.248133388	0.014				
MHDT	Gas	65	3548.425005			0.002346996						
OBUS	Dsl	65	1327.10641	0.000751141	148.7049147	0.001022489	0.15204909	0.000				
OBUS	Gas	65	1619.295978			0.002952713						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	238.5062521			0.001013263						
UBUS	Dsl	65	239.4277363	0.000135516	26.82835441	0.090379155	0.02718419	0.000	1.73	24	42	
							Total LM Emissions	**0.091**				1.14871E-05
							Total DPM Emissions	***0.287***		***TOTAL Emissions***		***3.6319E-05***

IMP I-8

Region Type:	County		LM	HD	
Region:	Imperial		66,464	25,528	
Calendar Year:	2045		Segment Length		
Season:	Annual		3.01	miles	

Vehicle Class	Fuel	Speed	VMT	Proportion	IMP I-8 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	467877.9752	0.997337503	25460.03	0.004314442	109.8458308	0.242				
HHDT	Gas	65	1249.049462	0.002662497		0.001021521			3.01	35	105	1.20426E-05
		HHDT Total	469127.0246				**Total HD Emissions**	**0.242**				1.20426E-05
LDA	Gas	65	686767.7192			0.000609809						
LDA	Dsl	65	9567.830576	0.007581909	503.9239778	0.000543682	0.273974214	0.001				
LDT1	Gas	65	42942.47491			0.000644397						
LDT1	Dsl	65	24.07088072	1.90747E-05	1.267778925	0.003737102	0.00473782	0.000				
LDT2	Gas	65	243651.7037			0.00061275						
LDT2	Dsl	65	535.8929266	0.000424662	28.22471543	0.003161459	0.089231271	0.000				
LHDT1	Gas	65	9714.948108			0.001001585						
LHDT1	Dsl	65	23708.87896	0.018787807	1248.712809	0.005516684	6.888753963	0.015				
LHDT2	Gas	65	3824.71362			0.001022476						
LHDT2	Dsl	65	11786.67135	0.009340202	620.7871537	0.005277536	3.276226763	0.007				
MCY	Gas	65	8004.239877			0.002201437						
MDV	Gas	65	137013.6997			0.000671022						
MDV	Dsl	65	3823.978024	0.003030264	201.4034636	0.000697516	0.140482149	0.000				
MH	Gas	65	1274.502975			0.001016116						
MH	Dsl	65	400.8689421	0.000317664	21.11319491	0.016149733	0.340972464	0.001				
MHDT	Dsl	65	54313.77906	0.043040281	2860.629207	0.001018837	2.914514355	0.006				
MHDT	Gas	65	9463.411087			0.002461454						
OBUS	Dsl	65	11101.80773	0.00879749	584.7163648	0.001022508	0.597877252	0.001				
OBUS	Gas	65	3284.94502			0.002768269						
SBUS	Dsl	65	0	0	0	0.002199722						
UBUS	Gas	65	363.5124097			0.001012229						
UBUS	Dsl	65	359.3736322	0.000284781	18.92769618	0.00619609	0.1172777	0.000	3.01	35	105	
							Total LM Emissions	**0.032**				1.60546E-06
							Total DPM Emissions	***0.274***		***TOTAL Emissions***		***1.3648E-05***

IMP SR-78

Region Type:	County		LM	HD	
Region:	Imperial		30,074	4,865	
Calendar Year:	2045		Segment Length		
Season:	Annual		0.87	miles	

Vehicle Class	Fuel	Speed	VMT	Proportion	IMP SR-78 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	467877.9752	0.997337503	4852.05	0.004314442	20.93387523	0.046				
HHDT	Gas	65	1249.049462			0.001021521			3.01	54	54	4.47742E-06
		HHDT Total	469127.0246				**Total HD Emissions**	**0.046**				4.47742E-06
LDA	Gas	65	686767.7192			0.000609809						
LDA	Dsl	65	9567.830576	0.007581909	228.0183213	0.000543682	0.123969374	0.000				
LDT1	Gas	65	42942.47491			0.000644397						
LDT1	Dsl	65	24.07088072	1.90747E-05	0.573651652	0.003737102	0.002143795	0.000				
LDT2	Gas	65	243651.7037			0.00061275						
LDT2	Dsl	65	535.8929266	0.000424662	12.77127605	0.003161459	0.040375861	0.000				
LHDT1	Gas	65	9714.948108			0.001001585						
LHDT1	Dsl	65	23708.87896	0.018787807	565.0245098	0.005516684	3.117061668	0.007				
LHDT2	Gas	65	3824.71362			0.001022476						
LHDT2	Dsl	65	11786.67135	0.009340202	280.8972205	0.005277536	1.482445289	0.003				
MCY	Gas	65	8004.239877			0.002201437						
MDV	Gas	65	137013.6997			0.000671022						
MDV	Dsl	65	3823.978024	0.003030264	91.13215821	0.000697516	0.063566143	0.000				
MH	Gas	65	1274.502975			0.001016116						
MH	Dsl	65	400.8689421	0.000317664	9.553415742	0.016149733	0.154285115	0.000				
MHDT	Dsl	65	54313.77906	0.043040281	1294.393397	0.001018837	1.318775649	0.003				
MHDT	Gas	65	9463.411087			0.002461454						
OBUS	Dsl	65	11101.80773	0.00879749	264.5757095	0.001022508	0.270530821	0.001				
OBUS	Gas	65	3284.94502			0.002768269						
SBUS	Dsl	65	0	0	0	0.002199722						
UBUS	Gas	65	363.5124097			0.001012229						
UBUS	Dsl	65	359.3736322	0.000284781	8.564509132	0.00619609	0.053066465	0.000	3.01	54	54	
							Total LM Emissions	**0.015**				1.41724E-06
							Total DPM Emissions	***0.061***	***TOTAL Emissions***			***5.8947E-06***

*modeled for entire segment length in AERSCREEN

LA I-110

		LM	HD
Region Type:	County	314,138	52,409
Region:	Los Angeles (SC)	Segment Length	
Calendar Year:	2045	4.01	miles
Season:	Annual		

Vehicle Class	Fuel	Speed	VMT	Proportion	LA I-110 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	804712.0007	0.994214532	52105.79	0.004489986	233.9542458	0.515				
HHDT	Gas	65	4682.727405			0.001025111			4.01	29	116	2.3236E-05
		HHDT Total	809394.7281				**Total HD Emissions**	**0.515**				2.3236E-05
LDA	Gas	65	3554539.187			0.000617625						
LDA	Dsl	65	49409.08171	0.006360479	1998.06802	0.000557467	1.113857863	0.002				
LDT1	Gas	65	351918.8238			0.000677843						
LDT1	Dsl	65	198.1512765	2.55082E-05	8.013096275	0.00425494	0.034095245	0.000				
LDT2	Gas	65	1685801.242			0.000617054						
LDT2	Dsl	65	3707.938726	0.000477327	149.9463971	0.003216718	0.482335257	0.001				
LHDT1	Gas	65	77238.95924			0.001006258						
LHDT1	Dsl	65	336226.8654	0.043282808	13596.7746	0.004688288	63.74559425	0.140				
LHDT2	Gas	65	34788.99327			0.001022679						
LHDT2	Dsl	65	170424.5569	0.021938917	6891.847514	0.005337568	36.7857034	0.081				
MCY	Gas	65	42645.5219			0.002202991						
MDV	Gas	65	909824.0021			0.000668995						
MDV	Dsl	65	25783.8167	0.003319176	1042.679155	0.000687321	0.716655058	0.002				
MH	Gas	65	8910.37144			0.001012904						
MH	Dsl	65	3547.17192	0.000456631	143.4451022	0.015106615	2.166969909	0.005				
MHDT	Dsl	65	416990.184	0.053679547	16862.78559	0.001022603	17.24393827	0.038				
MHDT	Gas	65	34913.98133			0.002338275						
OBUS	Dsl	65	41629.96737	0.005359066	1683.486185	0.001021766	1.720128941	0.004				
OBUS	Gas	65	14765.97186			0.003045399						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	2395.641847			0.001006684						
UBUS	Dsl	65	2478.47174	0.000319056	100.2276292	0.148869079	0.100897535	0.000	4.01	29	116	
							Total LM Emissions	**0.273**				1.23264E-05
							Total DPM Emissions	***0.788***		***TOTAL Emissions***		***3.5562E-05***

LA I-710

Region Type:	County	LM	HD
Region:	Los Angeles (SC)	332,977	74,913
Calendar Year:	2045	Segment Length	
Season:	Annual	2.1	miles

Vehicle Class	Fuel	Speed	VMT	Proportion	LA I-710 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	804712.0007	0.994214532	74479.59	0.004489986	334.4123036	0.736				
HHDT	Gas	65	4682.727405			0.001025111			2.1	23	48	7.99664E-05
		HHDT Total	809394.7281				**Total HD Emissions**	**0.736**				7.99664E-05
LDA	Gas	65	3554539.187			0.000617625						
LDA	Dsl	65	49409.08171	0.006360479	2117.893076	0.000557467	1.18065643	0.003				
LDT1	Gas	65	351918.8238		0	0.000677843						
LDT1	Dsl	65	198.1512765	2.55082E-05	8.493645335	0.00425494	0.036139953	0.000				
LDT2	Gas	65	1685801.242		0	0.000617054						
LDT2	Dsl	65	3707.938726	0.000477327	158.9387514	0.003216718	0.511261123	0.001				
LHDT1	Gas	65	77238.95924		0	0.001006258						
LHDT1	Dsl	65	336226.8654	0.043282808	14412.17941	0.004688288	67.56844679	0.149				
LHDT2	Gas	65	34788.99327		0	0.001022679						
LHDT2	Dsl	65	170424.5569	0.021938917	7305.154772	0.005337568	38.99175891	0.086				
MCY	Gas	65	42645.5219		0	0.002202991						
MDV	Gas	65	909824.0021		0	0.000668995						
MDV	Dsl	65	25783.8167	0.003319176	1105.209103	0.000687321	0.75963319	0.002				
MH	Gas	65	8910.37144		0	0.001012904						
MH	Dsl	65	3547.17192	0.000456631	152.0475708	0.015106615	2.296924089	0.005				
MHDT	Dsl	65	416990.184	0.053679547	17874.05458	0.001022603	18.27806516	0.040				
MHDT	Gas	65	34913.98133		0	0.002338275						
OBUS	Dsl	65	41629.96737	0.005359066	1784.445624	0.001021766	1.823285863	0.004				
OBUS	Gas	65	14765.97186		0	0.003045399						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	2395.641847		0	0.001006684						
UBUS	Dsl	65	2478.47174	0.000319056	106.2383261	0.148869079	0.106948406	0.000	2.1	23	48	
							Total LM Emissions	**0.289**				3.14577E-05
							Total DPM Emissions	***1.025***	***TOTAL Emissions***			***1.1142E-04***

LA SR-60 DB

Region Type:	County	LM	HD
Region:	Los Angeles (SC)	706,617	104,961
Calendar Year:	2045	Segment Length	
Season:	Annual	7.2	miles

Vehicle Class	Fuel	Speed	VMT	Proportion	LA I-710 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	804712.0007	0.994214532	104353.75	0.004489986	468.5468449	1.031				
HHDT	Gas	65	4682.727405			0.001025111			7.2	29	209	2.59176E-05
		HHDT Total	809394.7281				**Total HD Emissions**	**1.031**				2.59176E-05
LDA	Gas	65	3554539.187			0.000617625						
LDA	Dsl	65	49409.08171	0.006360479	4494.422292	0.000557467	2.505494088	0.006				
LDT1	Gas	65	351918.8238		0	0.000677843						
LDT1	Dsl	65	198.1512765	2.55082E-05	18.02453078	0.00425494	0.0766933	0.000				
LDT2	Gas	65	1685801.242		0	0.000617054						
LDT2	Dsl	65	3707.938726	0.000477327	337.2870308	0.003216718	1.084957223	0.002				
LHDT1	Gas	65	77238.95924		0	0.001006258						
LHDT1	Dsl	65	336226.8654	0.043282808	30584.36762	0.004688288	143.3883216	0.315				
LHDT2	Gas	65	34788.99327		0	0.001022679						
LHDT2	Dsl	65	170424.5569	0.021938917	15502.41173	0.005337568	82.74517371	0.182				
MCY	Gas	65	42645.5219		0	0.002202991						
MDV	Gas	65	909824.0021		0	0.000668995						
MDV	Dsl	65	25783.8167	0.003319176	2345.385839	0.000687321	1.612032441	0.004				
MH	Gas	65	8910.37144		0	0.001012904						
MH	Dsl	65	3547.17192	0.000456631	322.6631219	0.015106615	4.874347505	0.011				
MHDT	Dsl	65	416990.184	0.053679547	37930.8806	0.001022603	38.78823933	0.085				
MHDT	Gas	65	34913.98133		0	0.002338275						
OBUS	Dsl	65	41629.96737	0.005359066	3786.806937	0.001021766	3.869230568	0.009				
OBUS	Gas	65	14765.97186		0	0.003045399						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	2395.641847		0	0.001006684						
UBUS	Dsl	65	2478.47174	0.000319056	225.4504284	0.148869079	0.226957303	0.000	7.2	29	209	
							Total LM Emissions	**0.614**				1.54423E-05
							Total DPM Emissions	***1.645***	***TOTAL Emissions***			***4.1360E-05***

LA SR-60 SEM

		LM	HD
Region Type:	County	341,018	35,132
Region:	Los Angeles (SC)	Segment Length	
Calendar Year:	2045	8.31	miles
Season:	Annual		

Vehicle Class	Fuel	Speed	VMT	Proportion	LA I-710 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	804712.0007	0.994214532	34928.74	0.004489986	156.8295629	0.345				
HHDT	Gas	65	4682.727405			0.001025111			8.31	26	216	8.38351E-06
		HHDT Total	809394.7281				**Total HD Emissions**	**0.345**				8.38351E-06
LDA	Gas	65	3554539.187			0.000617625						
LDA	Dsl	65	49409.08171	0.006360479	2169.037684	0.000557467	1.209167884	0.003				
LDT1	Gas	65	351918.8238		0	0.000677843						
LDT1	Dsl	65	198.1512765	2.55082E-05	8.698756806	0.00425494	0.03701269	0.000				
LDT2	Gas	65	1685801.242		0	0.000617054						
LDT2	Dsl	65	3707.938726	0.000477327	162.7769339	0.003216718	0.523607474	0.001				
LHDT1	Gas	65	77238.95924		0	0.001006258						
LHDT1	Dsl	65	336226.8654	0.043282808	14760.21647	0.004688288	69.20014471	0.152				
LHDT2	Gas	65	34788.99327		0	0.001022679						
LHDT2	Dsl	65	170424.5569	0.021938917	7481.565604	0.005337568	39.93336368	0.088				
MCY	Gas	65	42645.5219		0	0.002202991						
MDV	Gas	65	909824.0021		0	0.000668995						
MDV	Dsl	65	25783.8167	0.003319176	1131.898593	0.000687321	0.777977432	0.002				
MH	Gas	65	8910.37144		0	0.001012904						
MH	Dsl	65	3547.17192	0.000456631	155.7193395	0.015106615	2.352392084	0.005				
MHDT	Dsl	65	416990.184	0.053679547	18305.69182	0.001022603	18.71945877	0.041				
MHDT	Gas	65	34913.98133		0	0.002338275						
OBUS	Dsl	65	41629.96737	0.005359066	1827.537871	0.001021766	1.867316056	0.004				
OBUS	Gas	65	14765.97186		0	0.003045399						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	2395.641847		0	0.001006684						
UBUS	Dsl	65	2478.47174	0.000319056	108.8038558	0.148869079	0.109531083	0.000	8.31	26	216	
							Total LM Emissions	**0.296**				7.20215E-06
							Total DPM Emissions	***0.641***	***TOTAL Emissions***			***1.5586E-05***

ORA I-5

Region Type:	County	LM	HD
Region:	Orange	353,277	38,511
Calendar Year:	2045	Segment Length	
Season:	Annual	7.11	miles

Vehicle Class	Fuel	Speed	VMT	Proportion	ORA I-5 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	153993.0915	0.993334547	38254.31	0.004390344	167.9495663	0.369				
HHDT	Gas	65	1033.321324			0.001025276			7.11	14	100	1.94874E-05
		HHDT Total	155026.4129				**Total HD Emissior**	**0.369**				1.94874E-05
LDA	Gas	65	2247129.503			0.000606964						
LDA	Dsl	65	31292.79203	0.007321937	2586.67179	0.00053549	1.385138138	0.003				
LDT1	Gas	65	200126.7569			0.000650632						
LDT1	Dsl	65	110.6700333	2.58947E-05	9.148018904	0.003325643	0.030423048	0.000				
LDT2	Gas	65	983956.1484			0.000605762						
LDT2	Dsl	65	2165.695016	0.000506733	179.0170144	0.003119863	0.558508639	0.001				
LHDT1	Gas	65	17717.03289			0.001003301						
LHDT1	Dsl	65	70955.24518	0.01660222	5865.182336	0.004895683	28.71407517	0.063				
LHDT2	Gas	65	7951.384008			0.001022359						
LHDT2	Dsl	65	35749.3252	0.008364683	2955.050189	0.005344754	15.79401768	0.035				
MCY	Gas	65	23932.03555			0.002200421						
MDV	Gas	65	471900.4302			0.000654405						
MDV	Dsl	65	13390.6476	0.003133165	1106.875039	0.000658269	0.728621249	0.002				
MH	Gas	65	2253.590748			0.001010546						
MH	Dsl	65	864.9048123	0.000202372	71.49329714	0.020018122	1.431161525	0.003				
MHDT	Dsl	65	145509.7453	0.034046599	12027.88019	0.00102122	12.28310708	0.027				
MHDT	Gas	65	7722.828122			0.002341319						
OBUS	Dsl	65	6168.256899	0.001443258	509.8700077	0.001022419	0.521300565	0.001				
OBUS	Gas	65	3827.041697			0.003045399						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	556.9458034			0.000998951						
UBUS	Dsl	65	559.8969161	0.000131006	46.28125086	0.150386559	0.046232717	0.000	7.11	14	100	
							Total LM Emissions	**0.135**				7.13506E-06
							Total DPM Emissions	***0.505***	***TOTAL Emissions***			***2.6622E-05***

ORA I-4055

Region Type:	County	LM	HD
Region:	Orange	419,150	63,346
Calendar Year:	2045	Segment Length	
Season:	Annual	4.9	miles

Vehicle Class	Fuel	Speed	VMT	Proportion	ORA I-405 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	153993.0915	0.993334547	62923.77	0.004390344	276.2569974	0.608				
HHDT	Gas	65	1033.321324			0.001025276			4.9	21	103	3.10078E-05
		HHDT Total	155026.4129				**Total HD Emissions**	**0.608**				3.10078E-05
LDA	Gas	65	2247129.503			0.000606964						
LDA	Dsl	65	31292.79203	0.007321937	3068.989719	0.00053549	1.643414801	0.004				
LDT1	Gas	65	200126.7569			0.000650632						
LDT1	Dsl	65	110.6700333	2.58947E-05	10.85378364	0.003325643	0.036095813	0.000				
LDT2	Gas	65	983956.1484			0.000605762						
LDT2	Dsl	65	2165.695016	0.000506733	212.3970188	0.003119863	0.662649694	0.001				
LHDT1	Gas	65	17717.03289			0.001003301						
LHDT1	Dsl	65	70955.24518	0.01660222	6958.820348	0.004895683	34.06818052	0.075				
LHDT2	Gas	65	7951.384008			0.001022359						
LHDT2	Dsl	65	35749.3252	0.008364683	3506.056966	0.005344754	18.7390136	0.041				
MCY	Gas	65	23932.03555			0.002200421						
MDV	Gas	65	471900.4302			0.000654405						
MDV	Dsl	65	13390.6476	0.003133165	1313.265999	0.000658269	0.864481968	0.002				
MH	Gas	65	2253.590748			0.001010546						
MH	Dsl	65	864.9048123	0.000202372	84.82413374	0.020018122	1.698019835	0.004				
MHDT	Dsl	65	145509.7453	0.034046599	14270.63178	0.00102122	14.57344898	0.032				
MHDT	Gas	65	7722.828122			0.002341319						
OBUS	Dsl	65	6168.256899	0.001443258	604.9417701	0.001022419	0.618503701	0.001				
OBUS	Gas	65	3827.041697			0.003045399						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	556.9458034			0.000998951						
UBUS	Dsl	65	559.8969161	0.000131006	54.91098005	0.150386559	0.054853397	0.000	4.9	21	103	
							Total LM Emissions	**0.161**				8.18906E-06
							Total DPM Emissions	***0.768***	***TOTAL Emissions***			***3.9197E-05***

RIV I-10

		LM	HD
Region Type:	County	687,605	245,295
Region:	Riverside	Segment Length	
Calendar Year:	2045	9.97	miles
Season:	Annual		

Vehicle Class	Fuel	Speed	VMT	Proportion	RIV I-10 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	57425.03667	0.99857921	244946.49	0.004249092	1040.800195	2.290				
HHDT	Gas	65	81.70511388			0.00102492			9.97	34	339	3.54622E-05
		HHDT Total	57506.74178				**Total HD Emissions**	**2.290**				3.54622E-05
LDA	Gas	65	122364.2875			0.000612601						
LDA	Dsl	65	1703.699775	0.00784019	5390.955793	0.000557169	3.003673681	0.007				
LDT1	Gas	65	9258.935654			0.000651602						
LDT1	Dsl	65	5.167844437	2.3782E-05	16.35242389	0.00367529	0.060099905	0.000				
LDT2	Gas	65	50483.50114			0.000617877						
LDT2	Dsl	65	111.0283608	0.00051094	351.3230402	0.003194747	1.122388357	0.002				
LHDT1	Gas	65	1139.795528			0.000999681						
LHDT1	Dsl	65	1439.035679	0.00662224	4553.488731	0.005310935	24.18328052	0.053				
LHDT2	Gas	65	458.2873117			0.001022422						
LHDT2	Dsl	65	718.9859183	0.00330867	2275.061227	0.005329699	12.12539096	0.027				
MCY	Gas	65	1316.037979			0.002195013						
MDV	Gas	65	25891.77914			0.000662681						
MDV	Dsl	65	732.877644	0.0033726	2319.018314	0.000678552	1.573574795	0.003				
MH	Gas	65	151.5598152			0.001009549						
MH	Dsl	65	35.07567434	0.00016141	110.9886921	0.020786562	2.307073305	0.005				
MHDT	Dsl	65	516.9634753	0.002379	1635.808892	0.001022495	1.672606969	0.004				
MHDT	Gas	65	610.4960727			0.002541873						
OBUS	Dsl	65	7.730710997	3.5576E-05	24.46201017	0.001022049	0.025001374	0.000				
OBUS	Gas	65	296.2124272			0.003099277						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	30.70590264			0.001002961						
UBUS	Dsl	65	31.09690521	0.0001431	98.39881634	0.134787715	0.098690141	0.000	9.97	34	339	
							Total LM Emissions	**0.102**				1.57317E-06
							Total DPM Emissions	***2.391***		***TOTAL Emissions***		***3.7035E-05***

RIV I-15

Region Type:	County	LM	HD
Region:	Riverside	1,151,043	145,648
Calendar Year:	2045	Segment Length	
Season:	Annual	10.64	miles

Vehicle Class	Fuel	Speed	VMT	Proportion	RIV I-15 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	57425.03667	0.99857921	145441.06	0.004249092	617.9924857	1.360				
HHDT	Gas	65	81.70511388			0.00102492			10.64	23	245	2.91666E-05
		HHDT Total	57506.74178				**Total HD Emissions**	**1.360**				2.91666E-05
LDA	Gas	65	122364.2875			0.000612601						
LDA	Dsl	65	1703.699775	0.00784019	9024.39908	0.000557169	5.028115801	0.011				
LDT1	Gas	65	9258.935654			0.000651602						
LDT1	Dsl	65	5.167844437	2.3782E-05	27.37377281	0.00367529	0.100606562	0.000				
LDT2	Gas	65	50483.50114			0.000617877						
LDT2	Dsl	65	111.0283608	0.00051094	588.1107993	0.003194747	1.878865427	0.004				
LHDT1	Gas	65	1139.795528			0.000999681						
LHDT1	Dsl	65	1439.035679	0.00662224	7622.488681	0.005310935	40.48253832	0.089				
LHDT2	Gas	65	458.2873117			0.001022422						
LHDT2	Dsl	65	718.9859183	0.00330867	3808.426786	0.005329699	20.29776744	0.045				
MCY	Gas	65	1316.037979			0.002195013						
MDV	Gas	65	25891.77914			0.000662681						
MDV	Dsl	65	732.877644	0.0033726	3882.010453	0.000678552	2.634146426	0.006				
MH	Gas	65	151.5598152			0.001009549						
MH	Dsl	65	35.07567434	0.00016141	185.7938164	0.020786562	3.862014642	0.008				
MHDT	Dsl	65	516.9634753	0.002379	2738.325601	0.001022495	2.799925165	0.006				
MHDT	Gas	65	610.4960727			0.002541873						
OBUS	Dsl	65	7.730710997	3.5576E-05	40.9491286	0.001022049	0.041852017	0.000				
OBUS	Gas	65	296.2124272			0.003099277						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	30.70590264			0.001002961						
UBUS	Dsl	65	31.09690521	0.0001431	164.7185066	0.134787715	0.165206181	0.000	10.64	23	245	
							Total LM Emissions	**0.170**				3.64781E-06
							Total DPM Emissions	***1.530***		***TOTAL Emissions***		***3.2814E-05***

RIV SR-91

		LM	HD
Region Type:	County	593,284	84,687
Region:	Riverside	Segment Length	
Calendar Year:	2045	6.53	miles
Season:	Annual		

Vehicle Class	Fuel	Speed	VMT	Proportion	RIV SR-91 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	603495.3518	0.99835852	84547.99	0.004249092	359.2521916	0.790				
HHDT	Gas	65	992.2554051			0.00102492			6.53	17	111	3.73775E-05
		HHDT Total	604487.6072				**Total HD Emissions**	**0.790**				3.73775E-05
LDA	Gas	65	2904962.144			0.000612601						
LDA	Dsl	65	40432.58932	0.00785878	4662.490051	0.000557169	2.597795121	0.006				
LDT1	Gas	65	193669.0801		0	0.000651602						
LDT1	Dsl	65	107.2821597	2.0852E-05	12.3712582	0.00367529	0.045467965	0.000				
LDT2	Gas	65	1109612.908		0	0.000617877						
LDT2	Dsl	65	2441.038772	0.00047446	281.4887491	0.003194747	0.89928544	0.002				
LHDT1	Gas	65	23046.23807		0	0.000999681						
LHDT1	Dsl	65	81179.12407	0.01577859	9361.182766	0.005310935	49.71662877	0.109				
LHDT2	Gas	65	9022.063228		0	0.001022422						
LHDT2	Dsl	65	40978.07508	0.00796481	4725.392822	0.005329699	25.18492017	0.055				
MCY	Gas	65	20904.3844		0	0.002195013						
MDV	Gas	65	555323.3392		0	0.000662681						
MDV	Dsl	65	15657.80235	0.00304337	1805.581807	0.000678552	1.225181364	0.003				
MH	Gas	65	2513.067667		0	0.001009549						
MH	Dsl	65	973.1265612	0.00018914	112.2162341	0.020786562	2.332589683	0.005				
MHDT	Dsl	65	126901.8633	0.0246656	14633.70724	0.001022495	14.96289746	0.033				
MHDT	Gas	65	7409.193806		0	0.002541873						
OBUS	Dsl	65	4781.432499	0.00092936	551.3715998	0.001022049	0.563528805	0.001				
OBUS	Gas	65	3882.402715		0	0.003099277						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	553.7270488		0	0.001002961						
UBUS	Dsl	65	541.2735523	0.00010521	62.41704019	0.134787715	0.062601835	0.000	6.53	17	111	
							Total LM Emissions	**0.215**				1.01536E-05
							Total DPM Emissions	***1.005***		***TOTAL Emissions***		***4.7531E-05***

SB I-15 ONT

Region Type: County

Region: San Bernardino

Calendar Year: 2045

Season: Annual

LM 382,863

HD 84,436

Segment Length 5.9 miles

Vehicle Class	Fuel	Speed	VMT	Proportion	SB I-15 ONT Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	200129.5545	0.997902691	84258.91	0.00443437	373.635213	0.822				
HHDT	Gas	65	420.6157035			0.00102483			5.9	26	153	2.81316E-05
		HHDT Total	200550.1702				**Total HD Emissio**	**0.822**				2.81316E-05
LDA	Gas	65	1246500.433			0.0006121						
LDA	Dsl	65	17343.69992	0.007551791	2891.301349	0.000547639	1.583389965	0.003				
LDT1	Gas	65	87185.77028			0.00065544						
LDT1	Dsl	65	48.84379664	2.12676E-05	8.142561031	0.003523281	0.028688534	0.000				
LDT2	Gas	65	495944.1253			0.000617766						
LDT2	Dsl	65	1090.207868	0.000474698	181.7443506	0.003191125	0.579968958	0.001				
LHDT1	Gas	65	8901.691224			0.000999365						
LHDT1	Dsl	65	39538.39345	0.017215801	6591.293141	0.005194416	34.23791613	0.075				
LHDT2	Gas	65	3454.678617			0.001021923						
LHDT2	Dsl	65	19878.11386	0.008655325	3313.803726	0.005269477	17.46201185	0.038				
MCY	Gas	65	9472.723827			0.002198055						
MDV	Gas	65	268924.6384			0.000664508						
MDV	Dsl	65	7577.060964	0.003299203	1263.142622	0.000674305	0.8517433	0.002				
MH	Gas	65	799.4989937			0.001005371						
MH	Dsl	65	376.1138498	0.000163767	62.70048988	0.022200292	1.391969169	0.003				
MHDT	Dsl	65	81834.98352	0.035632575	13642.39461	0.00102336	13.96108023	0.031				
MHDT	Gas	65	3138.391106			0.002343175						
OBUS	Dsl	65	2647.006914	0.001152559	441.2723177	0.001022729	0.451301873	0.001				
OBUS	Gas	65	1450.800385			0.003045399						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	264.6002512			0.001009277						
UBUS	Dsl	65	262.2718908	0.000114198	43.72233579	0.149770499	0.044127946	0.000	5.9	26	153	
							Total LM Emissions	**0.155**				5.31501E-06
							Total DPM Emissions	***0.977***		***TOTAL Emissions***		***3.3447E-05***

SB I-15 VIC

		LM	HD
Region Type:	County	397,673	174,536
Region:	San Bernardino	Segment Length	
Calendar Year:	2045	4.53	miles
Season:	Annual		

Vehicle Class	Fuel	Speed	VMT	Proportion	SB I-15 VIC Diesel VMT	PM_10RU NEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	939957.3646	0.995648355	173776.48	0.004434	770.589263	1.695				
HHDT	Gas	65	4108.238294			0.001025			4.53	23	104	8.5422E-05
		HHDT Total	944065.6029				**Total HD Emissions**	**1.695**				8.5422E-05
LDA	Gas	65	3345467.725			0.000612						
LDA	Dsl	65	46569.98247	0.007936382	3156.084787	0.000548	1.728395756	0.004				
LDT1	Gas	65	223198.9989		0	0.000655						
LDT1	Dsl	65	124.4510172	2.12087E-05	8.43414451	0.003523	0.029715865	0.000				
LDT2	Gas	65	1246398.67		0	0.000618						
LDT2	Dsl	65	2741.144588	0.000467141	185.769551	0.003191	0.592813875	0.001				
LHDT1	Gas	65	40465.47663		0	0.000999						
LHDT1	Dsl	65	63822.56206	0.010876539	4325.305841	0.005194	22.46743628	0.049				
LHDT2	Gas	65	15958.60853		0	0.001022						
LHDT2	Dsl	65	31739.67148	0.005409024	2151.022805	0.005269	11.33476476	0.025				
MCY	Gas	65	53702.03968		0	0.002198						
MDV	Gas	65	625131.5956		0	0.000665						
MDV	Dsl	65	17603.56869	0.002999972	1193.007865	0.000674	0.804451087	0.002				
MH	Gas	65	5635.321691			0.001005						
MH	Dsl	65	1525.7386	0.000260014	103.4005196	0.0222	2.295521702	0.005				
MHDT	Dsl	65	94731.45069	0.016143982	6420.02583	0.001023	6.569997296	0.014				
MHDT	Gas	65	30676.32694			0.002343						
OBUS	Dsl	65	3642.098724	0.000620681	246.8279301	0.001023	0.252438013	0.001				
OBUS	Gas	65	15609.66688			0.003045						
SBUS	Dsl	65	0	0	0	0.0022	0	0.000				
UBUS	Gas	65	1577.680665			0.001009						
UBUS	Dsl	65	1588.163257	0.000270652	107.6310883	0.14977	0.108629577	0.000	4.53	23	104	
							Total LM Emissions	**0.102**				5.1196E-06
							Total DPM Emissions	***1.797***		***TOTAL Emissions***		***9.0542E-05***

SB SR-60

		LM	HD
Region Type:	County	473,710	117,114
Region:	San Bernardino	Segment Length	
Calendar Year:	2045	8.76	miles
Season:	Annual		

Vehicle Class	Fuel	Speed	VMT	Proportion	SB SR-60 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	200129.5545	0.997902691	116868.38	0.00443437	518.2376514	1.140				
HHDT	Gas	65	420.6157035			0.00102483			8.76	28	245	2.44028E-05
		HHDT Total	200550.1702				**Total HD Emissions**	**1.140**				2.44028E-05
LDA	Gas	65	1246500.433			0.0006121						
LDA	Dsl	65	17343.69992	0.007551791	3577.358904	0.000547639	1.959101978	0.004				
LDT1	Gas	65	87185.77028			0.00065544						
LDT1	Dsl	65	48.84379664	2.12676E-05	10.07465487	0.003523281	0.035495844	0.000				
LDT2	Gas	65	495944.1253			0.000617766						
LDT2	Dsl	65	1090.207868	0.000474698	224.8692518	0.003191125	0.717585912	0.002				
LHDT1	Gas	65	8901.691224			0.000999365						
LHDT1	Dsl	65	39538.39345	0.017215801	8155.296996	0.005194416	42.36200221	0.093				
LHDT2	Gas	65	3454.678617			0.001021923						
LHDT2	Dsl	65	19878.11386	0.008655325	4100.114043	0.005269477	21.60545582	0.048				
MCY	Gas	65	9472.723827			0.002198055						
MDV	Gas	65	268924.6384			0.000664508						
MDV	Dsl	65	7577.060964	0.003299203	1562.865284	0.000674305	1.053847769	0.002				
MH	Gas	65	799.4989937			0.001005371						
MH	Dsl	65	376.1138498	0.000163767	77.57826967	0.022200292	1.722260221	0.004				
MHDT	Dsl	65	81834.98352	0.035632575	16879.50716	0.00102336	17.27381156	0.038				
MHDT	Gas	65	3138.391106			0.002343175						
OBUS	Dsl	65	2647.006914	0.001152559	545.9788739	0.001022729	0.558388275	0.001				
OBUS	Gas	65	1450.800385			0.003045399						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	264.6002512			0.001009277						
UBUS	Dsl	65	262.2718908	0.000114198	54.09691635	0.149770499	0.054598771	0.000	8.76	28	245	
							Total LM Emissions	**0.192**				4.11279E-06
							Total DPM Emissions	***1.332***		***TOTAL Emissions***		***2.8516E-05***

VEN US-101 SB

			LM	HD
Region Type:	County		284,048	56,086
Region:	Ventura		Segment Length	
Calendar Year:	2045		3.37	miles
Season:	Annual			

Vehicle Class	Fuel	Speed	VMT	Proportion	VEN US-101 SB Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	70034.90839	0.993256128	55707.76	0.004309139	240.0524765	0.528				
HHDT	Gas	65	475.5132292			0.001025323			3.37	34	115	2.41975E-05
		HHDT Total	70510.42162				**Total HD Emissions**	**0.528**				2.41975E-05
LDA	Gas	65	997729.0145			0.000613515						
LDA	Dsl	65	13887.76055	0.007860461	2232.748266	0.000564513	1.26041628	0.003				
LDT1	Gas	65	73374.10961			0.000646402						
LDT1	Dsl	65	40.86191799	2.31278E-05	6.569408809	0.003672462	0.024125902	0.000				
LDT2	Gas	65	362178.7202			0.000603877						
LDT2	Dsl	65	797.3479665	0.000451298	128.190379	0.003103117	0.397789739	0.001				
LHDT1	Gas	65	8575.401186			0.001000033						
LHDT1	Dsl	65	35784.9118	0.020254231	5753.173771	0.005309288	30.54525854	0.067				
LHDT2	Gas	65	3809.008255			0.001021503						
LHDT2	Dsl	65	17871.35862	0.010115174	2873.195057	0.005326302	15.30350595	0.034				
MCY	Gas	65	6967.471097			0.002194021						
MDV	Gas	65	177765.6253			0.000643782						
MDV	Dsl	65	5047.56836	0.00285692	811.5022907	0.000627726	0.509401195	0.001				
MH	Gas	65	1073.513606			0.000997337						
MH	Dsl	65	423.5448782	0.000239726	68.09370658	0.029177471	1.986802115	0.004				
MHDT	Dsl	65	54488.02204	0.030840176	8760.090314	0.001023363	8.964751544	0.020				
MHDT	Gas	65	3548.425005			0.002346996						
OBUS	Dsl	65	1327.10641	0.000751141	213.3601399	0.001022489	0.218158325	0.000				
OBUS	Gas	65	1619.295978			0.002952713						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	238.5062521			0.001013263						
UBUS	Dsl	65	239.4277363	0.000135516	38.4930213	0.090379155	0.03900357	0.000	3.37	34	115	
							Total LM Emissions	**0.130**				5.97236E-06
							Total DPM Emissions	***0.658***	***TOTAL Emissions***			***3.0170E-05***

VEN US-101 TO

Region Type:	County	LM		HD	
Region:	Ventura		201,947		20,808
Calendar Year:	2016	Segment Length			
Season:	Annual		1.73	miles	

Vehicle Class	Fuel	Speed	VMT	Proportion	VEN US-101 TO Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	70034.90839	0.993256128	20667.67	0.004309139	89.0598711	0.196				
HHDT	Gas	65	475.5132292			0.001025323			1.73	24	42	2.47741E-05
		HHDT Total	70510.42162				**Total HD Emissions**	**0.196**				2.47741E-05
LDA	Gas	65	997729.0145			0.000613515						
LDA	Dsl	65	13887.76055	0.007860461	1587.396546	0.000564513	0.896106596	0.002				
LDT1	Gas	65	73374.10961			0.000646402						
LDT1	Dsl	65	40.86191799	2.31278E-05	4.670592297	0.003672462	0.017152571	0.000				
LDT2	Gas	65	362178.7202			0.000603877						
LDT2	Dsl	65	797.3479665	0.000451298	91.13833745	0.003103117	0.28281292	0.001				
LHDT1	Gas	65	8575.401186			0.001000033						
LHDT1	Dsl	65	35784.9118	0.020254231	4090.281162	0.005309288	21.71648217	0.048				
LHDT2	Gas	65	3809.008255			0.001021503						
LHDT2	Dsl	65	17871.35862	0.010115174	2042.729124	0.005326302	10.88019319	0.024				
MCY	Gas	65	6967.471097			0.002194021						
MDV	Gas	65	177765.6253			0.000643782						
MDV	Dsl	65	5047.56836	0.00285692	576.9463369	0.000627726	0.362164293	0.001				
MH	Gas	65	1073.513606			0.000997337						
MH	Dsl	65	423.5448782	0.000239726	48.41195771	0.029177471	1.412538468	0.003				
MHDT	Dsl	65	54488.02204	0.030840176	6228.081024	0.001023363	6.373587141	0.014				
MHDT	Gas	65	3548.425005			0.002346996						
OBUS	Dsl	65	1327.10641	0.000751141	151.6907008	0.001022489	0.155102022	0.000				
OBUS	Gas	65	1619.295978			0.002952713						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	238.5062521			0.001013263						
UBUS	Dsl	65	239.4277363	0.000135516	27.36703013	0.090379155	0.027730011	0.000	1.73	24	42	
							Total LM Emissions	**0.093**				1.17177E-05
							Total DPM Emissions	***0.289***		***TOTAL Emissions***		***3.6492E-05***

IMP I-8

Region Type:	County		LM	HD	
Region:	Imperial		66,392	25,615	
Calendar Year:	2045		Segment Length		
Season:	Annual		3.01	miles	

Vehicle Class	Fuel	Speed	VMT	Proportion	IMP I-8 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	467877.9752	0.997337503	25546.80	0.004314442	110.2201879	0.242				
HHDT	Gas	65	1249.049462	0.002662497		0.001021521			3.01	35	105	1.20837E-05
		HHDT Total	469127.0246				**Total HD Emissions**	**0.242**				1.20837E-05
LDA	Gas	65	686767.7192			0.000609809						
LDA	Dsl	65	9567.830576	0.007581909	503.3780804	0.000543682	0.273677419	0.001				
LDT1	Gas	65	42942.47491			0.000644397						
LDT1	Dsl	65	24.07088072	1.90747E-05	1.266405549	0.003737102	0.004732687	0.000				
LDT2	Gas	65	243651.7037			0.00061275						
LDT2	Dsl	65	535.8929266	0.000424662	28.19413978	0.003161459	0.089134608	0.000				
LHDT1	Gas	65	9714.948108			0.001001585						
LHDT1	Dsl	65	23708.87896	0.018787807	1247.360087	0.005516684	6.881291423	0.015				
LHDT2	Gas	65	3824.71362			0.001022476						
LHDT2	Dsl	65	11786.67135	0.009340202	620.1146592	0.005277536	3.272677649	0.007				
MCY	Gas	65	8004.239877			0.002201437						
MDV	Gas	65	137013.6997			0.000671022						
MDV	Dsl	65	3823.978024	0.003030264	201.1852846	0.000697516	0.140329965	0.000				
MH	Gas	65	1274.502975			0.001016116						
MH	Dsl	65	400.8689421	0.000317664	21.09032313	0.016149733	0.340603091	0.001				
MHDT	Dsl	65	54313.77906	0.043040281	2857.530306	0.001018837	2.911357081	0.006				
MHDT	Gas	65	9463.411087			0.002461454						
OBUS	Dsl	65	11101.80773	0.00879749	584.0829455	0.001022508	0.597229576	0.001				
OBUS	Gas	65	3284.94502			0.002768269						
SBUS	Dsl	65	0	0	0	0.002199722						
UBUS	Gas	65	363.5124097			0.001012229						
UBUS	Dsl	65	359.3736322	0.000284781	18.90719194	0.00619609	0.117150654	0.000	3.01	35	105	
							Total LM Emissions	**0.032**				1.60372E-06
							Total DPM Emissions	***0.275***	***TOTAL Emissions***			***1.3687E-05***

IMP SR-78

		LM	HD
Region Type:	County	30,194	4,833
Region:	Imperial	Segment Length	
Calendar Year:	2045	0.87	miles
Season:	Annual		

Vehicle Class	Fuel	Speed	VMT	Proportion	IMP SR-78 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	467877.9752	0.997337503	4820.13	0.004314442	20.79618068	0.046				
HHDT	Gas	65	1249.049462			0.001021521			3.01	54	54	4.44797E-06
		HHDT Total	469127.0246				**Total HD Emissions**	**0.046**				4.44797E-06
LDA	Gas	65	686767.7192			0.000609809						
LDA	Dsl	65	9567.830576	0.007581909	228.9281504	0.000543682	0.124464032	0.000				
LDT1	Gas	65	42942.47491			0.000644397						
LDT1	Dsl	65	24.07088072	1.90747E-05	0.575940612	0.003737102	0.002152349	0.000				
LDT2	Gas	65	243651.7037			0.00061275						
LDT2	Dsl	65	535.8929266	0.000424662	12.82223546	0.003161459	0.040536968	0.000				
LHDT1	Gas	65	9714.948108			0.001001585						
LHDT1	Dsl	65	23708.87896	0.018787807	567.2790467	0.005516684	3.129499235	0.007				
LHDT2	Gas	65	3824.71362			0.001022476						
LHDT2	Dsl	65	11786.67135	0.009340202	282.0180447	0.005277536	1.488360479	0.003				
MCY	Gas	65	8004.239877			0.002201437						
MDV	Gas	65	137013.6997			0.000671022						
MDV	Dsl	65	3823.978024	0.003030264	91.49578989	0.000697516	0.063819782	0.000				
MH	Gas	65	1274.502975			0.001016116						
MH	Dsl	65	400.8689421	0.000317664	9.591535376	0.016149733	0.154900737	0.000				
MHDT	Dsl	65	54313.77906	0.043040281	1299.558231	0.001018837	1.324037771	0.003				
MHDT	Gas	65	9463.411087			0.002461454						
OBUS	Dsl	65	11101.80773	0.00879749	265.6314083	0.001022508	0.271610282	0.001				
OBUS	Gas	65	3284.94502			0.002768269						
SBUS	Dsl	65	0	0	0	0.002199722						
UBUS	Gas	65	363.5124097			0.001012229						
UBUS	Dsl	65	359.3736322	0.000284781	8.598682873	0.00619609	0.053278209	0.000	3.01	54	54	
							Total LM Emissions	**0.015**				1.4229E-06
							Total DPM Emissions	***0.060***	***TOTAL Emissions***			***5.8709E-06***

*modeled for entire segment length in AERSCREEN

LA I-110

Region Type:	County	LM		HD	
Region:	Los Angeles (SC)		310,132		52,493
Calendar Year:	2045	Segment Length			
Season:	Annual		4.01	miles	

Vehicle Class	Fuel	Speed	VMT	Proportion	LA I-110 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	804712.0007	0.994214532	52189.30	0.004489986	234.3292226	0.516				
HHDT	Gas	65	4682.727405			0.001025111			4.01	29	116	2.32732E-05
		HHDT Total	809394.7281				**Total HD Emissions**	**0.516**				2.32732E-05
LDA	Gas	65	3554539.187			0.000617625						
LDA	Dsl	65	49409.08171	0.006360479	1972.587943	0.000557467	1.09965355	0.002				
LDT1	Gas	65	351918.8238			0.000677843						
LDT1	Dsl	65	198.1512765	2.55082E-05	7.910910409	0.00425494	0.03366045	0.000				
LDT2	Gas	65	1685801.242			0.000617054						
LDT2	Dsl	65	3707.938726	0.000477327	148.0342271	0.003216718	0.476184345	0.001				
LHDT1	Gas	65	77238.95924			0.001006258						
LHDT1	Dsl	65	336226.8654	0.043282808	13423.38367	0.004688288	62.93268766	0.138				
LHDT2	Gas	65	34788.99327			0.001022679						
LHDT2	Dsl	65	170424.5569	0.021938917	6803.960213	0.005337568	36.31659897	0.080				
MCY	Gas	65	42645.5219			0.002202991						
MDV	Gas	65	909824.0021			0.000668995						
MDV	Dsl	65	25783.8167	0.003319176	1029.382538	0.000687321	0.707516016	0.002				
MH	Gas	65	8910.37144			0.001012904						
MH	Dsl	65	3547.17192	0.000456631	141.615839	0.015106615	2.139335935	0.005				
MHDT	Dsl	65	416990.184	0.053679547	16647.74533	0.001022603	17.02403741	0.037				
MHDT	Gas	65	34913.98133			0.002338275						
OBUS	Dsl	65	41629.96737	0.005359066	1662.017768	0.001021766	1.698193243	0.004				
OBUS	Gas	65	14765.97186			0.003045399						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	2395.641847			0.001006684						
UBUS	Dsl	65	2478.47174	0.000319056	98.9494907	0.148869079	0.099610853	0.000	4.01	29	116	
							Total LM Emissions	**0.270**				1.21692E-05
							Total DPM Emissions	***0.785***		***TOTAL Emissions***		***3.5442E-05***

LA I-710

Region Type:	County	LM	HD		
Region:	Los Angeles (SC)	328,739	74,579	Segment Length	
Calendar Year:	2045			2.1	miles
Season:	Annual				

Vehicle Class	Fuel	Speed	VMT	Proportion	LA I-710 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	804712.0007	0.994214532	74147.53	0.004489986	332.9213246	0.732				
HHDT	Gas	65	4682.727405			0.001025111			2.1	23	48	7.96099E-05
		HHDT Total	809394.7281				**Total HD Emissions**	**0.732**				7.96099E-05
LDA	Gas	65	3554539.187			0.000617625						
LDA	Dsl	65	49409.08171	0.006360479	2090.937368	0.000557467	1.165629501	0.003				
LDT1	Gas	65	351918.8238		0	0.000677843						
LDT1	Dsl	65	198.1512765	2.55082E-05	8.385541566	0.00425494	0.035679978	0.000				
LDT2	Gas	65	1685801.242		0	0.000617054						
LDT2	Dsl	65	3707.938726	0.000477327	156.9158416	0.003216718	0.504753993	0.001				
LHDT1	Gas	65	77238.95924		0	0.001006258						
LHDT1	Dsl	65	336226.8654	0.043282808	14228.74687	0.004688288	66.70846223	0.147				
LHDT2	Gas	65	34788.99327		0	0.001022679						
LHDT2	Dsl	65	170424.5569	0.021938917	7212.177642	0.005337568	38.49548717	0.085				
MCY	Gas	65	42645.5219		0	0.002202991						
MDV	Gas	65	909824.0021		0	0.000668995						
MDV	Dsl	65	25783.8167	0.003319176	1091.142437	0.000687321	0.749964879	0.002				
MH	Gas	65	8910.37144		0	0.001012904						
MH	Dsl	65	3547.17192	0.000456631	150.1123692	0.015106615	2.267689745	0.005				
MHDT	Dsl	65	416990.184	0.053679547	17646.56066	0.001022603	18.04542915	0.040				
MHDT	Gas	65	34913.98133		0	0.002338275						
OBUS	Dsl	65	41629.96737	0.005359066	1761.733903	0.001021766	1.800079799	0.004				
OBUS	Gas	65	14765.97186		0	0.003045399						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	2395.641847		0	0.001006684						
UBUS	Dsl	65	2478.47174	0.000319056	104.8861666	0.148869079	0.105587209	0.000	2.1	23	48	
							Total LM Emissions	**0.286**				3.10573E-05
							Total DPM Emissions	***1.018***		***TOTAL Emissions***		***1.1067E-04***

LA SR-60 DB

		LM	HD
Region Type:	County	701,463	106,372
Region:	Los Angeles (SC)	Segment Length	
Calendar Year:	2045	7.2	miles
Season:	Annual		

Vehicle Class	Fuel	Speed	VMT	Proportion	LA I-710 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	804712.0007	0.994214532	105756.59	0.004489986	474.8455616	1.045				
HHDT	Gas	65	4682.727405			0.001025111			7.2	29	209	2.6266E-05
		HHDT Total	809394.7281				**Total HD Emissions**	**1.045**				2.6266E-05
LDA	Gas	65	3554539.187			0.000617625						
LDA	Dsl	65	49409.08171	0.006360479	4461.640386	0.000557467	2.487219242	0.005				
LDT1	Gas	65	351918.8238		0	0.000677843						
LDT1	Dsl	65	198.1512765	2.55082E-05	17.8930615	0.00425494	0.076133906	0.000				
LDT2	Gas	65	1685801.242		0	0.000617054						
LDT2	Dsl	65	3707.938726	0.000477327	334.82689	0.003216718	1.077043643	0.002				
LHDT1	Gas	65	77238.95924		0	0.001006258						
LHDT1	Dsl	65	336226.8654	0.043282808	30361.28803	0.004688288	142.3424603	0.313				
LHDT2	Gas	65	34788.99327		0	0.001022679						
LHDT2	Dsl	65	170424.5569	0.021938917	15389.33855	0.005337568	82.14163795	0.181				
MCY	Gas	65	42645.5219		0	0.002202991						
MDV	Gas	65	909824.0021		0	0.000668995						
MDV	Dsl	65	25783.8167	0.003319176	2328.278809	0.000687321	1.600274423	0.004				
MH	Gas	65	8910.37144		0	0.001012904						
MH	Dsl	65	3547.17192	0.000456631	320.3096464	0.015106615	4.838794458	0.011				
MHDT	Dsl	65	416990.184	0.053679547	37654.21621	0.001022603	38.50532145	0.085				
MHDT	Gas	65	34913.98133		0	0.002338275						
OBUS	Dsl	65	41629.96737	0.005359066	3759.186312	0.001021766	3.841008753	0.008				
OBUS	Gas	65	14765.97186		0	0.003045399						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	2395.641847		0	0.001006684						
UBUS	Dsl	65	2478.47174	0.000319056	223.8060135	0.148869079	0.225301897	0.000	7.2	29	209	
							Total LM Emissions	**0.610**				1.53297E-05
							Total DPM Emissions	***1.654***		***TOTAL Emissions***		***4.1596E-05***

LA SR-60 SEM

		LM	HD
Region Type:	County	338,431	35,323
Region:	Los Angeles (SC)	Segment Length	
Calendar Year:	2045	8.31	miles
Season:	Annual		

Vehicle Class	Fuel	Speed	VMT	Proportion	LA I-710 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	804712.0007	0.994214532	35118.64	0.004489986	157.6821887	0.347				
HHDT	Gas	65	4682.727405			0.001025111			8.31	26	216	8.42909E-06
		HHDT Total	809394.7281				**Total HD Emissions**	**0.347**				8.42909E-06
LDA	Gas	65	3554539.187			0.000617625						
LDA	Dsl	65	49409.08171	0.006360479	2152.583126	0.000557467	1.199995004	0.003				
LDT1	Gas	65	351918.8238		0	0.000677843						
LDT1	Dsl	65	198.1512765	2.55082E-05	8.632767081	0.00425494	0.036731907	0.000				
LDT2	Gas	65	1685801.242		0	0.000617054						
LDT2	Dsl	65	3707.938726	0.000477327	161.5420902	0.003216718	0.51963533	0.001				
LHDT1	Gas	65	77238.95924		0	0.001006258						
LHDT1	Dsl	65	336226.8654	0.043282808	14648.24384	0.004688288	68.67518481	0.151				
LHDT2	Gas	65	34788.99327		0	0.001022679						
LHDT2	Dsl	65	170424.5569	0.021938917	7424.809625	0.005337568	39.6304248	0.087				
MCY	Gas	65	42645.5219		0	0.002202991						
MDV	Gas	65	909824.0021		0	0.000668995						
MDV	Dsl	65	25783.8167	0.003319176	1123.311886	0.000687321	0.77207561	0.002				
MH	Gas	65	8910.37144		0	0.001012904						
MH	Dsl	65	3547.17192	0.000456631	154.5380354	0.015106615	2.334546579	0.005				
MHDT	Dsl	65	416990.184	0.053679547	18166.82283	0.001022603	18.5774509	0.041				
MHDT	Gas	65	34913.98133		0	0.002338275						
OBUS	Dsl	65	41629.96737	0.005359066	1813.673968	0.001021766	1.853150392	0.004				
OBUS	Gas	65	14765.97186		0	0.003045399						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	2395.641847		0	0.001006684						
UBUS	Dsl	65	2478.47174	0.000319056	107.9784578	0.148869079	0.108700169	0.000	8.31	26	216	
							Total LM Emissions	**0.294**				7.14752E-06
							Total DPM Emissions	***0.641***		***TOTAL Emissions***		***1.5577E-05***

ORA I-5

		LM	HD
Region Type:	County	351,556	38,480
Region:	Orange	Segment Length	
Calendar Year:	2045	7.11	miles
Season:	Annual		

Vehicle Class	Fuel	Speed	VMT	Proportion	ORA I-5 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	153993.0915	0.993334547	38223.51	0.004390344	167.8143728	0.369				
HHDT	Gas	65	1033.321324			0.001025276			7.11	14	100	1.94717E-05
		HHDT Total	155026.4129				**Total HD Emissior**	**0.369**				1.94717E-05
LDA	Gas	65	2247129.503			0.000606964						
LDA	Dsl	65	31292.79203	0.007321937	2574.070737	0.00053549	1.378390394	0.003				
LDT1	Gas	65	200126.7569			0.000650632						
LDT1	Dsl	65	110.6700333	2.58947E-05	9.103454042	0.003325643	0.030274841	0.000				
LDT2	Gas	65	983956.1484			0.000605762						
LDT2	Dsl	65	2165.695016	0.000506733	178.1449274	0.003119863	0.555787847	0.001				
LHDT1	Gas	65	17717.03289			0.001003301						
LHDT1	Dsl	65	70955.24518	0.01660222	5836.609916	0.004895683	28.57419365	0.063				
LHDT2	Gas	65	7951.384008			0.001022359						
LHDT2	Dsl	65	35749.3252	0.008364683	2940.654569	0.005344754	15.71707662	0.035				
MCY	Gas	65	23932.03555			0.002200421						
MDV	Gas	65	471900.4302			0.000654405						
MDV	Dsl	65	13390.6476	0.003133165	1101.482862	0.000658269	0.725071747	0.002				
MH	Gas	65	2253.590748			0.001010546						
MH	Dsl	65	864.9048123	0.000202372	71.1450153	0.020018122	1.424189577	0.003				
MHDT	Dsl	65	145509.7453	0.034046599	11969.286	0.00102122	12.22326954	0.027				
MHDT	Gas	65	7722.828122			0.002341319						
OBUS	Dsl	65	6168.256899	0.001443258	507.3861599	0.001022419	0.518761033	0.001				
OBUS	Gas	65	3827.041697			0.003045399						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	556.9458034			0.000998951						
UBUS	Dsl	65	559.8969161	0.000131006	46.05579029	0.150386559	0.046007493	0.000	7.11	14	100	
							Total LM Emissions	**0.135**				7.1003E-06
							Total DPM Emissions	***0.504***	***TOTAL Emissions***			***2.6572E-05***

ORA I-4055

Region Type:	County	LM	HD	
Region:	Orange	413,164	63,343	
Calendar Year:	2045	Segment Length		
Season:	Annual	4.9	miles	

Vehicle Class	Fuel	Speed	VMT	Proportion	ORA I-405 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	153993.0915	0.993334547	62920.79	0.004390344	276.2439142	0.608				
HHDT	Gas	65	1033.321324			0.001025276			4.9	21	103	3.10063E-05
		HHDT Total	155026.4129				**Total HD Emissions**	**0.608**				3.10063E-05
LDA	Gas	65	2247129.503			0.000606964						
LDA	Dsl	65	31292.79203	0.007321937	3025.160606	0.00053549	1.619944728	0.004				
LDT1	Gas	65	200126.7569			0.000650632						
LDT1	Dsl	65	110.6700333	2.58947E-05	10.69877768	0.003325643	0.035580318	0.000				
LDT2	Gas	65	983956.1484			0.000605762						
LDT2	Dsl	65	2165.695016	0.000506733	209.3637167	0.003119863	0.653186206	0.001				
LHDT1	Gas	65	17717.03289			0.001003301						
LHDT1	Dsl	65	70955.24518	0.01660222	6859.439461	0.004895683	33.58164317	0.074				
LHDT2	Gas	65	7951.384008			0.001022359						
LHDT2	Dsl	65	35749.3252	0.008364683	3455.985972	0.005344754	18.47139644	0.041				
MCY	Gas	65	23932.03555			0.002200421						
MDV	Gas	65	471900.4302			0.000654405						
MDV	Dsl	65	13390.6476	0.003133165	1294.510875	0.000658269	0.852136056	0.002				
MH	Gas	65	2253.590748			0.001010546						
MH	Dsl	65	864.9048123	0.000202372	83.61273624	0.020018122	1.673769932	0.004				
MHDT	Dsl	65	145509.7453	0.034046599	14066.82884	0.00102122	14.36532142	0.032				
MHDT	Gas	65	7722.828122			0.002341319						
OBUS	Dsl	65	6168.256899	0.001443258	596.3024252	0.001022419	0.609670674	0.001				
OBUS	Gas	65	3827.041697			0.003045399						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	556.9458034			0.000998951						
UBUS	Dsl	65	559.8969161	0.000131006	54.12678077	0.150386559	0.05407002	0.000	4.9	21	103	
							Total LM Emissions	**0.158**				8.07211E-06
							Total DPM Emissions	***0.766***		***TOTAL Emissions***		***3.9078E-05***

RIV I-10

Region Type:	County	LM	HD
Region:	Riverside	686,909	245,307
Calendar Year:	2045	Segment Length	
Season:	Annual	9.97	miles

Vehicle Class	Fuel	Speed	VMT	Proportion	RIV I-10 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	57425.03667	0.99857921	244958.47	0.004249092	1040.851112	2.290				
HHDT	Gas	65	81.70511388			0.00102492			9.97	34	339	3.54639E-05
		HHDT Tota	57506.74178				**Total HD Emissions**	**2.290**				3.54639E-05
LDA	Gas	65	122364.2875			0.000612601						
LDA	Dsl	65	1703.699775	0.00784019	5385.499019	0.000557169	3.000633336	0.007				
LDT1	Gas	65	9258.935654			0.000651602						
LDT1	Dsl	65	5.167844437	2.3782E-05	16.33587182	0.00367529	0.060039071	0.000				
LDT2	Gas	65	50483.50114			0.000617877						
LDT2	Dsl	65	111.0283608	0.00051094	350.9674278	0.003194747	1.121252266	0.002				
LHDT1	Gas	65	1139.795528			0.000999681						
LHDT1	Dsl	65	1439.035679	0.00662224	4548.879648	0.005310935	24.15880199	0.053				
LHDT2	Gas	65	458.2873117			0.001022422						
LHDT2	Dsl	65	718.9859183	0.00330867	2272.758389	0.005329699	12.11311753	0.027				
MCY	Gas	65	1316.037979			0.002195013						
MDV	Gas	65	25891.77914			0.000662681						
MDV	Dsl	65	732.877644	0.0033726	2316.670983	0.000678552	1.571982009	0.003				
MH	Gas	65	151.5598152			0.001009549						
MH	Dsl	65	35.07567434	0.00016141	110.8763483	0.020786562	2.304738064	0.005				
MHDT	Dsl	65	516.9634753	0.002379	1634.153112	0.001022495	1.670913941	0.004				
MHDT	Gas	65	610.4960727			0.002541873						
OBUS	Dsl	65	7.730710997	3.5576E-05	24.4372495	0.001022049	0.024976067	0.000				
OBUS	Gas	65	296.2124272			0.003099277						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	30.70590264			0.001002961						
UBUS	Dsl	65	31.09690521	0.0001431	98.29921617	0.134787715	0.098590246	0.000	9.97	34	339	
							Total LM Emissions	**0.101**				1.57158E-06
							Total DPM Emissions	***2.391***	***TOTAL Emissions***			***3.7036E-05***

RIV I-15
Region Type: County
Region: Riverside
Calendar Year: 2045
Season: Annual

LM 1,150,527
HD 145,612
Segment Length 10.64 miles

Vehicle Class	Fuel	Speed	VMT	Proportion	RIV I-15 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	57425.03667	0.99857921	145405.12	0.004249092	617.8397357	1.359				
HHDT	Gas	65	81.70511388			0.00102492			10.64	23	245	2.91594E-05
		HHDT Tota	57506.74178				**Total HD Emissions**	**1.359**				2.91594E-05
LDA	Gas	65	122364.2875			0.000612601						
LDA	Dsl	65	1703.699775	0.00784019	9020.35354	0.000557169	5.025861751	0.011				
LDT1	Gas	65	9258.935654		0	0.000651602						
LDT1	Dsl	65	5.167844437	2.3782E-05	27.36150145	0.00367529	0.100561461	0.000				
LDT2	Gas	65	50483.50114		0	0.000617877						
LDT2	Dsl	65	111.0283608	0.00051094	587.8471556	0.003194747	1.878023152	0.004				
LHDT1	Gas	65	1139.795528		0	0.000999681						
LHDT1	Dsl	65	1439.035679	0.00662224	7619.071602	0.005310935	40.46439044	0.089				
LHDT2	Gas	65	458.2873117		0	0.001022422						
LHDT2	Dsl	65	718.9859183	0.00330867	3806.71951	0.005329699	20.28866817	0.045				
MCY	Gas	65	1316.037979		0	0.002195013						
MDV	Gas	65	25891.77914		0	0.000662681						
MDV	Dsl	65	732.877644	0.0033726	3880.27019	0.000678552	2.632965567	0.006				
MH	Gas	65	151.5598152		0	0.001009549						
MH	Dsl	65	35.07567434	0.00016141	185.710527	0.020786562	3.860283343	0.008				
MHDT	Dsl	65	516.9634753	0.002379	2737.098039	0.001022495	2.798669989	0.006				
MHDT	Gas	65	610.4960727		0	0.002541873						
OBUS	Dsl	65	7.730710997	3.5576E-05	40.93077156	0.001022049	0.041833255	0.000				
OBUS	Gas	65	296.2124272		0	0.003099277						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	30.70590264		0	0.001002961						
UBUS	Dsl	65	31.09690521	0.0001431	164.6446651	0.134787715	0.165132121	0.000	10.64	23	245	
							Total LM Emissions	**0.170**				3.64617E-06
							Total DPM Emissions	***1.529***		***TOTAL Emissions***		***3.2806E-05***

RIV SR-91

		LM	HD
Region Type:	County	589,181	84,762
Region:	Riverside	Segment Length	
Calendar Year:	2045	6.53	miles
Season:	Annual		

Vehicle Class	Fuel	Speed	VMT	Proportion	RIV SR-91 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	603495.3518	0.99835852	84622.86	0.004249092	359.5703504	0.791				
HHDT	Gas	65	992.2554051			0.00102492			6.53	17	111	3.74106E-05
		HHDT Tota	604487.6072				**Total HD Emissions**	**0.791**				3.74106E-05
LDA	Gas	65	2904962.144			0.000612601						
LDA	Dsl	65	40432.58932	0.00785878	4630.245466	0.000557169	2.579829436	0.006				
LDT1	Gas	65	193669.0801		0	0.000651602						
LDT1	Dsl	65	107.2821597	2.0852E-05	12.28570175	0.00367529	0.04515352	0.000				
LDT2	Gas	65	1109612.908		0	0.000617877						
LDT2	Dsl	65	2441.038772	0.00047446	279.5420451	0.003194747	0.893066212	0.002				
LHDT1	Gas	65	23046.23807		0	0.000999681						
LHDT1	Dsl	65	81179.12407	0.01577859	9296.443227	0.005310935	49.37280132	0.109				
LHDT2	Gas	65	9022.063228		0	0.001022422						
LHDT2	Dsl	65	40978.07508	0.00796481	4692.713217	0.005329699	25.01074772	0.055				
MCY	Gas	65	20904.3844		0	0.002195013						
MDV	Gas	65	555323.3392		0	0.000662681						
MDV	Dsl	65	15657.80235	0.00304337	1793.094866	0.000678552	1.216708324	0.003				
MH	Gas	65	2513.067667		0	0.001009549						
MH	Dsl	65	973.1265612	0.00018914	111.4401754	0.020786562	2.316458091	0.005				
MHDT	Dsl	65	126901.8633	0.0246656	14532.50428	0.001022495	14.8594179	0.033				
MHDT	Gas	65	7409.193806		0	0.002541873						
OBUS	Dsl	65	4781.432499	0.00092936	547.5584552	0.001022049	0.559631584	0.001				
OBUS	Gas	65	3882.402715		0	0.003099277						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	553.7270488		0	0.001002961						
UBUS	Dsl	65	541.2735523	0.00010521	61.98537994	0.134787715	0.062168897	0.000	6.53	17	111	
							Total LM Emissions	**0.213**				1.00834E-05
							Total DPM Emissions	***1.004***	***TOTAL Emissions***			***4.7494E-05***

SB I-15 ONT

Region Type:	County	LM	HD
Region:	San Bernardino	382,184	83,858
Calendar Year:	2045	Segment Length	
Season:	Annual	5.9	miles

Vehicle Class	Fuel	Speed	VMT	Proportion	SB I-15 ONT Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	200129.5545	0.997902691	83682.12	0.00443437	371.0775225	0.816				
HHDT	Gas	65	420.6157035			0.00102483			5.9	26	153	2.79391E-05
		HHDT Total	200550.1702				**Total HD Emissions**	**0.816**				2.79391E-05
LDA	Gas	65	1246500.433			0.0006121						
LDA	Dsl	65	17343.69992	0.007551791	2886.173683	0.000547639	1.580581854	0.003				
LDT1	Gas	65	87185.77028			0.00065544						
LDT1	Dsl	65	48.84379664	2.12676E-05	8.12812036	0.003523281	0.028637655	0.000				
LDT2	Gas	65	495944.1253			0.000617766						
LDT2	Dsl	65	1090.207868	0.000474698	181.4220306	0.003191125	0.578940394	0.001				
LHDT1	Gas	65	8901.691224			0.000999365						
LHDT1	Dsl	65	39538.39345	0.017215801	6579.603612	0.005194416	34.17719586	0.075				
LHDT2	Gas	65	3454.678617			0.001021923						
LHDT2	Dsl	65	19878.11386	0.008655325	3307.92676	0.005269477	17.43104331	0.038				
MCY	Gas	65	9472.723827			0.002198055						
MDV	Gas	65	268924.6384			0.000664508						
MDV	Dsl	65	7577.060964	0.003299203	1260.902463	0.000674305	0.85023275	0.002				
MH	Gas	65	799.4989937			0.001005371						
MH	Dsl	65	376.1138498	0.000163767	62.58929179	0.022200292	1.389500539	0.003				
MHDT	Dsl	65	81834.98352	0.035632575	13618.20009	0.00102336	13.93632053	0.031				
MHDT	Gas	65	3138.391106			0.002343175						
OBUS	Dsl	65	2647.006914	0.001152559	440.4897299	0.001022729	0.450501498	0.001				
OBUS	Gas	65	1450.800385			0.003045399						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	264.6002512			0.001009277						
UBUS	Dsl	65	262.2718908	0.000114198	43.64479509	0.149770499	0.044049686	0.000	5.9	26	153	
							Total LM Emissions	**0.155**				5.30558E-06
							Total DPM Emissions	***0.971***		***TOTAL Emissions***		***3.3245E-05***

SB I-15 VIC

Region Type:	County		LM	HD	
Region:	San Bernardino		398,054	174,372	
Calendar Year:	2045		Segment Length		
Season:	Annual		4.53	miles	

Vehicle Class	Fuel	Speed	VMT	Proportion	SB I-15 VIC Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	939957.3646	0.995648355	173613.19	0.00443437	769.865191	1.694				
HHDT	Gas	65	4108.238294			0.00102483			4.53	23	104	8.53417E-05
		HHDT Total	944065.6029				**Total HD Emissions**	**1.694**				8.53417E-05
LDA	Gas	65	3345467.725			0.0006121						
LDA	Dsl	65	46569.98247	0.007936382	3159.108548	0.000547639	1.730051686	0.004				
LDT1	Gas	65	223198.9989			0.00065544						
LDT1	Dsl	65	124.4510172	2.12087E-05	8.442225041	0.003523281	0.029744335	0.000				
LDT2	Gas	65	1246398.67			0.000617766						
LDT2	Dsl	65	2741.144588	0.000467141	185.9475319	0.003191125	0.593381835	0.001				
LHDT1	Gas	65	40465.47663			0.000999365						
LHDT1	Dsl	65	63822.56206	0.010876539	4329.449802	0.005194416	22.48896173	0.049				
LHDT2	Gas	65	15958.60853			0.001021923						
LHDT2	Dsl	65	31739.67148	0.005409024	2153.083643	0.005269477	11.3456243	0.025				
MCY	Gas	65	53702.03968			0.002198055						
MDV	Gas	65	625131.5956			0.000664508						
MDV	Dsl	65	17603.56869	0.002999972	1194.150854	0.000674305	0.805221811	0.002				
MH	Gas	65	5635.321691			0.001005371						
MH	Dsl	65	1525.7386	0.000260014	103.4995849	0.022200292	2.297720981	0.005				
MHDT	Dsl	65	94731.45069	0.016143982	6426.176688	0.00102336	6.576291837	0.014				
MHDT	Gas	65	30676.32694			0.002343175						
OBUS	Dsl	65	3642.098724	0.000620681	247.0644094	0.001022729	0.252679867	0.001				
OBUS	Gas	65	15609.66688			0.003045399						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	1577.680665			0.001009277						
UBUS	Dsl	65	1588.163257	0.000270652	107.7342068	0.149770499	0.108733652	0.000	4.53	23	104	
							Total LM Emissions	**0.102**				5.12455E-06
							Total DPM Emissions	***1.795***		***TOTAL Emissions***		***9.0466E-05***

SB SR-60

		LM	HD
Region Type:	County	470,167	117,630
Region:	San Bernardino	Segment Length	
Calendar Year:	2045	8.76	miles
Season:	Annual		

Vehicle Class	Fuel	Speed	VMT	Proportion	SB SR-60 Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	200129.5545	0.997902691	117383.29	0.00443437	520.5209875	1.145				
HHDT	Gas	65	420.6157035			0.00102483			8.76	28	245	2.45103E-05
		HHDT Total	200550.1702				**Total HD Emission**	**1.145**				2.45103E-05
LDA	Gas	65	1246500.433			0.0006121						
LDA	Dsl	65	17343.69992	0.007551791	3550.602909	0.000547639	1.944449346	0.004				
LDT1	Gas	65	87185.77028			0.00065544						
LDT1	Dsl	65	48.84379664	2.12676E-05	9.999303909	0.003523281	0.035230362	0.000				
LDT2	Gas	65	495944.1253			0.000617766						
LDT2	Dsl	65	1090.207868	0.000474698	223.1873963	0.003191125	0.7122189	0.002				
LHDT1	Gas	65	8901.691224			0.000999365						
LHDT1	Dsl	65	39538.39345	0.017215801	8094.301414	0.005194416	42.0451658	0.092				
LHDT2	Gas	65	3454.678617			0.001021923						
LHDT2	Dsl	65	19878.11386	0.008655325	4069.448227	0.005269477	21.44386301	0.047				
MCY	Gas	65	9472.723827			0.002198055						
MDV	Gas	65	268924.6384			0.000664508						
MDV	Dsl	65	7577.060964	0.003299203	1551.176209	0.000674305	1.045965769	0.002				
MH	Gas	65	799.4989937			0.001005371						
MH	Dsl	65	376.1138498	0.000163767	76.99804166	0.022200292	1.70937899	0.004				
MHDT	Dsl	65	81834.98352	0.035632575	16753.26095	0.00102336	17.14461624	0.038				
MHDT	Gas	65	3138.391106			0.002343175						
OBUS	Dsl	65	2647.006914	0.001152559	541.8953563	0.001022729	0.554211944	0.001				
OBUS	Gas	65	1450.800385			0.003045399						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	264.6002512			0.001009277						
UBUS	Dsl	65	262.2718908	0.000114198	53.69231148	0.149770499	0.054190413	0.000	8.76	28	245	
							Total LM Emissions	**0.191**				4.08203E-06
							Total DPM Emissions	***1.336***		***TOTAL Emissions***		***2.8592E-05***

VEN US-101 SB

		LM	HD
Region Type:	County	283,720	56,080
Region:	Ventura	Segment Length	
Calendar Year:	2045	3.37	miles
Season:	Annual		

Vehicle Class	Fuel	Speed	VMT	Proportion	VEN US-101 SB Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	70034.90839	0.993256128	55701.80	0.004309139	240.026796	0.528				
HHDT	Gas	65	475.5132292			0.001025323			3.37	34	115	2.41949E-05
		HHDT Tota	70510.42162				**Total HD Emissions**	**0.528**				2.41949E-05
LDA	Gas	65	997729.0145			0.000613515						
LDA	Dsl	65	13887.76055	0.007860461	2230.170034	0.000564513	1.258960834	0.003				
LDT1	Gas	65	73374.10961			0.000646402						
LDT1	Dsl	65	40.86191799	2.31278E-05	6.561822887	0.003672462	0.024098043	0.000				
LDT2	Gas	65	362178.7202			0.000603877						
LDT2	Dsl	65	797.3479665	0.000451298	128.0423532	0.003103117	0.397330397	0.001				
LHDT1	Gas	65	8575.401186			0.001000033						
LHDT1	Dsl	65	35784.9118	0.020254231	5746.530384	0.005309288	30.50998688	0.067				
LHDT2	Gas	65	3809.008255			0.001021503						
LHDT2	Dsl	65	17871.35862	0.010115174	2869.87728	0.005326302	15.28583447	0.034				
MCY	Gas	65	6967.471097			0.002194021						
MDV	Gas	65	177765.6253			0.000643782						
MDV	Dsl	65	5047.56836	0.00285692	810.5652211	0.000627726	0.508812972	0.001				
MH	Gas	65	1073.513606			0.000997337						
MH	Dsl	65	423.5448782	0.000239726	68.01507643	0.029177471	1.984507887	0.004				
MHDT	Dsl	65	54488.02204	0.030840176	8749.974736	0.001023363	8.954399637	0.020				
MHDT	Gas	65	3548.425005			0.002346996						
OBUS	Dsl	65	1327.10641	0.000751141	213.1137656	0.001022489	0.21790641	0.000				
OBUS	Gas	65	1619.295978			0.002952713						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	238.5062521			0.001013263						
UBUS	Dsl	65	239.4277363	0.000135516	38.44857209	0.090379155	0.038958532	0.000	3.37	34	115	
							Total LM Emissions	**0.130**				5.96547E-06
							Total DPM Emissions	***0.658***		***TOTAL Emissions***		***3.0160E-05***

VEN US-101 TO

			LM	HD
Region Type:	County		200,253	20,738
Region:	Ventura	Segment Length		
Calendar Year:	2016		1.73	miles
Season:	Annual			

Vehicle Class	Fuel	Speed	VMT	Proportion	VEN US-101 TO Diesel VMT	PM_10RUNEX	DPM Emisisons (g/day)	DPM Emissions (lb/day)	Miles	Source/Miles	Sources	Emissions (g/s)
HHDT	Dsl	65	70034.90839	0.993256128	20598.15	0.004309139	88.76026561	0.195				
HHDT	Gas	65	475.5132292			0.001025323			1.73	24	42	2.46907E-05
		HHDT Tota	70510.42162				**Total HD Emissions**	**0.195**				2.46907E-05
LDA	Gas	65	997729.0145			0.000613515						
LDA	Dsl	65	13887.76055	0.007860461	1574.080924	0.000564513	0.88858975	0.002				
LDT1	Gas	65	73374.10961			0.000646402						
LDT1	Dsl	65	40.86191799	2.31278E-05	4.631413783	0.003672462	0.01700869	0.000				
LDT2	Gas	65	362178.7202			0.000603877						
LDT2	Dsl	65	797.3479665	0.000451298	90.37383813	0.003103117	0.280440589	0.001				
LHDT1	Gas	65	8575.401186			0.001000033						
LHDT1	Dsl	65	35784.9118	0.020254231	4055.970495	0.005309288	21.53431694	0.047				
LHDT2	Gas	65	3809.008255			0.001021503						
LHDT2	Dsl	65	17871.35862	0.010115174	2025.594018	0.005326302	10.78892644	0.024				
MCY	Gas	65	6967.471097			0.002194021						
MDV	Gas	65	177765.6253			0.000643782						
MDV	Dsl	65	5047.56836	0.00285692	572.1067151	0.000627726	0.359126336	0.001				
MH	Gas	65	1073.513606			0.000997337						
MH	Dsl	65	423.5448782	0.000239726	48.00586177	0.029177471	1.400689616	0.003				
MHDT	Dsl	65	54488.02204	0.030840176	6175.837766	0.001023363	6.320123328	0.014				
MHDT	Gas	65	3548.425005			0.002346996						
OBUS	Dsl	65	1327.10641	0.000751141	150.4182677	0.001022489	0.153800974	0.000				
OBUS	Gas	65	1619.295978			0.002952713						
SBUS	Dsl	65	0	0	0	0.002199722	0	0.000				
UBUS	Gas	65	238.5062521			0.001013263						
UBUS	Dsl	65	239.4277363	0.000135516	27.13746619	0.090379155	0.027497402	0.000	1.73	24	42	
							Total LM Emissions	**0.092**				1.16194E-05
							Total DPM Emissions	***0.287***		***TOTAL Emissions***		***3.6310E-05***

Attachment B

Health Risk Calculations for Each Transportation Segment, Receptor, and Evaluation Simulation

							DPM EMISSION RATES						MAX CONCENTRATION						MEIR 30-Year					
Segment No.	Transportation Segment	County/Region	Receptor Type	Location		Maximum Concentration (ug/m3)	Simulation 1 (2016 BY)	Simulation 2 (2045 BL)	Simulation 3 (2045 Local Input)	Simulation 4 (Plan, 2045)	Simulation 5 (2045 PEIR)	Simulation 6 (2045 Unconstrained)	Simulation 1 (2016 BY)	Simulation 2 (2045 BL)	Simulation 3 (2045 Local Input)	Simulation 4 (Plan, 2045)	Simulation 5 (2045 PEIR)	Simulation 6 (2045 Unconstrained)	Simulation 1 (2016 BY)	Simulation 2 (2045 BL)	Simulation 3 (2045 Local Input)	Simulation 4 (Plan, 2045)	Simulation 5 (2045 PEIR)	Simulation 6 (2045 Unconstrained)
1	IMP I-8	Imperial/El Centro	MEIR	635568.96	3627200.32	**1200.00**	2.3600E-05	1.3653E-05	1.4088E-05	1.4010E-05	1.3648E-05	1.3687E-05	0.02832	0.01638	0.01691	0.01681	0.01638	0.01642	2.453E-05	1.419E-05	1.464E-05	1.456E-05	1.419E-05	1.423E-05
			MEIW	635402.81	3627199.07	**1019.82**							0.02407	0.01392	0.01437	0.01429	0.01392	0.01396	-	-	-	-	-	-
			Day Care	636187.59	3627222.09	**1042.33**							0.02460	0.01423	0.01468	0.01460	0.01423	0.01427	-	-	-	-	-	-
			School	635097.32	3627472.29	**79.74**							0.00188	0.00109	0.00112	0.00112	0.00109	0.00109	-	-	-	-	-	-
			Retirement Center	NR	NR	**-**													-	-	-	-	-	-
2	IMP SR-78	Imperial/Westmoreland	MEIR	629054.74	3656301.01	**3843.00**	1.9400E-05	1.1148E-05	6.2701E-06	5.6900E-06	5.8947E-06	5.8709E-06	0.07455	0.04284	0.02410	0.02187	0.02265	0.02109	6.458E-05	3.711E-05	2.087E-05	1.894E-05	1.962E-05	1.827E-05
			MEIW	628683.60	3656303.89	**3086.66**							0.05988	0.03441	0.01935	0.01756	0.01819	0.01694	-	-	-	-	-	-
			Day Care	628731.34	3656427.60	**697.25**							0.01353	0.00777	0.00437	0.00397	0.00411	0.00383	-	-	-	-	-	-
			School	629046.29	3656145.58	**494.48**							0.00959	0.00551	0.00310	0.00281	0.00291	0.00271	-	-	-	-	-	-
			Retirement Center	NR	NR	**-**													-	-	-	-	-	-
3	LA I-110	Los Angeles/Carson	MEIR	380884.56	3742431.00	**770.28**	1.0400E-04	3.7233E-05	3.5908E-05	3.5152E-05	3.5562E-05	3.5442E-05	0.08011	0.02868	0.02766	0.02708	0.02739	0.02730	6.939E-05	2.484E-05	2.396E-05	2.345E-05	2.373E-05	2.365E-05
			MEIW	380884.56	3742431.00	**770.28**							0.08011	0.02868	0.02766	0.02708	0.02739	0.02730	-	-	-	-	-	-
			Day Care	381384.56	3743431.00	**62.47**							0.00650	0.00233	0.00224	0.00220	0.00222	0.00221	-	-	-	-	-	-
			School	381084.56	3743231.00	**253.69**							0.02638	0.00945	0.00911	0.00892	0.00902	0.00899	-	-	-	-	-	-
			Retirement Center	380584.56	3743431.00	**150.49**							0.01565	0.00560	0.00540	0.00529	0.00535	0.00533	-	-	-	-	-	-
4	LA I-710	Los Angeles/Compton	MEIR	390082.75	3751343.00	**324.27**	2.2700E-04	1.1121E-04	1.1055E-04	1.0995E-04	1.1142E-04	1.1067E-04	0.07361	0.03606	0.03585	0.03565	0.03613	0.03589	6.376E-05	3.124E-05	3.105E-05	3.088E-05	3.129E-05	3.108E-05
			MEIW	390382.75	3750843.00	**185.07**							0.04201	0.02058	0.01953	0.02035	0.02062	0.02048	-	-	-	-	-	-
			Day Care	389888.48	3751448.38	**123.58**							0.02805	0.01374	0.01304	0.01359	0.01377	0.01368	-	-	-	-	-	-
			School	390582.75	3751243.00	**117.45**							0.02666	0.01306	0.01239	0.01291	0.01309	0.01300	-	-	-	-	-	-
			Retirement Center	391182.75	3750493.00	**41.33**							0.00938	0.00460	0.00436	0.00454	0.00461	0.00457	-	-	-	-	-	-
5	LA SR-60 DB	Los Angeles/Diamond Bar	MEIR	425440.44	3765282.50	**815.25**	1.5100E-04	4.3987E-05	4.1162E-05	4.2065E-05	4.1360E-05	4.1596E-05	0.12310	0.03586	0.03356	0.03429	0.03372	0.03391	1.066E-04	3.106E-05	2.907E-05	2.970E-05	2.921E-05	2.937E-05
			MEIW	425240.44	3764682.50	**111.20**							0.01679	0.00489	0.00458	0.00468	0.00460	0.00463	-	-	-	-	-	-
			Day Care	425240.44	3764982.50	**330.46**							0.04990	0.01454	0.01360	0.01390	0.01367	0.01375	-	-	-	-	-	-
			School	426090.44	3465182.50	**101.19**							0.01528	0.00445	0.00445	0.00426	0.00419	0.00421	-	-	-	-	-	-
			Retirement Center	NR	NR	**-**													-	-	-	-	-	-
6	LA SR-60 SEM	Los Angeles/ South El Monte	MEIR	403299.59	3767032.25	**1252.16**	5.9400E-05	1.6991E-05	1.5122E-05	1.5063E-05	1.5586E-05	1.5577E-05	0.07438	0.02128	0.01894	0.01886	0.01952	0.01950	6.442E-05	1.843E-05	1.640E-05	1.634E-05	1.690E-05	1.689E-05
			MEIW	403099.59	3767132.25	**649.79**							0.03860	0.01104	0.00983	0.00979	0.01013	0.01012	-	-	-	-	-	-
			Day Care	404079.38	3767047.65	**228.22**							0.01356	0.00388	0.00345	0.00344	0.00356	0.00356	-	-	-	-	-	-
			School	403699.59	3766732.25	**354.35**							0.02105	0.00602	0.00536	0.00534	0.00552	0.00552	-	-	-	-	-	-
			Retirement Center	404236.48	3767117.92	**123.84**							0.00736	0.00210	0.00187	0.00187	0.00193	0.00193	-	-	-	-	-	-
7	ORA I-5	Orange/ Orange	MEIR	418869.47	3737828.25	**242.38**	1.1800E-04	2.5537E-05	2.6222E-05	2.6167E-05	2.6622E-05	2.6572E-05	0.02860	0.00619	0.00636	0.00634	0.00645	0.00644	2.477E-05	5.361E-06	5.505E-06	5.493E-06	5.589E-06	5.578E-06
			MEIW	419369.47	3737528.25	**176.23**							0.02080	0.00450	0.00462	0.00461	0.00469	0.00468	-	-	-	-	-	-
			Day Care	419719.47	3738828.25	**15.28**							0.00180	0.00039	0.00040	0.00040	0.00041	0.00041	-	-	-	-	-	-
			School	419969.47	3738578.25	**13.88**							0.00164	0.00035	0.00036	0.00036	0.00037	0.00037	-	-	-	-	-	-
			Retirement Center	419269.47	3738228.25	**58.20**							0.00687	0.00149	0.00153	0.00152	0.00155	0.00155	-	-	-	-	-	-
8	ORA I-405	Orange/ Seal Beach	MEIR	401657.75	3737731.50	**349.88**	1.4300E-04	4.0276E-05	3.9313E-05	3.8834E-05	3.9197E-05	3.9078E-05	0.05003	0.01409	0.01375	0.01359	0.01371	0.01367	4.334E-05	1.221E-05	1.191E-05	1.177E-05	1.188E-05	1.184E-05
			MEIW	401757.75	3737731.50	**345.94**							0.04947	0.01393	0.01360	0.01343	0.01356	0.01352	-	-	-	-	-	-
			Day Care	NR	NR	**-**													-	-	-	-	-	-
			School	NR	NR	**-**													-	-	-	-	-	-
			Retirement Center	NR	NR	**-**													-	-	-	-	-	-
9	RIV I-10	Riverside/ Banning	MEIR	509257.38	3753981.75	**150.51**	8.0200E-05	3.8137E-05	3.8279E-05	3.7036E-05	3.7035E-05	3.7036E-05	0.01207	0.00574	0.00576	0.00557	0.00557	0.00557	1.046E-05	4.972E-06	4.990E-06	4.828E-06	4.828E-06	4.828E-06
			MEIW	509157.38	3753881.75	**330.40**							0.02650	0.01260	0.01265	0.01224	0.01224	0.01224	-	-	-	-	-	-
			Day Care	510618.10	374115.08	**63.68**							0.00511	0.00243	0.00244	0.00236	0.00236	0.00236	-	-	-	-	-	-
			School	509457.38	3754181.75	**50.80**							0.00407	0.00194	0.00194	0.00188	0.00188	0.00188	-	-	-	-	-	-
			Retirement Center	510554.04	3754655.27	**17.77**							0.00143	0.00068	0.00068	0.00066	0.00066	0.00066	-	-	-	-	-	-
10	RIV SR-15	Riverside/ Temecula	MEIR	486542.59	3706163.25	**335.53**	5.7600E-05	3.3204E-05	3.2914E-05	3.2765E-05	3.2814E-05	3.2806E-05	0.01933	0.01114	0.01104	0.01099	0.01101	0.01101	1.674E-05	9.650E-06	9.566E-06	9.522E-06	9.536E-06	9.534E-06
			MEIW	486142.59	3706363.25	**408.28**							0.02352	0.01356	0.01344	0.01338	0.01340	0.01339	-	-	-	-	-	-
			Day Care	487117.02	3705357.22	**318.54**							0.01835	0.01058	0.01048	0.01044	0.01045	0.01045	-	-	-	-	-	-
			School	486819.26	3705387.37	**271.95**							0.01566	0.00903	0.00895	0.00891	0.00892	0.00892	-	-	-	-	-	-
			Retirement Center	NR	NR	**-**													-	-	-	-	-	-
11	RIV SR-91	Riverside/ Corona	MEIR	438747.91	3748665.25	**203.50**	1.2800E-04	4.7656E-05	4.8146E-05	4.7696E-05	4.7531E-05	4.7494E-05	0.02605	0.00970	0.00980	0.00971	0.00967	0.00967	2.256E-05	8.400E-06	8.487E-06	8.407E-06	8.378E-06	8.372E-06
			MEIW	438847.91	3748665.25	**303.43**							0.03884	0.01446	0.01461	0.01447	0.01442	0.01441	-	-	-	-	-	-
			Day Care	NR	NR	**-**													-	-	-	-	-	-
			School	NR	NR	**-**													-	-	-	-	-	-
			Retirement Center	NR	NR	**-**													-	-	-	-	-	-
12	SB I-15 ONT	San Bernardino/Ontario	MEIR	449618.44	3770540.75	**376.23**	1.2400E-04	3.2136E-05	3.4127E-05	3.3212E-05	3.3447E-05	3.3245E-05	0.04665	0.01209	0.01284	0.01208	0.01258	0.01251	4.041E-05	1.047E-05	1.112E-05	1.047E-05	1.090E-05	1.083E-05
			MEIW	449818.44	3770540.75	**466.39**							0.05783	0.01499	0.01592	0.01498	0.01560	0.01551	-	-	-	-	-	-
			Day Care	NR	NR	**-**													-	-	-	-	-	-
			School	NR	NR	**-**													-	-	-	-	-	-
			Retirement Center	NR	NR	**-**													-	-	-	-	-	-
13	SB I-15 VIC	San Bernardino/ Victorville	MEIR	469450.06	3816328.75	**522.26**	2.4300E-04	8.9704E-05	8.9911E-05	9.1220E-05	9.0542E-05	9.0466E-05	0.12691	0.04685	0.04696	0.04764	0.04729	0.04725	1.099E-04	4.058E-05	4.067E-05	4.126E-05	4.096E-05	4.092E-05
			MEIW	469604.55	3816979.27	**276.14**							0.06710	0.02477	0.02483	0.02519	0.02500	0.02498	-	-	-	-	-	-
			Day Care	469150.06	3817028.75	**48.69**							0.01183	0.00437	0.00438	0.00444	0.00441	0.00440	-	-	-	-	-	-
			School	469550.06	3816328.75	**259.17**							0.06298	0.02325	0.02330	0.02364	0.02347	0.02345	-	-	-	-	-	-
			Retirement Center	469552.37	3816874.91	**335.59**							0.08155	0.03010	0.03017	0.03061	0.03038	0.03036	-	-	-	-	-	-
14	SB SR-60	San Bernardino/ Ontario	MEIR	447137.00	3765488.00	**747.93**	1.1100E-04	2.9503E-05	2.8545E-05	2.9040E-05	2.8516E-05	2.8592E-05	0.08302	0.02207	0.02135	0.02172	0.02133	0.02138	7.191E-05	1.911E-05	1.849E-05	1.881E-05	1.847E-05	1.852E-05
			MEIW	447737.00	3765288.00	**597.15**							0.06628	0.01762	0.01705	0.01734	0.01703	0.01707	-	-	-	-	-	-
			Day Care	447537.00	3764988.00	**156.63**							0.01739	0.00462	0.00447	0.00455	0.00447	0.00448	-	-	-	-	-	-
			School	447537.00	3764988.00	**156.63**							0.01739	0.00462	0.00447	0.00455	0.00447	0.00448	-	-	-	-	-	-
			Retirement Center	NR	NR	**-**													-	-	-	-	-	-
15	VEN US-101 SB	Ventura/ San Buenaventura	MEIR	295368.25	3793272.75	**185.10**	1.3200E-04	3.0764E-05	3.0053E-05	3.0247E-05	3.0170E-05	3.0160E-05	0.02443	0.00569	0.00556	0.00560	0.00558	0.00558	2.116E-05	4.932E-06	4.818E-06	4.848E-06	4.837E-06	4.835E-06
			MEIW	295468.25	3792872.75	**617.57**							0.08152	0.01900	0.01856	0.01868	0.01863	0.01863	-	-	-	-	-	-
			Day Care	296211.22	3793608.29	**18.46**							0.00244	0.00057	0.00055	0.00056	0.00056	0.00056	-	-	-	-	-	-
			School	297266.17	3793679.53	**8.11**							0.00107	0.00025	0.00024	0.00025	0.00024	0.00024	-	-	-	-	-	-
			Retirement Center	295668.25	3792672.75	**332.21**							0.04385	0.01022	0.00998	0.01005	0.01002	0.01002	-	-	-	-	-	-
16	VEN US-101 TO	Ventura/ Thousand Oaks	MEIR	329897.13	3782763.92	**695.99**	1.7000E-04	3.2505E-05	3.6470E-05	3.6319E-05	3.6492E-05	3.6310E-05	0.11832	0.02262	0.02538	0.02528	0.02540	0.02527	1.025E-04	1.960E-05	2.199E-05	2.189E-05	2.200E-05	2.189E-05
			MEIW	329244.62	3783279.69	**135.66**							0.02306	0.00441	0.00495	0.00493	0.00495	0.00493	-	-	-	-	-	-
			Day Care	330438.43	3783358.94	**34.31**							0.00583	0.00112	0.00125	0.00125	0.00125	0.00125	-	-	-	-	-	-
			School	330323.40	3783513.88	**29.75**							0.00506	0.00097	0.00109	0.00108	0.00109	0.00108	-	-	-	-	-	-
			Retirement Center	329856.00	3783234.81	**82.07**							0.01395	0.00097	0.00299	0.00298	0.00299	0.00298	-	-	-	-	-	-

							DPM EMISSION RATES						MAX CONCENTRATION						MEIR 9-Year					
Segment No.	Transportation Segment	County/Region	Receptor Type	Location		Maximum Concentration (ug/m3)	Simulation 1 (2016 BY)	Simulation 2 (2045 BL)	Simulation 3 (2045 Local Input)	Simulation 4 (Plan, 2045)	Simulation 5 (2045 PEIR)	Simulation 6 (2045 Unconstrained)	Simulation 1 (2016 BY)	Simulation 2 (2045 BL)	Simulation 3 (2045 Local Input)	Simulation 4 (Plan, 2045)	Simulation 5 (2045 PEIR)	Simulation 6 (2045 Unconstrained)	Simulation 1 (2016 BY)	Simulation 2 (2045 BL)	Simulation 3 (2045 Local Input)	Simulation 4 (Plan, 2045)	Simulation 5 (2045 PEIR)	Simulation 6 (2045 Unconstrained)
1	IMP I-8	Imperial/El Centro	MEIR	635568.96	3627200.32	**1200.00**	2.3600E-05	1.3653E-05	1.4088E-05	1.4010E-05	1.3648E-05	1.3687E-05	0.02832	0.01638	0.01691	0.01681	0.01638	0.01642	1.742E-05	1.008E-05	1.040E-05	1.034E-05	1.008E-05	1.011E-05
			MEIW	635402.81	3627199.07	**1019.82**							0.02407	0.01392	0.01437	0.01429	0.01392	0.01396	-	-	-	-	-	-
			Day Care	636187.59	3627222.09	**1042.33**							0.02460	0.01423	0.01468	0.01460	0.01423	0.01427	-	-	-	-	-	-
			School	635097.32	3627472.29	**79.74**							0.00188	0.00109	0.00112	0.00112	0.00109	0.00109	-	-	-	-	-	-
			Retirement Center	NR	NR	-													-	-	-	-	-	-
2	IMP SR-78	Imperial/Westmoreland	MEIR	629054.74	3656301.01	**3843.00**	1.9400E-05	1.1148E-05	6.2701E-06	5.6900E-06	5.8947E-06	5.8709E-06	0.07455	0.04284	0.02410	0.02187	0.02265	0.02109	4.587E-05	2.636E-05	1.483E-05	1.345E-05	1.394E-05	1.298E-05
			MEIW	628683.60	3656303.89	**3086.66**							0.05988	0.03441	0.01935	0.01756	0.01819	0.01694	-	-	-	-	-	-
			Day Care	628731.34	3656427.60	**697.25**							0.01353	0.00777	0.00437	0.00397	0.00411	0.00383	-	-	-	-	-	-
			School	629046.29	3656145.58	**494.48**							0.00959	0.00551	0.00310	0.00281	0.00291	0.00271	-	-	-	-	-	-
			Retirement Center	NR	NR	-													-	-	-	-	-	-
3	LA I-110	Los Angeles/Carson	MEIR	380884.56	3742431.00	**770.28**	1.0400E-04	3.7233E-05	3.5908E-05	3.5152E-05	3.5562E-05	3.5442E-05	0.08011	0.02868	0.02766	0.02708	0.02739	0.02730	4.929E-05	1.765E-05	1.702E-05	1.666E-05	1.685E-05	1.680E-05
			MEIW	380884.56	3742431.00	**770.28**							0.08011	0.02868	0.02766	0.02708	0.02739	0.02730	-	-	-	-	-	-
			Day Care	381384.56	3743431.00	**62.47**							0.00650	0.00233	0.00224	0.00220	0.00222	0.00221	-	-	-	-	-	-
			School	381084.56	3743231.00	**253.69**							0.02638	0.00945	0.00911	0.00892	0.00902	0.00899	-	-	-	-	-	-
			Retirement Center	380584.56	3743431.00	**150.49**							0.01565	0.00560	0.00540	0.00529	0.00535	0.00533	-	-	-	-	-	-
4	LA I-710	Los Angeles/Compton	MEIR	390082.75	3751343.00	**324.27**	2.2700E-04	1.1121E-04	1.1055E-04	1.0995E-04	1.1142E-04	1.1067E-04	0.07361	0.03606	0.03585	0.03565	0.03613	0.03589	4.529E-05	2.219E-05	2.206E-05	2.194E-05	2.223E-05	2.208E-05
			MEIW	390382.75	3750843.00	**185.07**							0.04201	0.02058	0.01953	0.02035	0.02062	0.02048	-	-	-	-	-	-
			Day Care	389888.48	3751448.38	**123.58**							0.02805	0.01374	0.01304	0.01359	0.01377	0.01368	-	-	-	-	-	-
			School	390582.75	3751243.00	**117.45**							0.02666	0.01306	0.01239	0.01291	0.01309	0.01300	-	-	-	-	-	-
			Retirement Center	391182.75	3750493.00	**41.33**							0.00938	0.00460	0.00436	0.00454	0.00461	0.00457	-	-	-	-	-	-
5	LA SR-60 DB	Los Angeles/Diamond Bar	MEIR	425440.44	3765282.50	**815.25**	1.5100E-04	4.3987E-05	4.1162E-05	4.2065E-05	4.1360E-05	4.1596E-05	0.12310	0.03586	0.03356	0.03429	0.03372	0.03391	7.574E-05	2.206E-05	2.065E-05	2.110E-05	2.075E-05	2.086E-05
			MEIW	425240.44	3764682.50	**111.20**							0.01679	0.00489	0.00458	0.00468	0.00460	0.00463	-	-	-	-	-	-
			Day Care	425240.44	3764982.50	**330.46**							0.04990	0.01454	0.01360	0.01390	0.01367	0.01375	-	-	-	-	-	-
			School	426090.44	3465182.50	**101.19**							0.01528	0.00445	0.00445	0.00426	0.00419	0.00421	-	-	-	-	-	-
			Retirement Center	NR	NR	-													-	-	-	-	-	-
6	LA SR-60 SEM	Los Angeles/ South El Monte	MEIR	403299.59	3767032.25	**1252.16**	5.9400E-05	1.6991E-05	1.5122E-05	1.5063E-05	1.5586E-05	1.5577E-05	0.07438	0.02128	0.01894	0.01886	0.01952	0.01950	4.576E-05	1.309E-05	1.165E-05	1.160E-05	1.201E-05	1.200E-05
			MEIW	403099.59	3767132.25	**649.79**							0.03860	0.01104	0.00983	0.00979	0.01013	0.01012	-	-	-	-	-	-
			Day Care	404079.38	3767047.65	**228.22**							0.01356	0.00388	0.00345	0.00344	0.00356	0.00356	-	-	-	-	-	-
			School	403699.59	3766732.25	**354.35**							0.02105	0.00602	0.00536	0.00534	0.00552	0.00552	-	-	-	-	-	-
			Retirement Center	404236.48	3767117.92	**123.84**							0.00736	0.00210	0.00187	0.00187	0.00193	0.00193	-	-	-	-	-	-
7	ORA I-5	Orange/ Orange	MEIR	418869.47	3737828.25	**242.38**	1.1800E-04	2.5537E-05	2.6222E-05	2.6167E-05	2.6622E-05	2.6572E-05	0.02860	0.00619	0.00636	0.00634	0.00645	0.00644	1.760E-05	3.808E-06	3.910E-06	3.902E-06	3.970E-06	3.962E-06
			MEIW	419369.47	3737528.25	**176.23**							0.02080	0.00450	0.00462	0.00461	0.00469	0.00468	-	-	-	-	-	-
			Day Care	419719.47	3738828.25	**15.28**							0.00180	0.00039	0.00040	0.00040	0.00041	0.00041	-	-	-	-	-	-
			School	419969.47	3738578.25	**13.88**							0.00164	0.00035	0.00036	0.00036	0.00037	0.00037	-	-	-	-	-	-
			Retirement Center	419269.47	3738228.25	**58.20**							0.00687	0.00149	0.00153	0.00152	0.00155	0.00155	-	-	-	-	-	-
8	ORA I-405	Orange/ Seal Beach	MEIR	401657.75	3737731.50	**349.88**	1.4300E-04	4.0276E-05	3.9313E-05	3.8834E-05	3.9197E-05	3.9078E-05	0.05003	0.01409	0.01375	0.01359	0.01371	0.01367	3.078E-05	8.670E-06	8.463E-06	8.360E-06	8.438E-06	8.412E-06
			MEIW	401757.75	3737731.50	**345.94**							0.04947	0.01393	0.01360	0.01343	0.01356	0.01352	-	-	-	-	-	-
			Day Care	NR	NR	-													-	-	-	-	-	-
			School	NR	NR	-													-	-	-	-	-	-
			Retirement Center	NR	NR	-													-	-	-	-	-	-
9	RIV I-10	Riverside/ Banning	MEIR	509257.38	3753981.75	**150.51**	8.0200E-05	3.8137E-05	3.8279E-05	3.7036E-05	3.7035E-05	3.7036E-05	0.01207	0.00574	0.00576	0.00557	0.00557	0.00557	7.427E-06	3.532E-06	3.545E-06	3.430E-06	3.430E-06	3.430E-06
			MEIW	509157.38	3753881.75	**330.40**							0.02650	0.01260	0.01265	0.01224	0.01224	0.01224	-	-	-	-	-	-
			Day Care	510618.10	374115.08	**63.68**							0.00511	0.00243	0.00244	0.00236	0.00236	0.00236	-	-	-	-	-	-
			School	509457.38	3754181.75	**50.80**							0.00407	0.00194	0.00194	0.00188	0.00188	0.00188	-	-	-	-	-	-
			Retirement Center	510554.04	3754655.27	**17.77**							0.00143	0.00068	0.00068	0.00066	0.00066	0.00066	-	-	-	-	-	-
10	RIV SR-15	Riverside/ Temecula	MEIR	486542.59	3706163.25	**335.53**	5.7600E-05	3.3204E-05	3.2914E-05	3.2765E-05	3.2814E-05	3.2806E-05	0.01933	0.01114	0.01104	0.01099	0.01101	0.01101	1.189E-05	6.854E-06	6.795E-06	6.764E-06	6.774E-06	6.772E-06
			MEIW	486142.59	3706363.25	**408.28**							0.02352	0.01356	0.01344	0.01338	0.01340	0.01339	-	-	-	-	-	-
			Day Care	487117.02	3705357.22	**318.54**							0.01835	0.01058	0.01048	0.01044	0.01045	0.01045	-	-	-	-	-	-
			School	486819.26	3705387.37	**271.95**							0.01566	0.00903	0.00895	0.00891	0.00892	0.00892	-	-	-	-	-	-
			Retirement Center	NR	NR	-													-	-	-	-	-	-
11	RIV SR-91	Riverside/ Corona	MEIR	438747.91	3748665.25	**203.50**	1.2800E-04	4.7656E-05	4.8146E-05	4.7696E-05	4.7531E-05	4.7494E-05	0.02605	0.00970	0.00980	0.00971	0.00967	0.00967	1.603E-05	5.967E-06	6.028E-06	5.972E-06	5.951E-06	5.946E-06
			MEIW	438847.91	3748665.25	**303.43**							0.03884	0.01446	0.01461	0.01447	0.01442	0.01441	-	-	-	-	-	-
			Day Care	NR	NR	-													-	-	-	-	-	-
			School	NR	NR	-													-	-	-	-	-	-
			Retirement Center	NR	NR	-													-	-	-	-	-	-
12	SB I-15 ONT	San Bernardino/Ontario	MEIR	449618.44	3770540.75	**376.23**	1.2400E-04	3.2136E-05	3.4127E-05	3.3212E-05	3.3447E-05	3.3245E-05	0.04665	0.01209	0.01284	0.01208	0.01258	0.01251	2.870E-05	7.439E-06	7.899E-06	7.435E-06	7.742E-06	7.695E-06
			MEIW	449818.44	3770540.75	**466.39**							0.05783	0.01499	0.01592	0.01498	0.01560	0.01551	-	-	-	-	-	-
			Day Care	NR	NR	-													-	-	-	-	-	-
			School	NR	NR	-													-	-	-	-	-	-
			Retirement Center	NR	NR	-													-	-	-	-	-	-
13	SB I-15 VIC	San Bernardino/ Victorville	MEIR	469450.06	3816328.75	**522.26**	2.4300E-04	8.9704E-05	8.9911E-05	9.1220E-05	9.0542E-05	9.0466E-05	0.12691	0.04685	0.04696	0.04764	0.04729	0.04725	7.808E-05	2.882E-05	2.889E-05	2.931E-05	2.909E-05	2.907E-05
			MEIW	469604.55	3816979.27	**276.14**							0.06710	0.02477	0.02483	0.02519	0.02500	0.02498	-	-	-	-	-	-
			Day Care	469150.06	3817028.75	**48.69**							0.01183	0.00437	0.00438	0.00444	0.00441	0.00440	-	-	-	-	-	-
			School	469550.06	3816328.75	**259.17**							0.06298	0.02325	0.02330	0.02364	0.02347	0.02345	-	-	-	-	-	-
			Retirement Center	469552.37	3816874.91	**335.59**							0.08155	0.03010	0.03017	0.03061	0.03038	0.03036	-	-	-	-	-	-
14	SB SR-60	San Bernardino/ Ontario	MEIR	447137.00	3765488.00	**747.93**	1.1100E-04	2.9503E-05	2.8545E-05	2.9040E-05	2.8516E-05	2.8592E-05	0.08302	0.02207	0.02135	0.02172	0.02133	0.02138	5.108E-05	1.358E-05	1.314E-05	1.336E-05	1.312E-05	1.316E-05
			MEIW	447737.00	3765288.00	**597.15**							0.06628	0.01762	0.01705	0.01734	0.01703	0.01707	-	-	-	-	-	-
			Day Care	447537.00	3764988.00	**156.63**							0.01739	0.00462	0.00447	0.00455	0.00447	0.00448	-	-	-	-	-	-
			School	447537.00	3764988.00	**156.63**							0.01739	0.00462	0.00447	0.00455	0.00447	0.00448	-	-	-	-	-	-
			Retirement Center	NR	NR	-													-	-	-	-	-	-
15	VEN US-101 SB	Ventura/ San Buenaventura	MEIR	295368.25	3793272.75	**185.10**	1.3200E-04	3.0764E-05	3.0053E-05	3.0247E-05	3.0170E-05	3.0160E-05	0.02443	0.00569	0.00556	0.00560	0.00558	0.00558	1.503E-05	3.503E-06	3.423E-06	3.444E-06	3.436E-06	3.435E-06
			MEIW	295468.25	3792872.75	**617.57**							0.08152	0.01900	0.01856	0.01868	0.01863	0.01863	-	-	-	-	-	-
			Day Care	296211.22	3793608.29	**18.46**							0.00244	0.00057	0.00055	0.00056	0.00056	0.00056	-	-	-	-	-	-
			School	297266.17	3793679.53	**8.11**							0.00107	0.00025	0.00024	0.00025	0.00024	0.00024	-	-	-	-	-	-
			Retirement Center	295668.25	3792672.75	**332.21**							0.04385	0.01022	0.00998	0.01005	0.01002	0.01002	-	-	-	-	-	-
16	VEN US-101 TO	Ventura/ Thousand Oaks	MEIR	329897.13	3782763.92	**695.99**	1.7000E-04	3.2505E-05	3.6470E-05	3.6319E-05	3.6492E-05	3.6310E-05	0.11832	0.02262	0.02538	0.02528	0.02540	0.02527	7.280E-05	1.392E-05	1.562E-05	1.555E-05	1.563E-05	1.555E-05
			MEIW	329244.62	3783279.69	**135.66**							0.02306	0.00441	0.00495	0.00493	0.00495	0.00493	-	-	-	-	-	-
			Day Care	330438.43	3783358.94	**34.31**							0.00583	0.00112	0.00125	0.00125	0.00125	0.00125	-	-	-	-	-	-
			School	330323.40	3783513.88	**29.75**							0.00506	0.00097	0.00109	0.00108	0.00109	0.00108	-	-	-	-	-	-
			Retirement Center	329856.00	3783234.81	**82.07**							0.01395	0.00097	0.00299	0.00298	0.00299	0.00298	-	-	-	-	-	-

							DPM EMISSION RATES						MAX CONCENTRATION						MEIR 70-Year					
Segment No.	Transportation Segment	County/Region	Receptor Type	Location		Maximum Concentration (ug/m3)	Simulation 1 (2016 BY)	Simulation 2 (2045 BL)	Simulation 3 (2045 Local Input)	Simulation 4 (Plan, 2045)	Simulation 5 (2045 PEIR)	Simulation 6 (2045 Unconstrained)	Simulation 1 (2016 BY)	Simulation 2 (2045 BL)	Simulation 3 (2045 Local Input)	Simulation 4 (Plan, 2045)	Simulation 5 (2045 PEIR)	Simulation 6 (2045 Unconstrained)	Simulation 1 (2016 BY)	Simulation 2 (2045 BL)	Simulation 3 (2045 Local Input)	Simulation 4 (Plan, 2045)	Simulation 5 (2045 PEIR)	Simulation 6 (2045 Unconstrained)
1	IMP I-8	Imperial/El Centro	MEIR	635568.96	3627200.32	**1200.00**	2.3600E-05	1.3653E-05	1.4088E-05	1.4010E-05	1.3648E-05	1.3687E-05	0.02832	0.01638	0.01691	0.01681	0.01638	0.01642	2.795E-05	1.617E-05	1.669E-05	1.659E-05	1.616E-05	1.621E-05
			MEIW	635402.81	3627199.07	**1019.82**							0.02407	0.01392	0.01437	0.01429	0.01392	0.01396	-	-	-	-	-	-
			Day Care	636187.59	3627222.09	**1042.33**							0.02460	0.01423	0.01468	0.01460	0.01423	0.01427	-	-	-	-	-	-
			School	635097.32	3627472.29	**79.74**							0.00188	0.00109	0.00112	0.00112	0.00109	0.00109	-	-	-	-	-	-
			Retirement Center	NR	NR	-													-	-	-	-	-	-
2	IMP SR-78	Imperial/Westmoreland	MEIR	629054.74	3656301.01	**3843.00**	1.9400E-05	1.1148E-05	6.2701E-06	5.6900E-06	5.8947E-06	5.8709E-06	0.07455	0.04284	0.02410	0.02187	0.02265	0.02109	7.358E-05	4.228E-05	2.378E-05	2.158E-05	2.236E-05	2.082E-05
			MEIW	628683.60	3656303.89	**3086.66**							0.05988	0.03441	0.01935	0.01756	0.01819	0.01694	-	-	-	-	-	-
			Day Care	628731.34	3656427.60	**697.25**							0.01353	0.00777	0.00437	0.00397	0.00411	0.00383	-	-	-	-	-	-
			School	629046.29	3656145.58	**494.48**							0.00959	0.00551	0.00310	0.00281	0.00291	0.00271	-	-	-	-	-	-
			Retirement Center	NR	NR	-													-	-	-	-	-	-
3	LA I-110	Los Angeles/Carson	MEIR	380884.56	3742431.00	**770.28**	1.0400E-04	3.7233E-05	3.5908E-05	3.5152E-05	3.5562E-05	3.5442E-05	0.08011	0.02868	0.02766	0.02708	0.02739	0.02730	7.907E-05	2.831E-05	2.730E-05	2.672E-05	2.704E-05	2.694E-05
			MEIW	380884.56	3742431.00	**770.28**							0.08011	0.02868	0.02766	0.02708	0.02739	0.02730	-	-	-	-	-	-
			Day Care	381384.56	3743431.00	**62.47**							0.00650	0.00233	0.00224	0.00220	0.00222	0.00221	-	-	-	-	-	-
			School	381084.56	3743231.00	**253.69**							0.02638	0.00945	0.00911	0.00892	0.00902	0.00899	-	-	-	-	-	-
			Retirement Center	380584.56	3743431.00	**150.49**							0.01565	0.00560	0.00540	0.00529	0.00535	0.00533	-	-	-	-	-	-
4	LA I-710	Los Angeles/Compton	MEIR	390082.75	3751343.00	**324.27**	2.2700E-04	1.1121E-04	1.1055E-04	1.0995E-04	1.1142E-04	1.1067E-04	0.07361	0.03606	0.03585	0.03565	0.03613	0.03589	7.265E-05	3.559E-05	3.538E-05	3.519E-05	3.566E-05	3.542E-05
			MEIW	390382.75	3750843.00	**185.07**							0.04201	0.02058	0.01953	0.02035	0.02062	0.02048	-	-	-	-	-	-
			Day Care	389888.48	3751448.38	**123.58**							0.02805	0.01374	0.01304	0.01359	0.01377	0.01368	-	-	-	-	-	-
			School	390582.75	3751243.00	**117.45**							0.02666	0.01306	0.01239	0.01291	0.01309	0.01300	-	-	-	-	-	-
			Retirement Center	391182.75	3750493.00	**41.33**							0.00938	0.00460	0.00436	0.00454	0.00461	0.00457	-	-	-	-	-	-
5	LA SR-60 DB	Los Angeles/Diamond Bar	MEIR	425440.44	3765282.50	**815.25**	1.5100E-04	4.3987E-05	4.1162E-05	4.2065E-05	4.1360E-05	4.1596E-05	0.12310	0.03586	0.03356	0.03429	0.03372	0.03391	1.215E-04	3.539E-05	3.312E-05	3.385E-05	3.328E-05	3.347E-05
			MEIW	425240.44	3764682.50	**111.20**							0.01679	0.00489	0.00458	0.00468	0.00460	0.00463	-	-	-	-	-	-
			Day Care	425240.44	3764982.50	**330.46**							0.04990	0.01454	0.01360	0.01390	0.01367	0.01375	-	-	-	-	-	-
			School	426090.44	3465182.50	**101.19**							0.01528	0.00445	0.00445	0.00426	0.00419	0.00421	-	-	-	-	-	-
			Retirement Center	NR	NR	-													-	-	-	-	-	-
6	LA SR-60 SEM	Los Angeles/ South El Monte	MEIR	403299.59	3767032.25	**1252.16**	5.9400E-05	1.6991E-05	1.5122E-05	1.5063E-05	1.5586E-05	1.5577E-05	0.07438	0.02128	0.01894	0.01886	0.01952	0.01950	7.341E-05	2.100E-05	1.869E-05	1.862E-05	1.926E-05	1.925E-05
			MEIW	403099.59	3767132.25	**649.79**							0.03860	0.01104	0.00983	0.00979	0.01013	0.01012	-	-	-	-	-	-
			Day Care	404079.38	3767047.65	**228.22**							0.01356	0.00388	0.00345	0.00344	0.00356	0.00356	-	-	-	-	-	-
			School	403699.59	3766732.25	**354.35**							0.02105	0.00602	0.00536	0.00534	0.00552	0.00552	-	-	-	-	-	-
			Retirement Center	404236.48	3767117.92	**123.84**							0.00736	0.00210	0.00187	0.00187	0.00193	0.00193	-	-	-	-	-	-
7	ORA I-5	Orange/ Orange	MEIR	418869.47	3737828.25	**242.38**	1.1800E-04	2.5537E-05	2.6222E-05	2.6167E-05	2.6622E-05	2.6572E-05	0.02860	0.00619	0.00636	0.00634	0.00645	0.00644	2.823E-05	6.109E-06	6.273E-06	6.260E-06	6.368E-06	6.357E-06
			MEIW	419369.47	3737528.25	**176.23**							0.02080	0.00450	0.00462	0.00461	0.00469	0.00468	-	-	-	-	-	-
			Day Care	419719.47	3738828.25	**15.28**							0.00180	0.00039	0.00040	0.00040	0.00041	0.00041	-	-	-	-	-	-
			School	419969.47	3738578.25	**13.88**							0.00164	0.00035	0.00036	0.00036	0.00037	0.00037	-	-	-	-	-	-
			Retirement Center	419269.47	3738228.25	**58.20**							0.00687	0.00149	0.00153	0.00152	0.00155	0.00155	-	-	-	-	-	-
8	ORA I-405	Orange/ Seal Beach	MEIR	401657.75	3737731.50	**349.88**	1.4300E-04	4.0276E-05	3.9313E-05	3.8834E-05	3.9197E-05	3.9078E-05	0.05003	0.01409	0.01375	0.01359	0.01371	0.01367	4.938E-05	1.391E-05	1.358E-05	1.341E-05	1.354E-05	1.349E-05
			MEIW	401757.75	3737731.50	**345.94**							0.04947	0.01393	0.01360	0.01343	0.01356	0.01352	-	-	-	-	-	-
			Day Care	NR	NR	-													-	-	-	-	-	-
			School	NR	NR	-													-	-	-	-	-	-
			Retirement Center	NR	NR	-													-	-	-	-	-	-
9	RIV I-10	Riverside/ Banning	MEIR	509257.38	3753981.75	**150.51**	8.0200E-05	3.8137E-05	3.8279E-05	3.7036E-05	3.7035E-05	3.7036E-05	0.01207	0.00574	0.00576	0.00557	0.00557	0.00557	1.191E-05	5.665E-06	5.686E-06	5.502E-06	5.502E-06	5.502E-06
			MEIW	509157.38	3753881.75	**330.40**							0.02650	0.01260	0.01265	0.01224	0.01224	0.01224	-	-	-	-	-	-
			Day Care	510618.10	374115.08	**63.68**							0.00511	0.00243	0.00244	0.00236	0.00236	0.00236	-	-	-	-	-	-
			School	509457.38	3754181.75	**50.80**							0.00407	0.00194	0.00194	0.00188	0.00188	0.00188	-	-	-	-	-	-
			Retirement Center	510554.04	3754655.27	**17.77**							0.00143	0.00068	0.00068	0.00066	0.00066	0.00066	-	-	-	-	-	-
10	RIV SR-15	Riverside/ Temecula	MEIR	486542.59	3706163.25	**335.53**	5.7600E-05	3.3204E-05	3.2914E-05	3.2765E-05	3.2814E-05	3.2806E-05	0.01933	0.01114	0.01104	0.01099	0.01101	0.01101	1.907E-05	1.100E-05	1.090E-05	1.085E-05	1.087E-05	1.086E-05
			MEIW	486142.59	3706363.25	**408.28**							0.02352	0.01356	0.01344	0.01338	0.01340	0.01339	-	-	-	-	-	-
			Day Care	487117.02	3705357.22	**318.54**							0.01835	0.01058	0.01048	0.01044	0.01045	0.01045	-	-	-	-	-	-
			School	486819.26	3705387.37	**271.95**							0.01566	0.00903	0.00895	0.00891	0.00892	0.00892	-	-	-	-	-	-
			Retirement Center	NR	NR	-													-	-	-	-	-	-
11	RIV SR-91	Riverside/ Corona	MEIR	438747.91	3748665.25	**203.50**	1.2800E-04	4.7656E-05	4.8146E-05	4.7696E-05	4.7531E-05	4.7494E-05	0.02605	0.00970	0.00980	0.00971	0.00967	0.00967	2.571E-05	9.572E-06	9.670E-06	9.580E-06	9.547E-06	9.539E-06
			MEIW	438847.91	3748665.25	**303.43**							0.03884	0.01446	0.01461	0.01447	0.01442	0.01441	-	-	-	-	-	-
			Day Care	NR	NR	-													-	-	-	-	-	-
			School	NR	NR	-													-	-	-	-	-	-
			Retirement Center	NR	NR	-													-	-	-	-	-	-
12	SB I-15 ONT	San Bernardino/Ontario	MEIR	449618.44	3770540.75	**376.23**	1.2400E-04	3.2136E-05	3.4127E-05	3.3212E-05	3.3447E-05	3.3245E-05	0.04665	0.01209	0.01284	0.01208	0.01258	0.01251	4.604E-05	1.193E-05	1.267E-05	1.193E-05	1.242E-05	1.234E-05
			MEIW	449818.44	3770540.75	**466.39**							0.05783	0.01499	0.01592	0.01498	0.01560	0.01551	-	-	-	-	-	-
			Day Care	NR	NR	-													-	-	-	-	-	-
			School	NR	NR	-													-	-	-	-	-	-
			Retirement Center	NR	NR	-													-	-	-	-	-	-
13	SB I-15 VIC	San Bernardino/ Victorville	MEIR	469450.06	3816328.75	**522.26**	2.4300E-04	8.9704E-05	8.9911E-05	9.1220E-05	9.0542E-05	9.0466E-05	0.12691	0.04685	0.04696	0.04764	0.04729	0.04725	1.253E-04	4.624E-05	4.634E-05	4.702E-05	4.667E-05	4.663E-05
			MEIW	469604.55	3816979.27	**276.14**							0.06710	0.02477	0.02483	0.02519	0.02500	0.02498	-	-	-	-	-	-
			Day Care	469150.06	3817028.75	**48.69**							0.01183	0.00437	0.00438	0.00444	0.00441	0.00440	-	-	-	-	-	-
			School	469550.06	3816328.75	**259.17**							0.06298	0.02325	0.02330	0.02364	0.02347	0.02345	-	-	-	-	-	-
			Retirement Center	469552.37	3816874.91	**335.59**							0.08155	0.03010	0.03017	0.03061	0.03038	0.03036	-	-	-	-	-	-
14	SB SR-60	San Bernardino/ Ontario	MEIR	447137.00	3765488.00	**747.93**	1.1100E-04	2.9503E-05	2.8545E-05	2.9040E-05	2.8516E-05	2.8592E-05	0.08302	0.02207	0.02135	0.02172	0.02133	0.02138	8.194E-05	2.178E-05	2.107E-05	2.144E-05	2.105E-05	2.111E-05
			MEIW	447737.00	3765288.00	**597.15**							0.06628	0.01762	0.01705	0.01734	0.01703	0.01707	-	-	-	-	-	-
			Day Care	447537.00	3764988.00	**156.63**							0.01739	0.00462	0.00447	0.00455	0.00447	0.00448	-	-	-	-	-	-
			School	447537.00	3764988.00	**156.63**							0.01739	0.00462	0.00447	0.00455	0.00447	0.00448	-	-	-	-	-	-
			Retirement Center	NR	NR	-													-	-	-	-	-	-
15	VEN US-101 SB	Ventura/ San Buenaventura	MEIR	295368.25	3793272.75	**185.10**	1.3200E-04	3.0764E-05	3.0053E-05	3.0247E-05	3.0170E-05	3.0160E-05	0.02443	0.00569	0.00556	0.00560	0.00558	0.00558	2.411E-05	5.620E-06	5.490E-06	5.525E-06	5.512E-06	5.510E-06
			MEIW	295468.25	3792872.75	**617.57**							0.08152	0.01900	0.01856	0.01868	0.01863	0.01863	-	-	-	-	-	-
			Day Care	296211.22	3793608.29	**18.46**							0.00244	0.00057	0.00055	0.00056	0.00056	0.00056	-	-	-	-	-	-
			School	297266.17	3793679.53	**8.11**							0.00107	0.00025	0.00024	0.00025	0.00024	0.00024	-	-	-	-	-	-
			Retirement Center	295668.25	3792672.75	**332.21**							0.04385	0.01022	0.00998	0.01005	0.01002	0.01002	-	-	-	-	-	-
16	VEN US-101 TO	Ventura/ Thousand Oaks	MEIR	329897.13	3782763.92	**695.99**	1.7000E-04	3.2505E-05	3.6470E-05	3.6319E-05	3.6492E-05	3.6310E-05	0.11832	0.02262	0.02538	0.02528	0.02540	0.02527	1.168E-04	2.233E-05	2.505E-05	2.495E-05	2.507E-05	2.494E-05
			MEIW	329244.62	3783279.69	**135.66**							0.02306	0.00441	0.00495	0.00493	0.00495	0.00493	-	-	-	-	-	-
			Day Care	330438.43	3783358.94	**34.31**							0.00583	0.00112	0.00125	0.00125	0.00125	0.00125	-	-	-	-	-	-
			School	330323.40	3783513.88	**29.75**							0.00506	0.00097	0.00109	0.00108	0.00109	0.00108	-	-	-	-	-	-
			Retirement Center	329856.00	3783234.81	**82.07**							0.01395	0.00097	0.00299	0.00298	0.00299	0.00298	-	-	-	-	-	-

							DPM EMISSION RATES						MAX CONCENTRATION						MEIW					
Segment No.	Transportation Segment	County/Region	Receptor Type	Location		Maximum Concentration (ug/m3)	Simulation 1 (2016 BY)	Simulation 2 (2045 BL)	Simulation 3 (2045 Local Input)	Simulation 4 (Plan, 2045)	Simulation 5 (2045 PEIR)	Simulation 6 (2045 Unconstrained)	Simulation 1 (2016 BY)	Simulation 2 (2045 BL)	Simulation 3 (2045 Local Input)	Simulation 4 (Plan, 2045)	Simulation 5 (2045 PEIR)	Simulation 6 (2045 Unconstrained)	Simulation 1 (2016 BY)	Simulation 2 (2045 BL)	Simulation 3 (2045 Local Input)	Simulation 4 (Plan, 2045)	Simulation 5 (2045 PEIR)	Simulation 6 (2045 Unconstrained)
1	IMP I-8	Imperial/El Centro	MEIR	635568.96	3627200.32	**1200.00**	2.3600E-05	1.3653E-05	1.4088E-05	1.4010E-05	1.3648E-05	1.3687E-05	0.02832	0.01638	0.01691	0.01681	0.01638	0.01642	-	-	-	-	-	-
			MEIW	635402.81	3627199.07	**1019.82**							0.02407	0.01392	0.01437	0.01429	0.01392	0.01396	1.490E-06	8.617E-07	8.892E-07	8.842E-07	8.614E-07	8.639E-07
			Day Care	636187.59	3627222.09	**1042.33**							0.02460	0.01423	0.01468	0.01460	0.01423	0.01427	-	-	-	-	-	-
			School	635097.32	3627472.29	**79.74**							0.00188	0.00109	0.00112	0.00112	0.00109	0.00109	-	-	-	-	-	-
			Retirement Center	NR	NR	-													-	-	-	-	-	-
2	IMP SR-78	Imperial/Westmoreland	MEIR	629054.74	3656301.01	**3843.00**	1.9400E-05	1.1148E-05	6.2701E-06	5.6900E-06	5.8947E-06	5.8709E-06	0.07455	0.04284	0.02410	0.02187	0.02265	0.02109	-	-	-	-	-	-
			MEIW	628683.60	3656303.89	**3086.66**							0.05988	0.03441	0.01935	0.01756	0.01819	0.01694	3.706E-06	2.130E-06	1.198E-06	1.087E-06	1.126E-06	1.048E-06
			Day Care	628731.34	3656427.60	**697.25**							0.01353	0.00777	0.00437	0.00397	0.00411	0.00383	-	-	-	-	-	-
			School	629046.29	3656145.58	**494.48**							0.00959	0.00551	0.00310	0.00281	0.00291	0.00271	-	-	-	-	-	-
			Retirement Center	NR	NR	-													-	-	-	-	-	-
3	LA I-110	Los Angeles/Carson	MEIR	380884.56	3742431.00	**770.28**	1.0400E-04	3.7233E-05	3.5908E-05	3.5152E-05	3.5562E-05	3.5442E-05	0.08011	0.02868	0.02766	0.02708	0.02739	0.02730	-	-	-	-	-	-
			MEIW	380884.56	3742431.00	**770.28**							0.08011	0.02868	0.02766	0.02708	0.02739	0.02730	4.958E-06	1.775E-06	1.712E-06	1.676E-06	1.695E-06	1.690E-06
			Day Care	381384.56	3743431.00	**62.47**							0.00650	0.00233	0.00224	0.00220	0.00222	0.00221	-	-	-	-	-	-
			School	381084.56	3743231.00	**253.69**							0.02638	0.00945	0.00911	0.00892	0.00902	0.00899	-	-	-	-	-	-
			Retirement Center	380584.56	3743431.00	**150.49**							0.01565	0.00560	0.00540	0.00529	0.00535	0.00533	-	-	-	-	-	-
4	LA I-710	Los Angeles/Compton	MEIR	390082.75	3751343.00	**324.27**	2.2700E-04	1.1121E-04	1.1055E-04	1.0995E-04	1.1142E-04	1.1067E-04	0.07361	0.03606	0.03585	0.03565	0.03613	0.03589	-	-	-	-	-	-
			MEIW	390382.75	3750843.00	**185.07**							0.04201	0.02058	0.01953	0.02035	0.02062	0.02048	2.600E-06	1.274E-06	1.208E-06	1.259E-06	1.276E-06	1.268E-06
			Day Care	389888.48	3751448.38	**123.58**							0.02805	0.01374	0.01304	0.01359	0.01377	0.01368	-	-	-	-	-	-
			School	390582.75	3751243.00	**117.45**							0.02666	0.01306	0.01239	0.01291	0.01309	0.01300	-	-	-	-	-	-
			Retirement Center	391182.75	3750493.00	**41.33**							0.00938	0.00460	0.00436	0.00454	0.00461	0.00457	-	-	-	-	-	-
5	LA SR-60 DB	Los Angeles/Diamond Bar	MEIR	425440.44	3765282.50	**815.25**	1.5100E-04	4.3987E-05	4.1162E-05	4.2065E-05	4.1360E-05	4.1596E-05	0.12310	0.03586	0.03356	0.03429	0.03372	0.03391	-	-	-	-	-	-
			MEIW	425240.44	3764682.50	**111.20**							0.01679	0.00489	0.00458	0.00468	0.00460	0.00463	1.039E-06	3.027E-07	2.833E-07	2.895E-07	2.846E-07	2.863E-07
			Day Care	425240.44	3764982.50	**330.46**							0.04990	0.01454	0.01360	0.01390	0.01367	0.01375	-	-	-	-	-	-
			School	426090.44	3465182.50	**101.19**							0.01528	0.00445	0.00445	0.00426	0.00419	0.00421	-	-	-	-	-	-
			Retirement Center	NR	NR	-													-	-	-	-	-	-
6	LA SR-60 SEM	Los Angeles/ South El Monte	MEIR	403299.59	3767032.25	**1252.16**	5.9400E-05	1.6991E-05	1.5122E-05	1.5063E-05	1.5586E-05	1.5577E-05	0.07438	0.02128	0.01894	0.01886	0.01952	0.01950	-	-	-	-	-	-
			MEIW	403099.59	3767132.25	**649.79**							0.03860	0.01104	0.00983	0.00979	0.01013	0.01012	2.389E-06	6.833E-07	6.081E-07	6.058E-07	6.268E-07	6.264E-07
			Day Care	404079.38	3767047.65	**228.22**							0.01356	0.00388	0.00345	0.00344	0.00356	0.00356	-	-	-	-	-	-
			School	403699.59	3766732.25	**354.35**							0.02105	0.00602	0.00536	0.00534	0.00552	0.00552	-	-	-	-	-	-
			Retirement Center	404236.48	3767117.92	**123.84**							0.00736	0.00210	0.00187	0.00187	0.00193	0.00193	-	-	-	-	-	-
7	ORA I-5	Orange/ Orange	MEIR	418869.47	3737828.25	**242.38**	1.1800E-04	2.5537E-05	2.6222E-05	2.6167E-05	2.6622E-05	2.6572E-05	0.02860	0.00619	0.00636	0.00634	0.00645	0.00644	-	-	-	-	-	-
			MEIW	419369.47	3737528.25	**176.23**							0.02080	0.00450	0.00462	0.00461	0.00469	0.00468	1.287E-06	2.785E-07	2.860E-07	2.854E-07	2.904E-07	2.898E-07
			Day Care	419719.47	3738828.25	**15.28**							0.00180	0.00039	0.00040	0.00040	0.00041	0.00041	-	-	-	-	-	-
			School	419969.47	3738578.25	**13.88**							0.00164	0.00035	0.00036	0.00036	0.00037	0.00037	-	-	-	-	-	-
			Retirement Center	419269.47	3738228.25	**58.20**							0.00687	0.00149	0.00153	0.00152	0.00155	0.00155	-	-	-	-	-	-
8	ORA I-405	Orange/ Seal Beach	MEIR	401657.75	3737731.50	**349.88**	1.4300E-04	4.0276E-05	3.9313E-05	3.8834E-05	3.9197E-05	3.9078E-05	0.05003	0.01409	0.01375	0.01359	0.01371	0.01367	-	-	-	-	-	-
			MEIW	401757.75	3737731.50	**345.94**							0.04947	0.01393	0.01360	0.01343	0.01356	0.01352	3.062E-06	8.623E-07	8.417E-07	8.314E-07	8.392E-07	8.367E-07
			Day Care	NR	NR	-													-	-	-	-	-	-
			School	NR	NR	-													-	-	-	-	-	-
			Retirement Center	NR	NR	-													-	-	-	-	-	-
9	RIV I-10	Riverside/ Banning	MEIR	509257.38	3753981.75	**150.51**	8.0200E-05	3.8137E-05	3.8279E-05	3.7036E-05	3.7035E-05	3.7036E-05	0.01207	0.00574	0.00576	0.00557	0.00557	0.00557	-	-	-	-	-	-
			MEIW	509157.38	3753881.75	**330.40**							0.02650	0.01260	0.01265	0.01224	0.01224	0.01224	1.640E-06	7.798E-07	7.827E-07	7.573E-07	7.573E-07	7.573E-07
			Day Care	510618.10	374115.08	**63.68**							0.00511	0.00243	0.00244	0.00236	0.00236	0.00236	-	-	-	-	-	-
			School	509457.38	3754181.75	**50.80**							0.00407	0.00194	0.00194	0.00188	0.00188	0.00188	-	-	-	-	-	-
			Retirement Center	510554.04	3754655.27	**17.77**							0.00143	0.00068	0.00068	0.00066	0.00066	0.00066	-	-	-	-	-	-
10	RIV SR-15	Riverside/ Temecula	MEIR	486542.59	3706163.25	**335.53**	5.7600E-05	3.3204E-05	3.2914E-05	3.2765E-05	3.2814E-05	3.2806E-05	0.01933	0.01114	0.01104	0.01099	0.01101	0.01101	-	-	-	-	-	-
			MEIW	486142.59	3706363.25	**408.28**							0.02352	0.01356	0.01344	0.01338	0.01340	0.01339	1.455E-06	8.390E-07	8.317E-07	8.279E-07	8.291E-07	8.289E-07
			Day Care	487117.02	3705357.22	**318.54**							0.01835	0.01058	0.01048	0.01044	0.01045	0.01045	-	-	-	-	-	-
			School	486819.26	3705387.37	**271.95**							0.01566	0.00903	0.00895	0.00891	0.00892	0.00892	-	-	-	-	-	-
			Retirement Center	NR	NR	-													-	-	-	-	-	-
11	RIV SR-91	Riverside/ Corona	MEIR	438747.91	3748665.25	**203.50**	1.2800E-04	4.7656E-05	4.8146E-05	4.7696E-05	4.7531E-05	4.7494E-05	0.02605	0.00970	0.00980	0.00971	0.00967	0.00967	-	-	-	-	-	-
			MEIW	438847.91	3748665.25	**303.43**							0.03884	0.01446	0.01461	0.01447	0.01442	0.01441	2.404E-06	8.949E-07	9.041E-07	8.957E-07	8.926E-07	8.919E-07
			Day Care	NR	NR	-													-	-	-	-	-	-
			School	NR	NR	-													-	-	-	-	-	-
			Retirement Center	NR	NR	-													-	-	-	-	-	-
12	SB I-15 ONT	San Bernardino/Ontario	MEIR	449618.44	3770540.75	**376.23**	1.2400E-04	3.2136E-05	3.4127E-05	3.3212E-05	3.3447E-05	3.3245E-05	0.04665	0.01209	0.01284	0.01208	0.01258	0.01251	-	-	-	-	-	-
			MEIW	449818.44	3770540.75	**466.39**							0.05783	0.01499	0.01592	0.01498	0.01560	0.01551	3.579E-06	9.276E-07	9.850E-07	9.271E-07	9.654E-07	9.596E-07
			Day Care	NR	NR	-													-	-	-	-	-	-
			School	NR	NR	-													-	-	-	-	-	-
			Retirement Center	NR	NR	-													-	-	-	-	-	-
13	SB I-15 VIC	San Bernardino/ Victorville	MEIR	469450.06	3816328.75	**522.26**	2.4300E-04	8.9704E-05	8.9911E-05	9.1220E-05	9.0542E-05	9.0466E-05	0.12691	0.04685	0.04696	0.04764	0.04729	0.04725	-	-	-	-	-	-
			MEIW	469604.55	3816979.27	**276.14**							0.06710	0.02477	0.02483	0.02519	0.02500	0.02498	4.153E-06	1.533E-06	1.537E-06	1.559E-06	1.547E-06	1.546E-06
			Day Care	469150.06	3817028.75	**48.69**							0.01183	0.00437	0.00438	0.00444	0.00441	0.00440	-	-	-	-	-	-
			School	469550.06	3816328.75	**259.17**							0.06298	0.02325	0.02330	0.02364	0.02347	0.02345	-	-	-	-	-	-
			Retirement Center	469552.37	3816874.91	**335.59**							0.08155	0.03010	0.03017	0.03061	0.03038	0.03036	-	-	-	-	-	-
14	SB SR-60	San Bernardino/ Ontario	MEIR	447137.00	3765488.00	**747.93**	1.1100E-04	2.9503E-05	2.8545E-05	2.9040E-05	2.8516E-05	2.8592E-05	0.08302	0.02207	0.02135	0.02172	0.02133	0.02138	-	-	-	-	-	-
			MEIW	447737.00	3765288.00	**597.15**							0.06628	0.01762	0.01705	0.01734	0.01703	0.01707	4.102E-06	1.090E-06	1.055E-06	1.073E-06	1.054E-06	1.057E-06
			Day Care	447537.00	3764988.00	**156.63**							0.01739	0.00462	0.00447	0.00455	0.00447	0.00448	-	-	-	-	-	-
			School	447537.00	3764988.00	**156.63**							0.01739	0.00462	0.00447	0.00455	0.00447	0.00448	-	-	-	-	-	-
			Retirement Center	NR	NR	-													-	-	-	-	-	-
15	VEN US-101 SB	Ventura/ San Buenaventura	MEIR	295368.25	3793272.75	**185.10**	1.3200E-04	3.0764E-05	3.0053E-05	3.0247E-05	3.0170E-05	3.0160E-05	0.02443	0.00569	0.00556	0.00560	0.00558	0.00558	-	-	-	-	-	-
			MEIW	295468.25	3792872.75	**617.57**							0.08152	0.01900	0.01856	0.01868	0.01863	0.01863	5.045E-06	1.176E-06	1.149E-06	1.156E-06	1.153E-06	1.153E-06
			Day Care	296211.22	3793608.29	**18.46**							0.00244	0.00057	0.00055	0.00056	0.00056	0.00056	-	-	-	-	-	-
			School	297266.17	3793679.53	**8.11**							0.00107	0.00025	0.00024	0.00025	0.00024	0.00024	-	-	-	-	-	-
			Retirement Center	295668.25	3792672.75	**332.21**							0.04385	0.01022	0.00998	0.01005	0.01002	0.01002	-	-	-	-	-	-
16	VEN US-101 TO	Ventura/ Thousand Oaks	MEIR	329897.13	3782763.92	**695.99**	1.7000E-04	3.2505E-05	3.6470E-05	3.6319E-05	3.6492E-05	3.6310E-05	0.11832	0.02262	0.02538	0.02528	0.02540	0.02527	-	-	-	-	-	-
			MEIW	329244.62	3783279.69	**135.66**							0.02306	0.00441	0.00495	0.00493	0.00495	0.00493	1.427E-06	2.729E-07	3.062E-07	3.049E-07	3.064E-07	3.048E-07
			Day Care	330438.43	3783358.94	**34.31**							0.00583	0.00112	0.00125	0.00125	0.00125	0.00125	-	-	-	-	-	-
			School	330323.40	3783513.88	**29.75**							0.00506	0.00097	0.00109	0.00108	0.00109	0.00108	-	-	-	-	-	-
			Retirement Center	329856.00	3783234.81	**82.07**							0.01395	0.00097	0.00299	0.00298	0.00299	0.00298	-	-	-	-	-	-

						DPM EMISSION RATES						MAX CONCENTRATION						DAY CARE					
Segment No.	Transportation Segment	County/Region	Receptor Type	Location		Maximum Concentration (ug/m3)	Simulation 1 (2016 BY)	Simulation 2 (2045 BL)	Simulation 3 (2045 Local Input)	Simulation 4 (Plan, 2045)	Simulation 5 (2045 PEIR)	Simulation 6 (2045 Unconstrained)	Simulation 1 (2016 BY)	Simulation 2 (2045 BL)	Simulation 3 (2045 Local Input)	Simulation 4 (Plan, 2045)	Simulation 5 (2045 PEIR)	Simulation 6 (2045 Unconstrained)	Simulation 1 (2016 BY)	Simulation 2 (2045 BL)	Simulation 3 (2045 Local Input)	Simulation 4 (Plan, 2045)	Simulation 5 (2045 PEIR)	Simulation 6 (2045 Unconstrained)
1	IMP I-8	Imperial/El Centro	MEIR	635568.96	3627200.32	**1200.00**	2.3600E-05	1.3653E-05	1.4088E-05	1.4010E-05	1.3648E-05	1.3687E-05	0.02832	0.01638	0.01691	0.01681	0.01638	0.01642	-	-	-	-	-	-
			MEIW	635402.81	3627199.07	**1019.82**							0.02407	0.01392	0.01437	0.01429	0.01392	0.01396	-	-	-	-	-	-
			Day Care	636187.59	3627222.09	**1042.33**							0.02460	0.01423	0.01468	0.01460	0.01423	0.01427	8.388E-06	4.852E-06	5.007E-06	4.979E-06	4.851E-06	4.865E-06
			School	635097.32	3627472.29	**79.74**							0.00188	0.00109	0.00112	0.00112	0.00109	0.00109	-	-	-	-	-	-
			Retirement Center	NR	NR	**-**													-	-	-	-	-	-
2	IMP SR-78	Imperial/Westmoreland	MEIR	629054.74	3656301.01	**3843.00**	1.9400E-05	1.1148E-05	6.2701E-06	5.6900E-06	5.8947E-06	5.8709E-06	0.07455	0.04284	0.02410	0.02187	0.02265	0.02109	-	-	-	-	-	-
			MEIW	628683.60	3656303.89	**3086.66**							0.05988	0.03441	0.01935	0.01756	0.01819	0.01694	-	-	-	-	-	-
			Day Care	628731.34	3656427.60	**697.25**							0.01353	0.00777	0.00437	0.00397	0.00411	0.00383	4.612E-06	2.650E-06	1.491E-06	1.353E-06	1.401E-06	1.305E-06
			School	629046.29	3656145.58	**494.48**							0.00959	0.00551	0.00310	0.00281	0.00291	0.00271	-	-	-	-	-	-
			Retirement Center	NR	NR	**-**													-	-	-	-	-	-
3	LA I-110	Los Angeles/Carson	MEIR	380884.56	3742431.00	**770.28**	1.0400E-04	3.7233E-05	3.5908E-05	3.5152E-05	3.5562E-05	3.5442E-05	0.08011	0.02868	0.02766	0.02708	0.02739	0.02730	-	-	-	-	-	-
			MEIW	380884.56	3742431.00	**770.28**							0.08011	0.02868	0.02766	0.02708	0.02739	0.02730	-	-	-	-	-	-
			Day Care	381384.56	3743431.00	**62.47**							0.00650	0.00233	0.00224	0.00220	0.00222	0.00221	2.215E-06	7.930E-07	7.648E-07	7.487E-07	7.575E-07	7.549E-07
			School	381084.56	3743231.00	**253.69**							0.02638	0.00945	0.00911	0.00892	0.00902	0.00899	-	-	-	-	-	-
			Retirement Center	380584.56	3743431.00	**150.49**							0.01565	0.00560	0.00540	0.00529	0.00535	0.00533	-	-	-	-	-	-
4	LA I-710	Los Angeles/Compton	MEIR	390082.75	3751343.00	**324.27**	2.2700E-04	1.1121E-04	1.1055E-04	1.0995E-04	1.1142E-04	1.1067E-04	0.07361	0.03606	0.03585	0.03565	0.03613	0.03589	-	-	-	-	-	-
			MEIW	390382.75	3750843.00	**185.07**							0.04201	0.02058	0.01953	0.02035	0.02062	0.02048	-	-	-	-	-	-
			Day Care	389888.48	3751448.38	**123.58**							0.02805	0.01374	0.01304	0.01359	0.01377	0.01368	9.565E-06	4.686E-06	4.445E-06	4.633E-06	4.695E-06	4.663E-06
			School	390582.75	3751243.00	**117.45**							0.02666	0.01306	0.01239	0.01291	0.01309	0.01300	-	-	-	-	-	-
			Retirement Center	391182.75	3750493.00	**41.33**							0.00938	0.00460	0.00436	0.00454	0.00461	0.00457	-	-	-	-	-	-
5	LA SR-60 DB	Los Angeles/Diamond Bar	MEIR	425440.44	3765282.50	**815.25**	1.5100E-04	4.3987E-05	4.1162E-05	4.2065E-05	4.1360E-05	4.1596E-05	0.12310	0.03586	0.03356	0.03429	0.03372	0.03391	-	-	-	-	-	-
			MEIW	425240.44	3764682.50	**111.20**							0.01679	0.00489	0.00458	0.00468	0.00460	0.00463	-	-	-	-	-	-
			Day Care	425240.44	3764982.50	**330.46**							0.04990	0.01454	0.01360	0.01390	0.01367	0.01375	1.701E-05	4.956E-06	4.638E-06	4.740E-06	4.660E-06	4.687E-06
			School	426090.44	3465182.50	**101.19**							0.01528	0.00445	0.00445	0.00426	0.00419	0.00421	-	-	-	-	-	-
			Retirement Center	NR	NR	**-**													-	-	-	-	-	-
6	LA SR-60 SEM	Los Angeles/ South El Monte	MEIR	403299.59	3767032.25	**1252.16**	5.9400E-05	1.6991E-05	1.5122E-05	1.5063E-05	1.5586E-05	1.5577E-05	0.07438	0.02128	0.01894	0.01886	0.01952	0.01950	-	-	-	-	-	-
			MEIW	403099.59	3767132.25	**649.79**							0.03860	0.01104	0.00983	0.00979	0.01013	0.01012	-	-	-	-	-	-
			Day Care	404079.38	3767047.65	**228.22**							0.01356	0.00388	0.00345	0.00344	0.00356	0.00356	4.622E-06	1.322E-06	1.177E-06	1.172E-06	1.213E-06	1.212E-06
			School	403699.59	3766732.25	**354.35**							0.02105	0.00602	0.00536	0.00534	0.00552	0.00552	-	-	-	-	-	-
			Retirement Center	404236.48	3767117.92	**123.84**							0.00736	0.00210	0.00187	0.00187	0.00193	0.00193	-	-	-	-	-	-
7	ORA I-5	Orange/ Orange	MEIR	418869.47	3737828.25	**242.38**	1.1800E-04	2.5537E-05	2.6222E-05	2.6167E-05	2.6622E-05	2.6572E-05	0.02860	0.00619	0.00636	0.00634	0.00645	0.00644	-	-	-	-	-	-
			MEIW	419369.47	3737528.25	**176.23**							0.02080	0.00450	0.00462	0.00461	0.00469	0.00468	-	-	-	-	-	-
			Day Care	419719.47	3738828.25	**15.28**							0.00180	0.00039	0.00040	0.00040	0.00041	0.00041	6.146E-07	1.330E-07	1.366E-07	1.363E-07	1.387E-07	1.384E-07
			School	419969.47	3738578.25	**13.88**							0.00164	0.00035	0.00036	0.00036	0.00037	0.00037	-	-	-	-	-	-
			Retirement Center	419269.47	3738228.25	**58.20**							0.00687	0.00149	0.00153	0.00152	0.00155	0.00155	-	-	-	-	-	-
8	ORA I-405	Orange/ Seal Beach	MEIR	401657.75	3737731.50	**349.88**	1.4300E-04	4.0276E-05	3.9313E-05	3.8834E-05	3.9197E-05	3.9078E-05	0.05003	0.01409	0.01375	0.01359	0.01371	0.01367	-	-	-	-	-	-
			MEIW	401757.75	3737731.50	**345.94**							0.04947	0.01393	0.01360	0.01343	0.01356	0.01352	-	-	-	-	-	-
			Day Care	NR	NR	**-**													NR	NR	NR	NR	NR	NR
			School	NR	NR	**-**													-	-	-	-	-	-
			Retirement Center	NR	NR	**-**													-	-	-	-	-	-
9	RIV I-10	Riverside/ Banning	MEIR	509257.38	3753981.75	**150.51**	8.0200E-05	3.8137E-05	3.8279E-05	3.7036E-05	3.7035E-05	3.7036E-05	0.01207	0.00574	0.00576	0.00557	0.00557	0.00557	-	-	-	-	-	-
			MEIW	509157.38	3753881.75	**330.40**							0.02650	0.01260	0.01265	0.01224	0.01224	0.01224	-	-	-	-	-	-
			Day Care	510618.10	374115.08	**63.68**							0.00511	0.00243	0.00244	0.00236	0.00236	0.00236	1.741E-06	8.281E-07	8.312E-07	8.042E-07	8.042E-07	8.042E-07
			School	509457.38	3754181.75	**50.80**							0.00407	0.00194	0.00194	0.00188	0.00188	0.00188	-	-	-	-	-	-
			Retirement Center	510554.04	3754655.27	**17.77**							0.00143	0.00068	0.00068	0.00066	0.00066	0.00066	-	-	-	-	-	-
10	RIV SR-15	Riverside/ Temecula	MEIR	486542.59	3706163.25	**335.53**	5.7600E-05	3.3204E-05	3.2914E-05	3.2765E-05	3.2814E-05	3.2806E-05	0.01933	0.01114	0.01104	0.01099	0.01101	0.01101	-	-	-	-	-	-
			MEIW	486142.59	3706363.25	**408.28**							0.02352	0.01356	0.01344	0.01338	0.01340	0.01339	-	-	-	-	-	-
			Day Care	487117.02	3705357.22	**318.54**							0.01835	0.01058	0.01048	0.01044	0.01045	0.01045	6.256E-06	3.606E-06	3.575E-06	3.559E-06	3.564E-06	3.563E-06
			School	486819.26	3705387.37	**271.95**							0.01566	0.00903	0.00895	0.00891	0.00892	0.00892	-	-	-	-	-	-
			Retirement Center	NR	NR	**-**													-	-	-	-	-	-
11	RIV SR-91	Riverside/ Corona	MEIR	438747.91	3748665.25	**203.50**	1.2800E-04	4.7656E-05	4.8146E-05	4.7696E-05	4.7531E-05	4.7494E-05	0.02605	0.00970	0.00980	0.00971	0.00967	0.00967	-	-	-	-	-	-
			MEIW	438847.91	3748665.25	**303.43**							0.03884	0.01446	0.01461	0.01447	0.01442	0.01441	-	-	-	-	-	-
			Day Care	NR	NR	**-**													NR	NR	NR	NR	NR	NR
			School	NR	NR	**-**													-	-	-	-	-	-
			Retirement Center	NR	NR	**-**													-	-	-	-	-	-
12	SB I-15 ONT	San Bernardino/Ontario	MEIR	449618.44	3770540.75	**376.23**	1.2400E-04	3.2136E-05	3.4127E-05	3.3212E-05	3.3447E-05	3.3245E-05	0.04665	0.01209	0.01284	0.01208	0.01258	0.01251	-	-	-	-	-	-
			MEIW	449818.44	3770540.75	**466.39**							0.05783	0.01499	0.01592	0.01498	0.01560	0.01551	-	-	-	-	-	-
			Day Care	NR	NR	**-**													NR	NR	NR	NR	NR	NR
			School	NR	NR	**-**													-	-	-	-	-	-
			Retirement Center	NR	NR	**-**													-	-	-	-	-	-
13	SB I-15 VIC	San Bernardino/ Victorville	MEIR	469450.06	3816328.75	**522.26**	2.4300E-04	8.9704E-05	8.9911E-05	9.1220E-05	9.0542E-05	9.0466E-05	0.12691	0.04685	0.04696	0.04764	0.04729	0.04725	-	-	-	-	-	-
			MEIW	469604.55	3816979.27	**276.14**							0.06710	0.02477	0.02483	0.02519	0.02500	0.02498	-	-	-	-	-	-
			Day Care	469150.06	3817028.75	**48.69**							0.01183	0.00437	0.00438	0.00444	0.00441	0.00440	4.034E-06	1.489E-06	1.493E-06	1.514E-06	1.503E-06	1.502E-06
			School	469550.06	3816328.75	**259.17**							0.06298	0.02325	0.02330	0.02364	0.02347	0.02345	-	-	-	-	-	-
			Retirement Center	469552.37	3816874.91	**335.59**							0.08155	0.03010	0.03017	0.03061	0.03038	0.03036	-	-	-	-	-	-
14	SB SR-60	San Bernardino/ Ontario	MEIR	447137.00	3765488.00	**747.93**	1.1100E-04	2.9503E-05	2.8545E-05	2.9040E-05	2.8516E-05	2.8592E-05	0.08302	0.02207	0.02135	0.02172	0.02133	0.02138	-	-	-	-	-	-
			MEIW	447737.00	3765288.00	**597.15**							0.06628	0.01762	0.01705	0.01734	0.01703	0.01707	-	-	-	-	-	-
			Day Care	447537.00	3764988.00	**156.63**							0.01739	0.00462	0.00447	0.00455	0.00447	0.00448	5.928E-06	1.576E-06	1.524E-06	1.551E-06	1.523E-06	1.527E-06
			School	447537.00	3764988.00	**156.63**							0.01739	0.00462	0.00447	0.00455	0.00447	0.00448	-	-	-	-	-	-
			Retirement Center	NR	NR	**-**													-	-	-	-	-	-
15	VEN US-101 SB	Ventura/ San Buenaventura	MEIR	295368.25	3793272.75	**185.10**	1.3200E-04	3.0764E-05	3.0053E-05	3.0247E-05	3.0170E-05	3.0160E-05	0.02443	0.00569	0.00556	0.00560	0.00558	0.00558	-	-	-	-	-	-
			MEIW	295468.25	3792872.75	**617.57**							0.08152	0.01900	0.01856	0.01868	0.01863	0.01863	-	-	-	-	-	-
			Day Care	296211.22	3793608.29	**18.46**							0.00244	0.00057	0.00055	0.00056	0.00056	0.00056	8.309E-07	1.937E-07	1.892E-07	1.904E-07	1.899E-07	1.899E-07
			School	297266.17	3793679.53	**8.11**							0.00107	0.00025	0.00024	0.00025	0.00024	0.00024	-	-	-	-	-	-
			Retirement Center	295668.25	3792672.75	**332.21**							0.04385	0.01022	0.00998	0.01005	0.01002	0.01002	-	-	-	-	-	-
16	VEN US-101 TO	Ventura/ Thousand Oaks	MEIR	329897.13	3782763.92	**695.99**	1.7000E-04	3.2505E-05	3.6470E-05	3.6319E-05	3.6492E-05	3.6310E-05	0.11832	0.02262	0.02538	0.02528	0.02540	0.02527	-	-	-	-	-	-
			MEIW	329244.62	3783279.69	**135.66**							0.02306	0.00441	0.00495	0.00493	0.00495	0.00493	-	-	-	-	-	-
			Day Care	330438.43	3783358.94	**34.31**							0.00583	0.00112	0.00125	0.00125	0.00125	0.00125	1.989E-06	3.803E-07	4.267E-07	4.249E-07	4.270E-07	4.248E-07
			School	330323.40	3783513.88	**29.75**							0.00506	0.00097	0.00109	0.00108	0.00109	0.00108	-	-	-	-	-	-
			Retirement Center	329856.00	3783234.81	**82.07**							0.01395	0.00097	0.00299	0.00298	0.00299	0.00298	-	-	-	-	-	-

							DPM EMISSION RATES						MAX CONCENTRATION						School Child					
Segment No.	Transportation Segment	County/Region	Receptor Type	Location		Maximum Concentration (ug/m3)	Simulation 1 (2016 BY)	Simulation 2 (2045 BL)	Simulation 3 (2045 Local Input)	Simulation 4 (Plan, 2045)	Simulation 5 (2045 PEIR)	Simulation 6 (2045 Unconstrained)	Simulation 1 (2016 BY)	Simulation 2 (2045 BL)	Simulation 3 (2045 Local Input)	Simulation 4 (Plan, 2045)	Simulation 5 (2045 PEIR)	Simulation 6 (2045 Unconstrained)	Simulation 1 (2016 BY)	Simulation 2 (2045 BL)	Simulation 3 (2045 Local Input)	Simulation 4 (Plan, 2045)	Simulation 5 (2045 PEIR)	Simulation 6 (2045 Unconstrained)
1	IMP I-8	Imperial/El Centro	MEIR	635568.96	3627200.32	**1200.00**	2.3600E-05	1.3653E-05	1.4088E-05	1.4010E-05	1.3648E-05	1.3687E-05	0.02832	0.01638	0.01691	0.01681	0.01638	0.01642	-	-	-	-	-	-
			MEIW	635402.81	3627199.07	**1019.82**							0.02407	0.01392	0.01437	0.01429	0.01392	0.01396	-	-	-	-	-	-
			Day Care	636187.59	3627222.09	**1042.33**							0.02460	0.01423	0.01468	0.01460	0.01423	0.01427	-	-	-	-	-	-
			School	635097.32	3627472.29	**79.74**							0.00188	0.00109	0.00112	0.00112	0.00109	0.00109	1.460E-07	8.445E-08	8.715E-08	8.667E-08	8.443E-08	8.467E-08
			Retirement Center	NR	NR	-													-	-	-	-	-	-
2	IMP SR-78	Imperial/Westmoreland	MEIR	629054.74	3656301.01	**3843.00**	1.9400E-05	1.1148E-05	6.2701E-06	5.6900E-06	5.8947E-06	5.8709E-06	0.07455	0.04284	0.02410	0.02187	0.02265	0.02109	-	-	-	-	-	-
			MEIW	628683.60	3656303.89	**3086.66**							0.05988	0.03441	0.01935	0.01756	0.01819	0.01694	-	-	-	-	-	-
			Day Care	628731.34	3656427.60	**697.25**							0.01353	0.00777	0.00437	0.00397	0.00411	0.00383	-	-	-	-	-	-
			School	629046.29	3656145.58	**494.48**							0.00959	0.00551	0.00310	0.00281	0.00291	0.00271	7.441E-07	4.276E-07	2.405E-07	2.183E-07	2.261E-07	2.105E-07
			Retirement Center	NR	NR	-													-	-	-	-	-	-
3	LA I-110	Los Angeles/Carson	MEIR	380884.56	3742431.00	**770.28**	1.0400E-04	3.7233E-05	3.5908E-05	3.5152E-05	3.5562E-05	3.5442E-05	0.08011	0.02868	0.02766	0.02708	0.02739	0.02730	-	-	-	-	-	-
			MEIW	380884.56	3742431.00	**770.28**							0.08011	0.02868	0.02766	0.02708	0.02739	0.02730	-	-	-	-	-	-
			Day Care	381384.56	3743431.00	**62.47**							0.00650	0.00233	0.00224	0.00220	0.00222	0.00221	-	-	-	-	-	-
			School	381084.56	3743231.00	**253.69**							0.02638	0.00945	0.00911	0.00892	0.00902	0.00899	2.047E-06	7.327E-07	7.066E-07	6.918E-07	6.998E-07	6.975E-07
			Retirement Center	380584.56	3743431.00	**150.49**							0.01565	0.00560	0.00540	0.00529	0.00535	0.00533	-	-	-	-	-	-
4	LA I-710	Los Angeles/Compton	MEIR	390082.75	3751343.00	**324.27**	2.2700E-04	1.1121E-04	1.1055E-04	1.0995E-04	1.1142E-04	1.1067E-04	0.07361	0.03606	0.03585	0.03565	0.03613	0.03589	-	-	-	-	-	-
			MEIW	390382.75	3750843.00	**185.07**							0.04201	0.02058	0.01953	0.02035	0.02062	0.02048	-	-	-	-	-	-
			Day Care	389888.48	3751448.38	**123.58**							0.02805	0.01374	0.01304	0.01359	0.01377	0.01368	-	-	-	-	-	-
			School	390582.75	3751243.00	**117.45**							0.02666	0.01306	0.01239	0.01291	0.01309	0.01300	2.068E-06	1.013E-06	9.612E-07	1.002E-06	1.015E-06	1.008E-06
			Retirement Center	391182.75	3750493.00	**41.33**							0.00938	0.00460	0.00436	0.00454	0.00461	0.00457	-	-	-	-	-	-
5	LA SR-60 DB	Los Angeles/Diamond Bar	MEIR	425440.44	3765282.50	**815.25**	1.5100E-04	4.3987E-05	4.1162E-05	4.2065E-05	4.1360E-05	4.1596E-05	0.12310	0.03586	0.03356	0.03429	0.03372	0.03391	-	-	-	-	-	-
			MEIW	425240.44	3764682.50	**111.20**							0.01679	0.00489	0.00458	0.00468	0.00460	0.00463	-	-	-	-	-	-
			Day Care	425240.44	3764982.50	**330.46**							0.04990	0.01454	0.01360	0.01390	0.01367	0.01375	-	-	-	-	-	-
			School	426090.44	3465182.50	**101.19**							0.01528	0.00445	0.00445	0.00426	0.00419	0.00421	1.185E-06	3.453E-07	3.453E-07	3.302E-07	3.247E-07	3.265E-07
			Retirement Center	NR	NR	-													-	-	-	-	-	-
6	LA SR-60 SEM	Los Angeles/ South El Monte	MEIR	403299.59	3767032.25	**1252.16**	5.9400E-05	1.6991E-05	1.5122E-05	1.5063E-05	1.5586E-05	1.5577E-05	0.07438	0.02128	0.01894	0.01886	0.01952	0.01950	-	-	-	-	-	-
			MEIW	403099.59	3767132.25	**649.79**							0.03860	0.01104	0.00983	0.00979	0.01013	0.01012	-	-	-	-	-	-
			Day Care	404079.38	3767047.65	**228.22**							0.01356	0.00388	0.00345	0.00344	0.00356	0.00356	-	-	-	-	-	-
			School	403699.59	3766732.25	**354.35**							0.02105	0.00602	0.00536	0.00534	0.00552	0.00552	1.633E-06	4.670E-07	4.157E-07	4.140E-07	4.284E-07	4.282E-07
			Retirement Center	404236.48	3767117.92	**123.84**							0.00736	0.00210	0.00187	0.00187	0.00193	0.00193	-	-	-	-	-	-
7	ORA I-5	Orange/ Orange	MEIR	418869.47	3737828.25	**242.38**	1.1800E-04	2.5537E-05	2.6222E-05	2.6167E-05	2.6622E-05	2.6572E-05	0.02860	0.00619	0.00636	0.00634	0.00645	0.00644	-	-	-	-	-	-
			MEIW	419369.47	3737528.25	**176.23**							0.02080	0.00450	0.00462	0.00461	0.00469	0.00468	-	-	-	-	-	-
			Day Care	419719.47	3738828.25	**15.28**							0.00180	0.00039	0.00040	0.00040	0.00041	0.00041	-	-	-	-	-	-
			School	419969.47	3738578.25	**13.88**							0.00164	0.00035	0.00036	0.00036	0.00037	0.00037	1.271E-07	2.750E-08	2.824E-08	2.818E-08	2.867E-08	2.862E-08
			Retirement Center	419269.47	3738228.25	**58.20**							0.00687	0.00149	0.00153	0.00152	0.00155	0.00155	-	-	-	-	-	-
8	ORA I-405	Orange/ Seal Beach	MEIR	401657.75	3737731.50	**349.88**	1.4300E-04	4.0276E-05	3.9313E-05	3.8834E-05	3.9197E-05	3.9078E-05	0.05003	0.01409	0.01375	0.01359	0.01371	0.01367	-	-	-	-	-	-
			MEIW	401757.75	3737731.50	**345.94**							0.04947	0.01393	0.01360	0.01343	0.01356	0.01352	-	-	-	-	-	-
			Day Care	NR	NR	-													-	-	-	-	-	-
			School	NR	NR	-													NR	NR	NR	NR	NR	NR
			Retirement Center	NR	NR	-													-	-	-	-	-	-
9	RIV I-10	Riverside/ Banning	MEIR	509257.38	3753981.75	**150.51**	8.0200E-05	3.8137E-05	3.8279E-05	3.7036E-05	3.7035E-05	3.7036E-05	0.01207	0.00574	0.00576	0.00557	0.00557	0.00557	-	-	-	-	-	-
			MEIW	509157.38	3753881.75	**330.40**							0.02650	0.01260	0.01265	0.01224	0.01224	0.01224	-	-	-	-	-	-
			Day Care	510618.10	374115.08	**63.68**							0.00511	0.00243	0.00244	0.00236	0.00236	0.00236	-	-	-	-	-	-
			School	509457.38	3754181.75	**50.80**							0.00407	0.00194	0.00194	0.00188	0.00188	0.00188	3.160E-07	1.503E-07	1.508E-07	1.459E-07	1.459E-07	1.459E-07
			Retirement Center	510554.04	3754655.27	**17.77**							0.00143	0.00068	0.00068	0.00066	0.00066	0.00066	-	-	-	-	-	-
10	RIV SR-15	Riverside/ Temecula	MEIR	486542.59	3706163.25	**335.53**	5.7600E-05	3.3204E-05	3.2914E-05	3.2765E-05	3.2814E-05	3.2806E-05	0.01933	0.01114	0.01104	0.01099	0.01101	0.01101	-	-	-	-	-	-
			MEIW	486142.59	3706363.25	**408.28**							0.02352	0.01356	0.01344	0.01338	0.01340	0.01339	-	-	-	-	-	-
			Day Care	487117.02	3705357.22	**318.54**							0.01835	0.01058	0.01048	0.01044	0.01045	0.01045	-	-	-	-	-	-
			School	486819.26	3705387.37	**271.95**							0.01566	0.00903	0.00895	0.00891	0.00892	0.00892	1.215E-06	7.005E-07	6.944E-07	6.912E-07	6.922E-07	6.921E-07
			Retirement Center	NR	NR	-													-	-	-	-	-	-
11	RIV SR-91	Riverside/ Corona	MEIR	438747.91	3748665.25	**203.50**	1.2800E-04	4.7656E-05	4.8146E-05	4.7696E-05	4.7531E-05	4.7494E-05	0.02605	0.00970	0.00980	0.00971	0.00967	0.00967	-	-	-	-	-	-
			MEIW	438847.91	3748665.25	**303.43**							0.03884	0.01446	0.01461	0.01447	0.01442	0.01441	-	-	-	-	-	-
			Day Care	NR	NR	-													-	-	-	-	-	-
			School	NR	NR	-													NR	NR	NR	NR	NR	NR
			Retirement Center	NR	NR	-													-	-	-	-	-	-
12	SB I-15 ONT	San Bernardino/Ontario	MEIR	449618.44	3770540.75	**376.23**	1.2400E-04	3.2136E-05	3.4127E-05	3.3212E-05	3.3447E-05	3.3245E-05	0.04665	0.01209	0.01284	0.01208	0.01258	0.01251	-	-	-	-	-	-
			MEIW	449818.44	3770540.75	**466.39**							0.05783	0.01499	0.01592	0.01498	0.01560	0.01551	-	-	-	-	-	-
			Day Care	NR	NR	-													-	-	-	-	-	-
			School	NR	NR	-													NR	NR	NR	NR	NR	NR
			Retirement Center	NR	NR	-													-	-	-	-	-	-
13	SB I-15 VIC	San Bernardino/ Victorville	MEIR	469450.06	3816328.75	**522.26**	2.4300E-04	8.9704E-05	8.9911E-05	9.1220E-05	9.0542E-05	9.0466E-05	0.12691	0.04685	0.04696	0.04764	0.04729	0.04725	-	-	-	-	-	-
			MEIW	469604.55	3816979.27	**276.14**							0.06710	0.02477	0.02483	0.02519	0.02500	0.02498	-	-	-	-	-	-
			Day Care	469150.06	3817028.75	**48.69**							0.01183	0.00437	0.00438	0.00444	0.00441	0.00440	-	-	-	-	-	-
			School	469550.06	3816328.75	**259.17**							0.06298	0.02325	0.02330	0.02364	0.02347	0.02345	4.885E-06	1.803E-06	1.808E-06	1.834E-06	1.820E-06	1.819E-06
			Retirement Center	469552.37	3816874.91	**335.59**							0.08155	0.03010	0.03017	0.03061	0.03038	0.03036	-	-	-	-	-	-
14	SB SR-60	San Bernardino/ Ontario	MEIR	447137.00	3765488.00	**747.93**	1.1100E-04	2.9503E-05	2.8545E-05	2.9040E-05	2.8516E-05	2.8592E-05	0.08302	0.02207	0.02135	0.02172	0.02133	0.02138	-	-	-	-	-	-
			MEIW	447737.00	3765288.00	**597.15**							0.06628	0.01762	0.01705	0.01734	0.01703	0.01707	-	-	-	-	-	-
			Day Care	447537.00	3764988.00	**156.63**							0.01739	0.00462	0.00447	0.00455	0.00447	0.00448	-	-	-	-	-	-
			School	447537.00	3764988.00	**156.63**							0.01739	0.00462	0.00447	0.00455	0.00447	0.00448	1.349E-06	3.585E-07	3.468E-07	3.528E-07	3.465E-07	3.474E-07
			Retirement Center	NR	NR	-													-	-	-	-	-	-
15	VEN US-101 SB	Ventura/ San Buenaventura	MEIR	295368.25	3793272.75	**185.10**	1.3200E-04	3.0764E-05	3.0053E-05	3.0247E-05	3.0170E-05	3.0160E-05	0.02443	0.00569	0.00556	0.00560	0.00558	0.00558	-	-	-	-	-	-
			MEIW	295468.25	3792872.75	**617.57**							0.08152	0.01900	0.01856	0.01868	0.01863	0.01863	-	-	-	-	-	-
			Day Care	296211.22	3793608.29	**18.46**							0.00244	0.00057	0.00055	0.00056	0.00056	0.00056	-	-	-	-	-	-
			School	297266.17	3793679.53	**8.11**							0.00107	0.00025	0.00024	0.00025	0.00024	0.00024	8.302E-08	1.935E-08	1.890E-08	1.902E-08	1.897E-08	1.897E-08
			Retirement Center	295668.25	3792672.75	**332.21**							0.04385	0.01022	0.00998	0.01005	0.01002	0.01002	-	-	-	-	-	-
16	VEN US-101 TO	Ventura/ Thousand Oaks	MEIR	329897.13	3782763.92	**695.99**	1.7000E-04	3.2505E-05	3.6470E-05	3.6319E-05	3.6492E-05	3.6310E-05	0.11832	0.02262	0.02538	0.02528	0.02540	0.02527	-	-	-	-	-	-
			MEIW	329244.62	3783279.69	**135.66**							0.02306	0.00441	0.00495	0.00493	0.00495	0.00493	-	-	-	-	-	-
			Day Care	330438.43	3783358.94	**34.31**							0.00583	0.00112	0.00125	0.00125	0.00125	0.00125	-	-	-	-	-	-
			School	330323.40	3783513.88	**29.75**							0.00506	0.00097	0.00109	0.00108	0.00109	0.00108	3.924E-07	7.503E-08	8.418E-08	8.383E-08	8.423E-08	8.381E-08
			Retirement Center	329856.00	3783234.81	**82.07**							0.01395	0.00097	0.00299	0.00298	0.00299	0.00298	-	-	-	-	-	-

							DPM EMISSION RATES						MAX CONCENTRATION						Retirement Home					
Segment No.	Transportation Segment	County/Region	Receptor Type	Location		Maximum Concentration (ug/m3)	Simulation 1 (2016 BY)	Simulation 2 (2045 BL)	Simulation 3 (2045 Local Input)	Simulation 4 (Plan, 2045)	Simulation 5 (2045 PEIR)	Simulation 6 (2045 Unconstrained)	Simulation 1 (2016 BY)	Simulation 2 (2045 BL)	Simulation 3 (2045 Local Input)	Simulation 4 (Plan, 2045)	Simulation 5 (2045 PEIR)	Simulation 6 (2045 Unconstrained)	Simulation 1 (2016 BY)	Simulation 2 (2045 BL)	Simulation 3 (2045 Local Input)	Simulation 4 (Plan, 2045)	Simulation 5 (2045 PEIR)	Simulation 6 (2045 Unconstrained)
1	IMP I-8	Imperial/El Centro	MEIR	635568.96	3627200.32	**1200.00**	2.3600E-05	1.3653E-05	1.4088E-05	1.4010E-05	1.3648E-05	1.3687E-05	0.02832	0.01638	0.01691	0.01681	0.01638	0.01642	-	-	-	-	-	-
			MEIW	635402.81	3627199.07	**1019.82**							0.02407	0.01392	0.01437	0.01429	0.01392	0.01396	-	-	-	-	-	-
			Day Care	636187.59	3627222.09	**1042.33**							0.02460	0.01423	0.01468	0.01460	0.01423	0.01427	-	-	-	-	-	-
			School	635097.32	3627472.29	**79.74**							0.00188	0.00109	0.00112	0.00112	0.00109	0.00109	-	-	-	-	-	-
			Retirement Center	NR	NR	-													NR	NR	NR	NR	NR	NR
2	IMP SR-78	Imperial/Westmoreland	MEIR	629054.74	3656301.01	**3843.00**	1.9400E-05	1.1148E-05	6.2701E-06	5.6900E-06	5.8947E-06	5.8709E-06	0.07455	0.04284	0.02410	0.02187	0.02265	0.02109	-	-	-	-	-	-
			MEIW	628683.60	3656303.89	**3086.66**							0.05988	0.03441	0.01935	0.01756	0.01819	0.01694	-	-	-	-	-	-
			Day Care	628731.34	3656427.60	**697.25**							0.01353	0.00777	0.00437	0.00397	0.00411	0.00383	-	-	-	-	-	-
			School	629046.29	3656145.58	**494.48**							0.00959	0.00551	0.00310	0.00281	0.00291	0.00271	-	-	-	-	-	-
			Retirement Center	NR	NR	-													NR	NR	NR	NR	NR	NR
3	LA I-110	Los Angeles/Carson	MEIR	380884.56	3742431.00	**770.28**	1.0400E-04	3.7233E-05	3.5908E-05	3.5152E-05	3.5562E-05	3.5442E-05	0.08011	0.02868	0.02766	0.02708	0.02739	0.02730	-	-	-	-	-	-
			MEIW	380884.56	3742431.00	**770.28**							0.08011	0.02868	0.02766	0.02708	0.02739	0.02730	-	-	-	-	-	-
			Day Care	381384.56	3743431.00	**62.47**							0.00650	0.00233	0.00224	0.00220	0.00222	0.00221	-	-	-	-	-	-
			School	381084.56	3743231.00	**253.69**							0.02638	0.00945	0.00911	0.00892	0.00902	0.00899	-	-	-	-	-	-
			Retirement Center	380584.56	3743431.00	**150.49**							0.01565	0.00560	0.00540	0.00529	0.00535	0.00533	2.140E-06	7.660E-07	7.388E-07	7.232E-07	7.317E-07	7.292E-07
4	LA I-710	Los Angeles/Compton	MEIR	390082.75	3751343.00	**324.27**	2.2700E-04	1.1121E-04	1.1055E-04	1.0995E-04	1.1142E-04	1.1067E-04	0.07361	0.03606	0.03585	0.03565	0.03613	0.03589	-	-	-	-	-	-
			MEIW	390382.75	3750843.00	**185.07**							0.04201	0.02058	0.01953	0.02035	0.02062	0.02048	-	-	-	-	-	-
			Day Care	389888.48	3751448.38	**123.58**							0.02805	0.01374	0.01304	0.01359	0.01377	0.01368	-	-	-	-	-	-
			School	390582.75	3751243.00	**117.45**							0.02666	0.01306	0.01239	0.01291	0.01309	0.01300	-	-	-	-	-	-
			Retirement Center	391182.75	3750493.00	**41.33**							0.00938	0.00460	0.00436	0.00454	0.00461	0.00457	1.283E-06	6.284E-07	5.961E-07	6.213E-07	6.296E-07	6.254E-07
5	LA SR-60 DB	Los Angeles/Diamond Bar	MEIR	425440.44	3765282.50	**815.25**	1.5100E-04	4.3987E-05	4.1162E-05	4.2065E-05	4.1360E-05	4.1596E-05	0.12310	0.03586	0.03356	0.03429	0.03372	0.03391	-	-	-	-	-	-
			MEIW	425240.44	3764682.50	**111.20**							0.01679	0.00489	0.00458	0.00468	0.00460	0.00463	-	-	-	-	-	-
			Day Care	425240.44	3764982.50	**330.46**							0.04990	0.01454	0.01360	0.01390	0.01367	0.01375	-	-	-	-	-	-
			School	426090.44	3465182.50	**101.19**							0.01528	0.00445	0.00445	0.00426	0.00419	0.00421	-	-	-	-	-	-
			Retirement Center	NR	NR	-													NR	NR	NR	NR	NR	NR
6	LA SR-60 SEM	Los Angeles/ South El Monte	MEIR	403299.59	3767032.25	**1252.16**	5.9400E-05	1.6991E-05	1.5122E-05	1.5063E-05	1.5586E-05	1.5577E-05	0.07438	0.02128	0.01894	0.01886	0.01952	0.01950	-	-	-	-	-	-
			MEIW	403099.59	3767132.25	**649.79**							0.03860	0.01104	0.00983	0.00979	0.01013	0.01012	-	-	-	-	-	-
			Day Care	404079.38	3767047.65	**228.22**							0.01356	0.00388	0.00345	0.00344	0.00356	0.00356	-	-	-	-	-	-
			School	403699.59	3766732.25	**354.35**							0.02105	0.00602	0.00536	0.00534	0.00552	0.00552	-	-	-	-	-	-
			Retirement Center	404236.48	3767117.92	**123.84**							0.00736	0.00210	0.00187	0.00187	0.00193	0.00193	1.006E-06	2.877E-07	2.560E-07	2.550E-07	2.639E-07	2.637E-07
7	ORA I-5	Orange/ Orange	MEIR	418869.47	3737828.25	**242.38**	1.1800E-04	2.5537E-05	2.6222E-05	2.6167E-05	2.6622E-05	2.6572E-05	0.02860	0.00619	0.00636	0.00634	0.00645	0.00644	-	-	-	-	-	-
			MEIW	419369.47	3737528.25	**176.23**							0.02080	0.00450	0.00462	0.00461	0.00469	0.00468	-	-	-	-	-	-
			Day Care	419719.47	3738828.25	**15.28**							0.00180	0.00039	0.00040	0.00040	0.00041	0.00041	-	-	-	-	-	-
			School	419969.47	3738578.25	**13.88**							0.00164	0.00035	0.00036	0.00036	0.00037	0.00037	-	-	-	-	-	-
			Retirement Center	419269.47	3738228.25	**58.20**							0.00687	0.00149	0.00153	0.00152	0.00155	0.00155	9.390E-06	2.032E-06	2.087E-06	2.082E-06	2.118E-06	2.114E-06
8	ORA I-405	Orange/ Seal Beach	MEIR	401657.75	3737731.50	**349.88**	1.4300E-04	4.0276E-05	3.9313E-05	3.8834E-05	3.9197E-05	3.9078E-05	0.05003	0.01409	0.01375	0.01359	0.01371	0.01367	-	-	-	-	-	-
			MEIW	401757.75	3737731.50	**345.94**							0.04947	0.01393	0.01360	0.01343	0.01356	0.01352	-	-	-	-	-	-
			Day Care	NR	NR	-													-	-	-	-	-	-
			School	NR	NR	-													-	-	-	-	-	-
			Retirement Center	NR	NR	-													NR	NR	NR	NR	NR	NR
9	RIV I-10	Riverside/ Banning	MEIR	509257.38	3753981.75	**150.51**	8.0200E-05	3.8137E-05	3.8279E-05	3.7036E-05	3.7035E-05	3.7036E-05	0.01207	0.00574	0.00576	0.00557	0.00557	0.00557	-	-	-	-	-	-
			MEIW	509157.38	3753881.75	**330.40**							0.02650	0.01260	0.01265	0.01224	0.01224	0.01224	-	-	-	-	-	-
			Day Care	510618.10	374115.08	**63.68**							0.00511	0.00243	0.00244	0.00236	0.00236	0.00236	-	-	-	-	-	-
			School	509457.38	3754181.75	**50.80**							0.00407	0.00194	0.00194	0.00188	0.00188	0.00188	-	-	-	-	-	-
			Retirement Center	510554.04	3754655.27	**17.77**							0.00143	0.00068	0.00068	0.00066	0.00066	0.00066	1.949E-07	9.267E-08	9.301E-08	8.999E-08	8.999E-08	8.999E-08
10	RIV SR-15	Riverside/ Temecula	MEIR	486542.59	3706163.25	**335.53**	5.7600E-05	3.3204E-05	3.2914E-05	3.2765E-05	3.2814E-05	3.2806E-05	0.01933	0.01114	0.01104	0.01099	0.01101	0.01101	-	-	-	-	-	-
			MEIW	486142.59	3706363.25	**408.28**							0.02352	0.01356	0.01344	0.01338	0.01340	0.01339	-	-	-	-	-	-
			Day Care	487117.02	3705357.22	**318.54**							0.01835	0.01058	0.01048	0.01044	0.01045	0.01045	-	-	-	-	-	-
			School	486819.26	3705387.37	**271.95**							0.01566	0.00903	0.00895	0.00891	0.00892	0.00892	-	-	-	-	-	-
			Retirement Center	NR	NR	-													NR	NR	NR	NR	NR	NR
11	RIV SR-91	Riverside/ Corona	MEIR	438747.91	3748665.25	**203.50**	1.2800E-04	4.7656E-05	4.8146E-05	4.7696E-05	4.7531E-05	4.7494E-05	0.02605	0.00970	0.00980	0.00971	0.00967	0.00967	-	-	-	-	-	-
			MEIW	438847.91	3748665.25	**303.43**							0.03884	0.01446	0.01461	0.01447	0.01442	0.01441	-	-	-	-	-	-
			Day Care	NR	NR	-													-	-	-	-	-	-
			School	NR	NR	-													-	-	-	-	-	-
			Retirement Center	NR	NR	-													NR	NR	NR	NR	NR	NR
12	SB I-15 ONT	San Bernardino/Ontario	MEIR	449618.44	3770540.75	**376.23**	1.2400E-04	3.2136E-05	3.4127E-05	3.3212E-05	3.3447E-05	3.3245E-05	0.04665	0.01209	0.01284	0.01208	0.01258	0.01251	-	-	-	-	-	-
			MEIW	449818.44	3770540.75	**466.39**							0.05783	0.01499	0.01592	0.01498	0.01560	0.01551	-	-	-	-	-	-
			Day Care	NR	NR	-													-	-	-	-	-	-
			School	NR	NR	-													-	-	-	-	-	-
			Retirement Center	NR	NR	-													NR	NR	NR	NR	NR	NR
13	SB I-15 VIC	San Bernardino/ Victorville	MEIR	469450.06	3816328.75	**522.26**	2.4300E-04	8.9704E-05	8.9911E-05	9.1220E-05	9.0542E-05	9.0466E-05	0.12691	0.04685	0.04696	0.04764	0.04729	0.04725	-	-	-	-	-	-
			MEIW	469604.55	3816979.27	**276.14**							0.06710	0.02477	0.02483	0.02519	0.02500	0.02498	-	-	-	-	-	-
			Day Care	469150.06	3817028.75	**48.69**							0.01183	0.00437	0.00438	0.00444	0.00441	0.00440	-	-	-	-	-	-
			School	469550.06	3816328.75	**259.17**							0.06298	0.02325	0.02330	0.02364	0.02347	0.02345	-	-	-	-	-	-
			Retirement Center	469552.37	3816874.91	**335.59**							0.08155	0.03010	0.03017	0.03061	0.03038	0.03036	1.115E-05	4.116E-06	4.125E-06	4.185E-06	4.154E-06	4.151E-06
14	SB SR-60	San Bernardino/ Ontario	MEIR	447137.00	3765488.00	**747.93**	1.1100E-04	2.9503E-05	2.8545E-05	2.9040E-05	2.8516E-05	2.8592E-05	0.08302	0.02207	0.02135	0.02172	0.02133	0.02138	-	-	-	-	-	-
			MEIW	447737.00	3765288.00	**597.15**							0.06628	0.01762	0.01705	0.01734	0.01703	0.01707	-	-	-	-	-	-
			Day Care	447537.00	3764988.00	**156.63**							0.01739	0.00462	0.00447	0.00455	0.00447	0.00448	-	-	-	-	-	-
			School	447537.00	3764988.00	**156.63**							0.01739	0.00462	0.00447	0.00455	0.00447	0.00448	-	-	-	-	-	-
			Retirement Center	NR	NR	-													NR	NR	NR	NR	NR	NR
15	VEN US-101 SB	Ventura/ San Buenaventura	MEIR	295368.25	3793272.75	**185.10**	1.3200E-04	3.0764E-05	3.0053E-05	3.0247E-05	3.0170E-05	3.0160E-05	0.02443	0.00569	0.00556	0.00560	0.00558	0.00558	-	-	-	-	-	-
			MEIW	295468.25	3792872.75	**617.57**							0.08152	0.01900	0.01856	0.01868	0.01863	0.01863	-	-	-	-	-	-
			Day Care	296211.22	3793608.29	**18.46**							0.00244	0.00057	0.00055	0.00056	0.00056	0.00056	-	-	-	-	-	-
			School	297266.17	3793679.53	**8.11**							0.00107	0.00025	0.00024	0.00025	0.00024	0.00024	-	-	-	-	-	-
			Retirement Center	295668.25	3792672.75	**332.21**							0.04385	0.01022	0.00998	0.01005	0.01002	0.01002	5.995E-06	1.397E-06	1.365E-06	1.373E-06	1.370E-06	1.370E-06
16	VEN US-101 TO	Ventura/ Thousand Oaks	MEIR	329897.13	3782763.92	**695.99**	1.7000E-04	3.2505E-05	3.6470E-05	3.6319E-05	3.6492E-05	3.6310E-05	0.11832	0.02262	0.02538	0.02528	0.02540	0.02527	-	-	-	-	-	-
			MEIW	329244.62	3783279.69	**135.66**							0.02306	0.00441	0.00495	0.00493	0.00495	0.00493	-	-	-	-	-	-
			Day Care	330438.43	3783358.94	**34.31**							0.00583	0.00112	0.00125	0.00125	0.00125	0.00125	-	-	-	-	-	-
			School	330323.40	3783513.88	**29.75**							0.00506	0.00097	0.00109	0.00108	0.00109	0.00108	-	-	-	-	-	-
			Retirement Center	329856.00	3783234.81	**82.07**							0.01395	0.00097	0.00299	0.00298	0.00299	0.00298	1.907E-06	1.322E-07	4.092E-07	4.075E-07	4.095E-07	4.074E-07

Attachment C

AERMOD Output Files

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**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.7.0
** Lakes Environmental Software Inc.
** Date: 10/28/2019
** File: C:\Lakes\AERMOD View\Segment 1, IMP i-8\Segment 1, IMP i-8.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\Segment 1, IMP i-8\Segment 1, IMP i-8.isc
   MODELOPT DFAULT CONC
   AVERTIME 1 ANNUAL
   POLLUTID PM_10
   RUNORNOT RUN
   ERRORFIL "Segment 1, IMP i-8.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
** ------------------------------------------------------------------------
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE1
** DESCRSRC
** PREFIX
** Length of Side = 47.00
** Configuration = Adjacent
** Emission Rate = 35.0
** Vertical Dimension = 2.00
** SZINIT = 0.93
** Nodes = 2
** 635209.920, 3627139.850, -10.06, 2.00, 21.86
** 636843.850, 3627147.920, -10.90, 2.00, 21.86
** ------------------------------------------------------------------------
   LOCATION L0000001     VOLUME   635233.420 3627139.966 -10.07
   LOCATION L0000002     VOLUME   635280.419 3627140.198 -10.10
```

```
   LOCATION L0000003     VOLUME   635327.419 3627140.430 -10.12
   LOCATION L0000004     VOLUME   635374.418 3627140.662 -10.14
   LOCATION L0000005     VOLUME   635421.417 3627140.895 -10.17
   LOCATION L0000006     VOLUME   635468.417 3627141.127 -10.19
   LOCATION L0000007     VOLUME   635515.416 3627141.359 -10.22
   LOCATION L0000008     VOLUME   635562.416 3627141.591 -10.24
   LOCATION L0000009     VOLUME   635609.415 3627141.823 -10.27
   LOCATION L0000010     VOLUME   635656.415 3627142.055 -10.29
   LOCATION L0000011     VOLUME   635703.414 3627142.287 -10.31
   LOCATION L0000012     VOLUME   635750.413 3627142.520 -10.34
   LOCATION L0000013     VOLUME   635797.413 3627142.752 -10.36
   LOCATION L0000014     VOLUME   635844.412 3627142.984 -10.39
   LOCATION L0000015     VOLUME   635891.412 3627143.216 -10.41
   LOCATION L0000016     VOLUME   635938.411 3627143.448 -10.43
   LOCATION L0000017     VOLUME   635985.411 3627143.680 -10.46
   LOCATION L0000018     VOLUME   636032.410 3627143.912 -10.48
   LOCATION L0000019     VOLUME   636079.409 3627144.144 -10.51
   LOCATION L0000020     VOLUME   636126.409 3627144.377 -10.53
   LOCATION L0000021     VOLUME   636173.408 3627144.609 -10.56
   LOCATION L0000022     VOLUME   636220.408 3627144.841 -10.58
   LOCATION L0000023     VOLUME   636267.407 3627145.073 -10.60
   LOCATION L0000024     VOLUME   636314.407 3627145.305 -10.63
   LOCATION L0000025     VOLUME   636361.406 3627145.537 -10.65
   LOCATION L0000026     VOLUME   636408.405 3627145.769 -10.68
   LOCATION L0000027     VOLUME   636455.405 3627146.001 -10.70
   LOCATION L0000028     VOLUME   636502.404 3627146.234 -10.72
   LOCATION L0000029     VOLUME   636549.404 3627146.466 -10.75
   LOCATION L0000030     VOLUME   636596.403 3627146.698 -10.77
   LOCATION L0000031     VOLUME   636643.403 3627146.930 -10.80
   LOCATION L0000032     VOLUME   636690.402 3627147.162 -10.82
   LOCATION L0000033     VOLUME   636737.401 3627147.394 -10.85
   LOCATION L0000034     VOLUME   636784.401 3627147.626 -10.87
   LOCATION L0000035     VOLUME   636831.400 3627147.859 -10.89
** End of LINE VOLUME Source ID = SLINE1
** Source Parameters **
** LINE VOLUME Source ID = SLINE1
   SRCPARAM L0000001          1.0      2.00     21.86      0.93
   SRCPARAM L0000002          1.0      2.00     21.86      0.93
   SRCPARAM L0000003          1.0      2.00     21.86      0.93
   SRCPARAM L0000004          1.0      2.00     21.86      0.93
   SRCPARAM L0000005          1.0      2.00     21.86      0.93
   SRCPARAM L0000006          1.0      2.00     21.86      0.93
   SRCPARAM L0000007          1.0      2.00     21.86      0.93
   SRCPARAM L0000008          1.0      2.00     21.86      0.93
   SRCPARAM L0000009          1.0      2.00     21.86      0.93
   SRCPARAM L0000010          1.0      2.00     21.86      0.93
   SRCPARAM L0000011          1.0      2.00     21.86      0.93
   SRCPARAM L0000012          1.0      2.00     21.86      0.93
   SRCPARAM L0000013          1.0      2.00     21.86      0.93
   SRCPARAM L0000014          1.0      2.00     21.86      0.93
```

```
   SRCPARAM L0000015          1.0      2.00     21.86      0.93
   SRCPARAM L0000016          1.0      2.00     21.86      0.93
   SRCPARAM L0000017          1.0      2.00     21.86      0.93
   SRCPARAM L0000018          1.0      2.00     21.86      0.93
   SRCPARAM L0000019          1.0      2.00     21.86      0.93
   SRCPARAM L0000020          1.0      2.00     21.86      0.93
   SRCPARAM L0000021          1.0      2.00     21.86      0.93
   SRCPARAM L0000022          1.0      2.00     21.86      0.93
   SRCPARAM L0000023          1.0      2.00     21.86      0.93
   SRCPARAM L0000024          1.0      2.00     21.86      0.93
   SRCPARAM L0000025          1.0      2.00     21.86      0.93
   SRCPARAM L0000026          1.0      2.00     21.86      0.93
   SRCPARAM L0000027          1.0      2.00     21.86      0.93
   SRCPARAM L0000028          1.0      2.00     21.86      0.93
   SRCPARAM L0000029          1.0      2.00     21.86      0.93
   SRCPARAM L0000030          1.0      2.00     21.86      0.93
   SRCPARAM L0000031          1.0      2.00     21.86      0.93
   SRCPARAM L0000032          1.0      2.00     21.86      0.93
   SRCPARAM L0000033          1.0      2.00     21.86      0.93
   SRCPARAM L0000034          1.0      2.00     21.86      0.93
   SRCPARAM L0000035          1.0      2.00     21.86      0.93
** ------------------------------------------------------------------
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED "Segment 1, IMP i-8.rou"
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE "C:\Users\kheck\Desktop\MET Data\Imperial County Airport\747185.SFC"
   PROFFILE "C:\Users\kheck\Desktop\MET Data\Imperial County Airport\747185.PFL"
   SURFDATA 3144 2009
   UAIRDATA 3190 2009
   PROFBASE -17.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
```

```
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST "Segment 1, IMP i-8.AD\01H1GALL.PLT" 31
   PLOTFILE ANNUAL ALL "Segment 1, IMP i-8.AD\AN00GALL.PLT" 32
   SUMMFILE "Segment 1, IMP i-8.sum"
OU FINISHED


  *** Message Summary For AERMOD Model Setup ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of            1 Warning Message(s)
 A Total of            0 Informational Message(s)


    ******** FATAL ERROR MESSAGES ********
               ***  NONE  ***


    ********   WARNING MESSAGES   ********
 ME W340     145       PRBASE: Possible Error in PROFBASE Input:  Value is < 0
  PROFBASE

 **********************************
 *** SETUP Finishes Successfully ***
 **********************************

↟ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 1, IMP
i-8\Segment 1, IMP i-8.isc       ***        10/28/19
 *** AERMET - VERSION  14134 ***   ***
                         ***        08:24:31

                                    PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                           ***     MODEL SETUP OPTIONS SUMMARY
  ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - -

 **Model Is Setup For Calculation of Average CONCentration Values.

   --  DEPOSITION LOGIC  --
 **NO GAS DEPOSITION Data Provided.
```

```
 **NO PARTICLE DEPOSITION Data Provided.
 **Model Uses NO DRY DEPLETION.  DRYDPLT  =  F
 **Model Uses NO WET DEPLETION.  WETDPLT  =  F

 **Model Uses RURAL Dispersion Only.

 **Model Uses Regulatory DEFAULT Options:
        1. Stack-tip Downwash.
        2. Model Accounts for ELEVated Terrain Effects.
        3. Use Calms Processing Routine.
        4. Use Missing Data Processing Routine.
        5. No Exponential Decay.

 **Other Options Specified:
        CCVR_Sub - Meteorological data includes CCVR substitutions
        TEMP_Sub - Meteorological data includes TEMP substitutions

 **Model Assumes No FLAGPOLE Receptor Heights.

 **The User Specified a Pollutant Type of:  PM_10

 **Model Calculates  1 Short Term Average(s) of:   1-HR
     and Calculates ANNUAL Averages

 **This Run Includes:     35 Source(s);       1 Source Group(s); and     153
Receptor(s)

                with:      0 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                 and:     35 VOLUME source(s)
                 and:      0 AREA type source(s)
                 and:      0 LINE source(s)
                 and:      0 OPENPIT source(s)
                 and:      0 BUOYANT LINE source(s) with      0 line(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  14134

 **Output Options Selected:
          Model Outputs Tables of ANNUAL Averages by Receptor
          Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE
Keyword)
          Model Outputs External File(s) of High Values for Plotting (PLOTFILE
Keyword)
          Model Outputs Separate Summary File of High Ranked Values (SUMMFILE
Keyword)

 **NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
```

m for Missing
Hours
b for Both Calm
and Missing Hours

**Misc. Inputs: Base Elev. for Pot. Temp. Profile (m MSL) = -17.00 ; Decay
Coef. = 0.000 ; Rot. Angle = 0.0
Emission Units = GRAMS/SEC ;
Emission Rate Unit Factor = 0.10000E+07
Output Units = MICROGRAMS/M**3

**Approximate Storage Requirements of Model = 3.5 MB of RAM.

**Input Runstream File: aermod.inp

**Output Print File: aermod.out

**Detailed Error/Message File: Segment 1, IMP i-8.err

**File for Summary of Results: Segment 1, IMP i-8.sum

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0000001	0	0.10000E+01	635233.4	3627140.0	-10.1	2.00	21.86	0.93	NO	
L0000002	0	0.10000E+01	635280.4	3627140.2	-10.1	2.00	21.86	0.93	NO	
L0000003	0	0.10000E+01	635327.4	3627140.4	-10.1	2.00	21.86	0.93	NO	
L0000004	0	0.10000E+01	635374.4	3627140.7	-10.1	2.00	21.86	0.93	NO	

```
 L0000005         0   0.10000E+01  635421.4 3627140.9   -10.2     2.00    21.86
0.93     NO
 L0000006         0   0.10000E+01  635468.4 3627141.1   -10.2     2.00    21.86
0.93     NO
 L0000007         0   0.10000E+01  635515.4 3627141.4   -10.2     2.00    21.86
0.93     NO
 L0000008         0   0.10000E+01  635562.4 3627141.6   -10.2     2.00    21.86
0.93     NO
 L0000009         0   0.10000E+01  635609.4 3627141.8   -10.3     2.00    21.86
0.93     NO
 L0000010         0   0.10000E+01  635656.4 3627142.1   -10.3     2.00    21.86
0.93     NO
 L0000011         0   0.10000E+01  635703.4 3627142.3   -10.3     2.00    21.86
0.93     NO
 L0000012         0   0.10000E+01  635750.4 3627142.5   -10.3     2.00    21.86
0.93     NO
 L0000013         0   0.10000E+01  635797.4 3627142.8   -10.4     2.00    21.86
0.93     NO
 L0000014         0   0.10000E+01  635844.4 3627143.0   -10.4     2.00    21.86
0.93     NO
 L0000015         0   0.10000E+01  635891.4 3627143.2   -10.4     2.00    21.86
0.93     NO
 L0000016         0   0.10000E+01  635938.4 3627143.4   -10.4     2.00    21.86
0.93     NO
 L0000017         0   0.10000E+01  635985.4 3627143.7   -10.5     2.00    21.86
0.93     NO
 L0000018         0   0.10000E+01  636032.4 3627143.9   -10.5     2.00    21.86
0.93     NO
 L0000019         0   0.10000E+01  636079.4 3627144.1   -10.5     2.00    21.86
0.93     NO
 L0000020         0   0.10000E+01  636126.4 3627144.4   -10.5     2.00    21.86
0.93     NO
 L0000021         0   0.10000E+01  636173.4 3627144.6   -10.6     2.00    21.86
0.93     NO
 L0000022         0   0.10000E+01  636220.4 3627144.8   -10.6     2.00    21.86
0.93     NO
 L0000023         0   0.10000E+01  636267.4 3627145.1   -10.6     2.00    21.86
0.93     NO
 L0000024         0   0.10000E+01  636314.4 3627145.3   -10.6     2.00    21.86
0.93     NO
 L0000025         0   0.10000E+01  636361.4 3627145.5   -10.7     2.00    21.86
0.93     NO
 L0000026         0   0.10000E+01  636408.4 3627145.8   -10.7     2.00    21.86
0.93     NO
 L0000027         0   0.10000E+01  636455.4 3627146.0   -10.7     2.00    21.86
0.93     NO
 L0000028         0   0.10000E+01  636502.4 3627146.2   -10.7     2.00    21.86
0.93     NO
 L0000029         0   0.10000E+01  636549.4 3627146.5   -10.8     2.00    21.86
0.93     NO
```

```
 L0000030         0   0.10000E+01  636596.4 3627146.7   -10.8     2.00    21.86
0.93     NO
 L0000031         0   0.10000E+01  636643.4 3627146.9   -10.8     2.00    21.86
0.93     NO
 L0000032         0   0.10000E+01  636690.4 3627147.2   -10.8     2.00    21.86
0.93     NO
 L0000033         0   0.10000E+01  636737.4 3627147.4   -10.9     2.00    21.86
0.93     NO
 L0000034         0   0.10000E+01  636784.4 3627147.6   -10.9     2.00    21.86
0.93     NO
 L0000035         0   0.10000E+01  636831.4 3627147.9   -10.9     2.00    21.86
0.93     NO
```



```
                                          *** SOURCE IDs DEFINING SOURCE GROUPS
***

 SRCGROUP ID                                          SOURCE IDs
 -----------                                          ----------


  ALL        L0000001    , L0000002    , L0000003    , L0000004    , L0000005    ,
L0000006    , L0000007    , L0000008    ,

             L0000009    , L0000010    , L0000011    , L0000012    , L0000013    ,
L0000014    , L0000015    , L0000016    ,

             L0000017    , L0000018    , L0000019    , L0000020    , L0000021    ,
L0000022    , L0000023    , L0000024    ,

             L0000025    , L0000026    , L0000027    , L0000028    , L0000029    ,
L0000030    , L0000031    , L0000032    ,

             L0000033    , L0000034    , L0000035    ,
```



```
                                            *** DISCRETE CARTESIAN RECEPTORS ***
```

(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(635566.0, 3626645.0, -9.8, -9.8, 0.0); (635566.0, 3626745.0, -9.8, -9.8, 0.0);
(635566.0, 3626845.0, -9.8, -9.8, 0.0); (635566.0, 3626945.0, -10.0, -10.0, 0.0);
(635566.0, 3627045.0, -10.3, -10.3, 0.0); (635566.0, 3627245.0, -10.4, -10.4, 0.0);
(635566.0, 3627345.0, -10.7, -10.7, 0.0); (635566.0, 3627445.0, -10.7, -10.7, 0.0);
(635566.0, 3627545.0, -11.0, -11.0, 0.0); (635566.0, 3627645.0, -11.0, -11.0, 0.0);
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(635666.0, 3626845.0, -9.8, -9.8, 0.0); (635666.0, 3626945.0, -10.0, -10.0, 0.0);
(635666.0, 3627045.0, -10.2, -10.2, 0.0); (635666.0, 3627245.0, -10.7, -10.7, 0.0);
(635666.0, 3627345.0, -10.7, -10.7, 0.0); (635666.0, 3627445.0, -11.0, -11.0, 0.0);
(635666.0, 3627545.0, -11.0, -11.0, 0.0); (635666.0, 3627645.0, -11.1, -11.1, 0.0);
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(635766.0, 3626845.0, -10.1, -10.1, 0.0); (635766.0, 3627245.0, -10.7, -10.7, 0.0);
(635766.0, 3627345.0, -10.7, -10.7, 0.0); (635766.0, 3627445.0, -11.0, -11.0, 0.0);
(635766.0, 3627545.0, -11.0, -11.0, 0.0); (635766.0, 3627645.0, -11.3, -11.3, 0.0);
(635866.0, 3626645.0, -9.7, -9.7, 0.0); (635866.0, 3626745.0, -10.1, -10.1, 0.0);
(635866.0, 3626845.0, -10.1, -10.1, 0.0); (635866.0, 3627345.0, -11.0, -11.0, 0.0);
(635866.0, 3627445.0, -11.0, -11.0, 0.0); (635866.0, 3627545.0, -11.2, -11.2, 0.0);
(635866.0, 3627645.0, -11.3, -11.3, 0.0); (635966.0, 3626645.0, -9.7, -9.7, 0.0);
(635966.0, 3626745.0, -10.1, -10.1, 0.0); (635966.0, 3626845.0, -10.1, -10.1, 0.0);
(635966.0, 3626945.0, -10.4, -10.4, 0.0); (635966.0, 3627045.0, -10.4, -10.4, 0.0);
(635966.0, 3627345.0, -11.0, -11.0, 0.0); (635966.0, 3627445.0, -11.0, -11.0, 0.0);
(635966.0, 3627545.0, -11.3, -11.3, 0.0); (635966.0, 3627645.0, -11.3, -11.3, 0.0);
(636066.0, 3626945.0, -10.4, -10.4, 0.0); (636066.0, 3627045.0, -10.6, -10.6, 0.0);
(636066.0, 3627345.0, -11.0, -11.0, 0.0); (636066.0,

```
3627445.0,     -11.1,     -11.1,       0.0);
     ( 636066.0, 3627545.0,     -11.3,     -11.3,       0.0);         ( 636066.0,
3627645.0,     -11.5,     -11.5,       0.0);
     ( 636166.0, 3626945.0,     -10.4,     -10.4,       0.0);         ( 636166.0,
3627245.0,     -11.0,     -11.0,       0.0);
     ( 636166.0, 3627345.0,     -11.0,     -11.0,       0.0);         ( 636166.0,
3627445.0,     -11.3,     -11.3,       0.0);
     ( 636166.0, 3627545.0,     -11.3,     -11.3,       0.0);         ( 636166.0,
3627645.0,     -11.3,     -11.3,       0.0);
     ( 636266.0, 3626945.0,     -10.1,     -10.1,       0.0);         ( 636266.0,
3627245.0,     -10.9,     -10.9,       0.0);
     ( 636266.0, 3627345.0,     -11.0,     -11.0,       0.0);         ( 636266.0,
3627445.0,     -11.3,     -11.3,       0.0);
     ( 636266.0, 3627545.0,     -11.3,     -11.3,       0.0);         ( 636266.0,
3627645.0,     -11.3,     -11.3,       0.0);
     ( 636366.0, 3626945.0,      -9.9,      -9.9,       0.0);         ( 636366.0,
3627245.0,     -10.7,     -10.7,       0.0);
     ( 636366.0, 3627345.0,     -11.2,     -11.2,       0.0);         ( 636366.0,
3627445.0,     -11.3,     -11.3,       0.0);
     ( 636366.0, 3627545.0,     -11.3,     -11.3,       0.0);         ( 636366.0,
3627645.0,     -11.6,     -11.6,       0.0);
     ( 636466.0, 3626645.0,      -9.8,      -9.8,       0.0);         ( 636466.0,
3626745.0,      -9.8,      -9.8,       0.0);
     ( 636466.0, 3626845.0,      -9.8,      -9.8,       0.0);         ( 636466.0,
3626945.0,      -9.8,      -9.8,       0.0);
     ( 636466.0, 3627245.0,     -10.9,     -10.9,       0.0);         ( 636466.0,
3627345.0,     -11.3,     -11.3,       0.0);
     ( 636466.0, 3627445.0,     -11.3,     -11.3,       0.0);         ( 636466.0,
3627545.0,     -11.6,     -11.6,       0.0);
     ( 636466.0, 3627645.0,     -11.6,     -11.6,       0.0);         ( 636566.0,
3626645.0,      -9.8,      -9.8,       0.0);
     ( 636566.0, 3626745.0,      -9.8,      -9.8,       0.0);         ( 636566.0,
3626845.0,      -9.8,      -9.8,       0.0);
     ( 636566.0, 3626945.0,      -9.9,      -9.9,       0.0);         ( 636566.0,
3627245.0,     -10.9,     -10.9,       0.0);
     ( 636566.0, 3627345.0,     -11.3,     -11.3,       0.0);         ( 636566.0,
3627445.0,     -11.3,     -11.3,       0.0);
     ( 636566.0, 3627545.0,     -11.6,     -11.6,       0.0);         ( 636566.0,
3627645.0,     -11.6,     -11.6,       0.0);
     ( 635566.0, 3627895.0,     -11.3,     -11.3,       0.0);         ( 635566.0,
3628145.0,     -11.9,     -11.9,       0.0);
     ( 635816.0, 3627895.0,     -11.6,     -11.6,       0.0);         ( 635816.0,
3628145.0,     -12.2,     -12.2,       0.0);
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 1, IMP
i-8\Segment 1, IMP i-8.isc       ***        10/28/19
 *** AERMET - VERSION  14134 ***   ***
                         ***        08:24:31

                                    PAGE   5
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL
```

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(636066.0, 3627895.0, -11.5, -11.5, 0.0); (636066.0, 3628145.0, -11.3, -11.3, 0.0);
(636316.0, 3627895.0, -11.6, -11.6, 0.0); (636316.0, 3628145.0, -12.4, -12.4, 0.0);
(636566.0, 3627895.0, -12.0, -12.0, 0.0); (636566.0, 3628145.0, -12.5, -12.5, 0.0);
(636816.0, 3627895.0, -12.2, -12.2, 0.0); (636816.0, 3628145.0, -12.5, -12.5, 0.0);
(637066.0, 3627895.0, -12.2, -12.2, 0.0); (637066.0, 3628145.0, -12.5, -12.5, 0.0);
(636816.0, 3627645.0, -11.9, -11.9, 0.0); (636816.0, 3627395.0, -11.3, -11.3, 0.0);
(636816.0, 3626895.0, -10.4, -10.4, 0.0); (636816.0, 3626645.0, -10.1, -10.1, 0.0);
(636816.0, 3626145.0, -8.2, -8.2, 0.0); (637066.0, 3627645.0, -11.9, -11.9, 0.0);
(637066.0, 3627395.0, -11.3, -11.3, 0.0); (637066.0, 3626895.0, -10.4, -10.4, 0.0);
(637066.0, 3626645.0, -10.1, -10.1, 0.0); (637066.0, 3626145.0, -8.8, -8.8, 0.0);
(636566.0, 3626145.0, -8.8, -8.8, 0.0); (636316.0, 3626145.0, -9.1, -9.1, 0.0);
(636066.0, 3626145.0, -8.8, -8.8, 0.0); (635816.0, 3626145.0, -8.8, -8.8, 0.0);
(635566.0, 3626395.0, -9.2, -9.2, 0.0); (635566.0, 3626145.0, -8.6, -8.6, 0.0);
(635316.0, 3626395.0, -9.1, -9.1, 0.0); (635316.0, 3626145.0, -8.5, -8.5, 0.0);
(635066.0, 3626395.0, -8.8, -8.8, 0.0); (635066.0, 3626145.0, -8.5, -8.5, 0.0);
(635316.0, 3626645.0, -9.5, -9.5, 0.0); (635316.0, 3626895.0, -9.8, -9.8, 0.0);
(635316.0, 3627145.0, -10.1, -10.1, 0.0); (635316.0, 3627395.0, -10.4, -10.4, 0.0);
(635316.0, 3627645.0, -10.7, -10.7, 0.0); (635316.0, 3627895.0, -11.1, -11.1, 0.0);
(635316.0, 3628145.0, -11.6, -11.6, 0.0); (635066.0, 3626645.0, -9.2, -9.2, 0.0);
(635066.0, 3626895.0, -9.8, -9.8, 0.0); (635066.0, 3627395.0, -10.3, -10.3, 0.0);
(635066.0, 3627645.0, -10.7, -10.7, 0.0); (635066.0, 3627895.0, -11.0, -11.0, 0.0);
(635066.0, 3628145.0, -11.5, -11.5, 0.0); (635569.0, 3627200.3, -10.4, -10.4, 0.0);
(635477.7, 3627201.0, -10.4, -10.4, 0.0); (635402.8,

3627199.1,   -10.4,   -10.4,   0.0);
     (635353.4, 3627198.8,   -10.4,   -10.4,   0.0);   (635285.1,
3627187.3,   -10.2,   -10.2,   0.0);
     (635221.6, 3627193.0,   -10.1,   -10.1,   0.0);   (635097.3,
3627472.3,   -10.4,   -10.4,   0.0);
     (636103.8, 3627230.1,   -10.8,   -10.8,   0.0);   (636132.1,
3627216.2,   -10.9,   -10.9,   0.0);
     (636170.4, 3627217.7,   -10.9,   -10.9,   0.0);   (636187.6,
3627222.1,   -10.9,   -10.9,   0.0);
     (636203.0, 3627221.9,   -10.9,   -10.9,   0.0);   (636238.0,
3627225.0,   -10.8,   -10.8,   0.0);
     (636270.2, 3627222.6,   -10.7,   -10.7,   0.0);   (636297.1,
3627224.4,   -10.7,   -10.7,   0.0);
     (636333.5, 3627223.3,   -10.7,   -10.7,   0.0);   (635203.4,
3627164.6,   -10.1,   -10.1,   0.0);
     (635206.6, 3627123.3,   -10.1,   -10.1,   0.0);   (636845.7,
3627126.5,   -10.9,   -10.9,   0.0);
     (636845.7, 3627177.3,   -11.0,   -11.0,   0.0);

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                     * SOURCE-RECEPTOR COMBINATIONS FOR WHICH CALCULATIONS MAY NOT
BE PERFORMED *
                       LESS THAN 1.0 METER; WITHIN OPENPIT; OR BEYOND 80KM FOR
FASTAREA/FASTALL

                            SOURCE   - - RECEPTOR LOCATION - -
DISTANCE
                              ID   XR (METERS)   YR (METERS)
(METERS)
                           -
- - -

                            L0000001   635203.4   3627164.6
-8.16
                            L0000001   635206.6   3627123.3
-15.37
                            L0000002   635316.0   3627145.0
-11.10
                            L0000002   635285.1   3627187.3
0.33
                            L0000003   635316.0   3627145.0
-34.70

```
                              L0000035            636845.7     3627126.5
-21.25
                              L0000035            636845.7     3627177.3
-14.26
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 1, IMP
i-8\Segment 1, IMP i-8.isc       ***        10/28/19
 *** AERMET - VERSION  14134 ***   ***
                         ***       08:24:31

                                   PAGE   7
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                          *** METEOROLOGICAL DAYS SELECTED FOR
PROCESSING ***
                                                                (1=YES; 0=NO)

            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1

                NOTE:  METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON
WHAT IS INCLUDED IN THE DATA FILE.



                                       *** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED
CATEGORIES ***
                                                             (METERS/SEC)

                                                    1.54,   3.09,   5.14,   8.23,
10.80,
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 1, IMP
i-8\Segment 1, IMP i-8.isc       ***        10/28/19
 *** AERMET - VERSION  14134 ***   ***
                         ***       08:24:31

                                   PAGE   8
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL
```

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: C:\Users\kheck\Desktop\MET Data\Imperial County Airport\747185.SFC Met Version: 14134
Profile file: C:\Users\kheck\Desktop\MET Data\Imperial County Airport\747185.PFL
Surface format: FREE

Profile format: FREE

Surface station no.: 3144 Upper air station no.: 3190
Name: UNKNOWN Name: UNKNOWN

Year: 2009 Year: 2009

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
09	01	01	1	01	-6.4	0.082	-9.000	-9.000	-999.	57.	7.9	0.14	0.79	1.00	1.76	261.	10.0	280.4	2.0
09	01	01	1	02	-6.4	0.082	-9.000	-9.000	-999.	57.	7.9	0.14	0.79	1.00	1.76	258.	10.0	279.2	2.0
09	01	01	1	03	-11.5	0.110	-9.000	-9.000	-999.	88.	10.6	0.14	0.79	1.00	2.36	254.	10.0	279.2	2.0
09	01	01	1	04	-11.5	0.110	-9.000	-9.000	-999.	88.	10.6	0.14	0.79	1.00	2.36	253.	10.0	278.8	2.0
09	01	01	1	05	-13.4	0.122	-9.000	-9.000	-999.	103.	12.4	0.21	0.79	1.00	2.36	223.	10.0	279.9	2.0
09	01	01	1	06	-11.5	0.110	-9.000	-9.000	-999.	88.	10.6	0.14	0.79	1.00	2.36	272.	10.0	278.1	2.0
09	01	01	1	07	-6.4	0.082	-9.000	-9.000	-999.	57.	7.9	0.14	0.79	1.00	1.76	245.	10.0	278.8	2.0
09	01	01	1	08	-5.4	0.091	-9.000	-9.000	-999.	66.	12.7	0.21	0.79	0.47	1.76	233.	10.0	281.4	2.0
09	01	01	1	09	33.6	-9.000	-9.000	-9.000	66.	-999.	-99999.0	0.20	0.79	0.29	0.00	0.	10.0	284.2	2.0
09	01	01	1	10	75.8	-9.000	-9.000	-9.000	132.	-999.	-99999.0	0.20	0.79	0.23	0.00	0.	10.0	287.5	2.0
09	01	01	1	11	104.7	0.272	0.844	0.009	209.	340.	-17.4	0.34	0.79	0.21	1.76	334.	10.0	291.4	2.0
09	01	01	1	12	117.5	-9.000	-9.000	-9.000	279.	-999.	-99999.0	0.20	0.79	0.20	0.00	0.	10.0	293.1	2.0
09	01	01	1	13	114.1	-9.000	-9.000	-9.000	379.	-999.	-99999.0	0.20	0.79	0.20	0.00	0.	10.0	294.2	2.0
09	01	01	1	14	94.9	-9.000	-9.000	-9.000	446.	-999.	-99999.0	0.20	0.79	0.21	0.00	0.	10.0	294.9	2.0

```
 09 01 01   1 15   60.4 -9.000 -9.000 -9.000  484. -999. -99999.0  0.20   0.79
0.25    0.00    0.   10.0  294.9    2.0
 09 01 01   1 16   13.9 -9.000 -9.000 -9.000  501. -999. -99999.0  0.20   0.79
0.35    0.00    0.   10.0  294.2    2.0
 09 01 01   1 17 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.20   0.79
0.66    0.00    0.   10.0  293.1    2.0
 09 01 01   1 18 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.20   0.79
1.00    0.00    0.   10.0  289.2    2.0
 09 01 01   1 19   -8.9  0.104 -9.000 -9.000 -999.   80.     11.4  0.34   0.79
1.00    1.76   14.   10.0  287.5    2.0
 09 01 01   1 20 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.20   0.79
1.00    0.00    0.   10.0  286.4    2.0
 09 01 01   1 21 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.20   0.79
1.00    0.00    0.   10.0  284.2    2.0
 09 01 01   1 22  -11.4  0.110 -9.000 -9.000 -999.   88.     10.7  0.14   0.79
1.00    2.36  292.   10.0  281.4    2.0
 09 01 01   1 23 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.20   0.79
1.00    0.00    0.   10.0  282.5    2.0
 09 01 01   1 24  -11.4  0.110 -9.000 -9.000 -999.   88.     10.7  0.14   0.79
1.00    2.36  250.   10.0  280.9    2.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 09 01 01 01   10.0 1  261.    1.76   280.4   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 1, IMP
i-8\Segment 1, IMP i-8.isc       ***        10/28/19
 *** AERMET - VERSION  14134 ***   ***
                        ***        08:24:31

                                   PAGE   9
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                    INCLUDING SOURCE(S):     L0000001    , L0000002
 , L0000003    , L0000004    , L0000005    ,
                   L0000006    , L0000007    , L0000008    , L0000009    , L0000010
 , L0000011    , L0000012    , L0000013    ,
                   L0000014    , L0000015    , L0000016    , L0000017    , L0000018
 , L0000019    , L0000020    , L0000021    ,
                   L0000022    , L0000023    , L0000024    , L0000025    , L0000026
 , L0000027    , L0000028    ,  . . .      ,

                                                *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                             ** CONC OF PM_10    IN MICROGRAMS/M**3
```

**

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
635566.00	3626645.00	36.94751	635566.00	3626745.00	50.96286
635566.00	3626845.00	76.49975	635566.00	3626945.00	135.38861
635566.00	3627045.00	363.33435	635566.00	3627245.00	638.51571
635566.00	3627345.00	268.28043	635566.00	3627445.00	159.09467
635566.00	3627545.00	110.57596	635566.00	3627645.00	83.48795
635666.00	3626645.00	40.25829	635666.00	3626745.00	55.64975
635666.00	3626845.00	84.03642	635666.00	3626945.00	153.02140
635666.00	3627045.00	395.88358	635666.00	3627245.00	692.75668
635666.00	3627345.00	305.35689	635666.00	3627445.00	177.45690
635666.00	3627545.00	121.21230	635666.00	3627645.00	89.58731
635766.00	3626645.00	43.18803	635766.00	3626745.00	59.81437
635766.00	3626845.00	91.71824	635766.00	3627245.00	734.47593
635766.00	3627345.00	337.60895	635766.00	3627445.00	195.93480
635766.00	3627545.00	131.69132	635766.00	3627645.00	95.79920
635866.00	3626645.00	45.77657	635866.00	3626745.00	63.79807
635866.00	3626845.00	99.55202	635866.00	3627345.00	362.77964
635866.00	3627445.00	213.52896	635866.00	3627545.00	141.52931
635866.00	3627645.00	101.88283	635966.00	3626645.00	48.09825
635966.00	3626745.00	67.91853	635966.00	3626845.00	106.90122
635966.00	3626945.00	192.00029	635966.00	3627045.00	446.88817
635966.00	3627345.00	383.75071	635966.00	3627445.00	229.32300
635966.00	3627545.00	150.92503	635966.00	3627645.00	107.58869

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         636066.00    3626945.00      200.09419                      636066.00
3627045.00      454.59162
         636066.00    3627345.00      400.11925                      636066.00
3627445.00      242.43154
         636066.00    3627545.00      159.59866                      636066.00
3627645.00      112.82779
         636166.00    3626945.00      206.25482                      636166.00
3627245.00      818.46494
         636166.00    3627345.00      412.53176                      636166.00
3627445.00      252.38644
         636166.00    3627545.00      167.15156                      636166.00
3627645.00      117.87271
         636266.00    3626945.00      210.65984                      636266.00
3627245.00      832.09752
         636266.00    3627345.00      421.22545                      636266.00
3627445.00      259.72365
         636266.00    3627545.00      173.23347                      636266.00
3627645.00      121.67668
         636366.00    3626945.00      213.39125                      636366.00
3627245.00      842.94959
         636366.00    3627345.00      424.68785                      636366.00
3627445.00      264.05111
         636366.00    3627545.00      177.11425                      636366.00
3627645.00      123.90354
         636466.00    3626645.00       59.84103                      636466.00
3626745.00       84.99296
         636466.00    3626845.00      128.15409                      636466.00
3626945.00      214.50862
         636466.00    3627245.00      844.42757                      636466.00
3627345.00      424.51444
         636466.00    3627445.00      264.89498                      636466.00
3627545.00      177.75217
         636466.00    3627645.00      124.71338                      636566.00
3626645.00       61.46936
         636566.00    3626745.00       86.65212                      636566.00
3626845.00      129.35360
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 1, IMP
i-8\Segment 1, IMP i-8.isc       ***        10/28/19
 *** AERMET - VERSION  14134 ***   ***
                       ***        08:24:31

                                  PAGE  10
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                   INCLUDING SOURCE(S):     L0000001    , L0000002
 , L0000003    , L0000004    , L0000005    ,
                   L0000006    , L0000007    , L0000008    , L0000009    , L0000010
 , L0000011    , L0000012    , L0000013    ,
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                 L0000014    , L0000015    , L0000016    , L0000017    , L0000018
 , L0000019    , L0000020    , L0000021    ,
                 L0000022    , L0000023    , L0000024    , L0000025    , L0000026
 , L0000027    , L0000028    ,  . . .      ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                       ** CONC OF PM_10    IN MICROGRAMS/M**3
                  **

      X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - -
         636566.00    3626945.00      214.07463                    636566.00
3627245.00      840.61438
         636566.00    3627345.00      418.56556                    636566.00
3627445.00      260.74918
         636566.00    3627545.00      175.63983                    636566.00
3627645.00      124.13235
         635566.00    3627895.00       49.08179                    635566.00
3628145.00       33.15794
         635816.00    3627895.00       54.05807                    635816.00
3628145.00       34.32404
         636066.00    3627895.00       58.40396                    636066.00
3628145.00       35.26212
         636316.00    3627895.00       60.38592                    636316.00
3628145.00       35.42946
         636566.00    3627895.00       61.24249                    636566.00
3628145.00       36.39926
         636816.00    3627895.00       63.22015                    636816.00
3628145.00       37.77680
         637066.00    3627895.00       65.36043                    637066.00
3628145.00       39.55632
         636816.00    3627645.00      122.12359                    636816.00
3627395.00      285.69127
         636816.00    3626895.00      155.90955                    636816.00
3626645.00       62.40654
         636816.00    3626145.00       19.79334                    637066.00
3627645.00      119.03198
         637066.00    3627395.00      240.71653                    637066.00
3626895.00      128.80523
         637066.00    3626645.00       58.78047                    637066.00
3626145.00       19.52382
         636566.00    3626145.00       19.72707                    636316.00
3626145.00       18.94550
         636066.00    3626145.00       17.48023                    635816.00
3626145.00       15.51319
         635566.00    3626395.00       20.21396                    635566.00
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```
3626145.00       13.16675
         635316.00    3626395.00       16.04148                       635316.00
3626145.00       10.85066
         635066.00    3626395.00       12.75415                       635066.00
3626145.00        9.06450
         635316.00    3626645.00       27.37247                       635316.00
3626895.00       66.39053
         635316.00    3627145.00      624.32429                       635316.00
3627395.00      139.16590
         635316.00    3627645.00       69.90879                       635316.00
3627895.00       44.54015
         635316.00    3628145.00       31.34914                       635066.00
3626645.00       19.82914
         635066.00    3626895.00       37.39659                       635066.00
3627395.00       86.94107
         635066.00    3627645.00       56.29402                       635066.00
3627895.00       39.30418
         635066.00    3628145.00       28.72747                       635568.96
3627200.32     1200.34854
         635477.70    3627201.01     1095.60486                       635402.81
3627199.07     1019.82082
         635353.44    3627198.80      915.16335                       635285.08
3627187.30      633.93175
         635221.55    3627193.03      482.48131                       635097.32
3627472.29       79.74471
         636103.75    3627230.12      943.69674                       636132.08
3627216.20     1113.10706
         636170.35    3627217.70     1098.35870                       636187.59
3627222.09     1042.32665
         636202.98    3627221.95     1046.36000                       636237.97
3627224.98     1019.41287
         636270.25    3627222.62     1055.02312                       636297.14
3627224.42     1036.09907
         636333.51    3627223.32     1053.96730                       635203.37
3627164.58      227.34336
         635206.55    3627123.28      194.00741                       636845.73
3627126.46     1003.99691
         636845.73    3627177.29     1162.58688

 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 1, IMP
i-8\Segment 1, IMP i-8.isc       ***        10/28/19
 *** AERMET - VERSION  14134 ***   ***
                        ***        08:24:31

                                   PAGE  11
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     L0000001    , L0000002
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 , L0000003    , L0000004    , L0000005    ,
                 L0000006    , L0000007    , L0000008    , L0000009    , L0000010
 , L0000011    , L0000012    , L0000013    ,
                 L0000014    , L0000015    , L0000016    , L0000017    , L0000018
 , L0000019    , L0000020    , L0000021    ,
                 L0000022    , L0000023    , L0000024    , L0000025    , L0000026
 , L0000027    , L0000028    ,  . . .      ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                       ** CONC OF PM_10    IN MICROGRAMS/M**3
                   **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
        635566.00   3626645.00     2723.32057  (09010521)               635566.00
 3626745.00     3222.69472  (09010521)
        635566.00   3626845.00     3934.21878  (13120807)               635566.00
 3626945.00     6038.52845  (13122119)
        635566.00   3627045.00    10487.03807  (09010519)               635566.00
 3627245.00    10444.60487  (09122201)
        635566.00   3627345.00     5875.95548  (11021719)               635566.00
 3627445.00     4171.02368  (13122120)
        635566.00   3627545.00     3252.41541  (13011006)               635566.00
 3627645.00     2673.11553  (12012105)
        635666.00   3626645.00     2660.38329  (12123122)               635666.00
 3626745.00     3218.37440  (09010521)
        635666.00   3626845.00     3909.02206  (09010521)               635666.00
 3626945.00     5952.95672  (13122119)
        635666.00   3627045.00    10428.98166  (09010519)               635666.00
 3627245.00    10228.43251  (10122903)
        635666.00   3627345.00     5718.79693  (12022819)               635666.00
 3627445.00     4097.74886  (13022218)
        635666.00   3627545.00     3209.32149  (11022721)               635666.00
 3627645.00     2620.72391  (10020502)
        635766.00   3626645.00     2467.13981  (12123122)               635766.00
 3626745.00     3190.06746  (09010521)
        635766.00   3626845.00     3912.36345  (09010521)               635766.00
 3627245.00    10138.06314  (10122903)
        635766.00   3627345.00     5648.86457  (12022819)               635766.00
 3627445.00     4034.45378  (12010907)
        635766.00   3627545.00     3152.36393  (12012105)               635766.00
 3627645.00     2496.40529  (13120219)
        635866.00   3626645.00     2012.64578  (12123122)               635866.00
 3626745.00     3115.80844  (12123122)
        635866.00   3626845.00     3907.23093  (09010521)               635866.00
 3627345.00     5520.17974  (11011718)
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       635866.00   3627445.00     3946.75487  (13011006)                635866.00
 3627545.00     3067.10081  (10020502)
       635866.00   3627645.00     2476.66045  (11022722)                635966.00
 3626645.00     1319.78669  (13120504)
       635966.00   3626745.00     2882.74526  (12123122)                635966.00
 3626845.00     3884.41764  (09010521)
       635966.00   3626945.00     5129.58467  (12032505)                635966.00
 3627045.00    10009.60558  (09010519)
       635966.00   3627345.00     5432.43299  (13122120)                635966.00
 3627445.00     3865.98166  (11022721)
       635966.00   3627545.00     2899.45026  (13120219)                635966.00
 3627645.00     2424.85981  (13021805)
       636066.00   3626945.00     5076.81795  (09010521)                636066.00
 3627045.00     9655.87592  (09010519)
       636066.00   3627345.00     5283.62735  (13022218)                636066.00
 3627445.00     3739.87872  (10020502)
       636066.00   3627545.00     2860.07869  (11022722)                636066.00
 3627645.00     2348.94418  (13012922)
       636166.00   3626945.00     5057.54367  (09010521)                636166.00
 3627245.00     9114.30111  (11021719)
       636166.00   3627345.00     5128.57881  (12010907)                636166.00
 3627445.00     3503.56017  (10020502)
       636166.00   3627545.00     2753.44122  (13021805)                636166.00
 3627645.00     2300.96950  (09122124)
       636266.00   3626945.00     4959.66723  (09010521)                636266.00
 3627245.00     8734.96976  (12022819)
       636266.00   3627345.00     4951.63939  (12012105)                636266.00
 3627445.00     3413.26609  (13021805)
       636266.00   3627545.00     2686.86764  (09122124)                636266.00
 3627645.00     2247.22711  (10121701)
       636366.00   3626945.00     4583.88731  (12123122)                636366.00
 3627245.00     8414.10439  (13122120)
       636366.00   3627345.00     4603.06926  (10020502)                636366.00
 3627445.00     3269.60511  (13012922)
       636366.00   3627545.00     2600.35251  (10121701)                636366.00
 3627645.00     2180.18750  (11010102)
       636466.00   3626645.00     2072.39358  (13010418)                636466.00
 3626745.00     2529.00010  (11122405)
       636466.00   3626845.00     3245.88717  (12122804)                636466.00
 3626945.00     4591.64114  (09010724)
       636466.00   3627245.00     8308.79890  (09122605)                636466.00
 3627345.00     4612.78040  (13120607)
       636466.00   3627445.00     3251.90317  (09120106)                636466.00
 3627545.00     2522.08921  (13022501)
       636466.00   3627645.00     2131.97717  (10011705)                636566.00
 3626645.00     2101.27412  (12122121)
       636566.00   3626745.00     2562.78351  (13123123)                636566.00
 3626845.00     3286.73842  (09122724)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 1, IMP
i-8\Segment 1, IMP i-8.isc       ***        10/28/19
```

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): L0000001 , L0000002 , L0000003 , L0000004 , L0000005 , L0000006 , L0000007 , L0000008 , L0000009 , L0000010 , L0000011 , L0000012 , L0000013 , L0000014 , L0000015 , L0000016 , L0000017 , L0000018 , L0000019 , L0000020 , L0000021 , L0000022 , L0000023 , L0000024 , L0000025 , L0000026 , L0000027 , L0000028 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
636566.00	3626945.00	4655.41486	(09010724)	636566.00	3627245.00	8464.03665	(11010304)
636566.00	3627345.00	4709.42450	(11010107)	636566.00	3627445.00	3305.68103	(13022202)
636566.00	3627545.00	2565.64551	(11122806)	636566.00	3627645.00	2109.59802	(11122801)
635566.00	3627895.00	1837.92571	(13021805)	635566.00	3628145.00	1423.71111	(09122124)
635816.00	3627895.00	1761.67574	(09122124)	635816.00	3628145.00	1393.56260	(10022403)
636066.00	3627895.00	1701.81605	(10022403)	636066.00	3628145.00	1357.06076	(10011705)
636316.00	3627895.00	1632.69572	(10011704)	636316.00	3628145.00	1312.96820	(09021605)
636566.00	3627895.00	1574.07426	(11010101)	636566.00	3628145.00	1289.83532	(09021021)
636816.00	3627895.00	1468.25762	(12011306)	636816.00	3628145.00	1003.73930	(13011306)
637066.00	3627895.00	1566.01280	(11120904)	637066.00	3628145.00	1024.68147	(11122703)
636816.00	3627645.00	2176.25268	(09010107)	636816.00	3627395.00	4011.28151	(11010107)
636816.00	3626895.00	3940.08964	(09010724)	636816.00			

3626645.00   2169.24128 (13123123)
       636816.00   3626145.00   788.03586 (10122720)   637066.00
3627645.00   2239.66249 (12122002)
       637066.00   3627395.00   4110.22234 (11020403)   637066.00
3626895.00   3994.12967 (11010303)
       637066.00   3626645.00   2219.02667 (13120903)   637066.00
3626145.00   805.43220 (11122007)
       636566.00   3626145.00   775.28150 (13021122)   636316.00
3626145.00   755.77805 (11123119)
       636066.00   3626145.00   741.16037 (13120921)   635816.00
3626145.00   752.16389 (12121720)
       635566.00   3626395.00   989.82176 (13120504)   635566.00
3626145.00   773.80202 (09010720)
       635316.00   3626395.00   1742.52228 (12123122)   635316.00
3626145.00   790.35437 (12120917)
       635066.00   3626395.00   2032.51217 (12123122)   635066.00
3626145.00   811.11994 (13120504)
       635316.00   3626645.00   2759.36300 (09010521)   635316.00
3626895.00   5175.66693 (13122119)
       635316.00   3627145.00   27715.00537 (09012307)   635316.00
3627395.00   5003.30436 (11021719)
       635316.00   3627645.00   2781.57746 (13011006)   635316.00
3627895.00   1885.64022 (13120219)
       635316.00   3628145.00   1465.68417 (13012922)   635066.00
3626645.00   2746.70576 (09010521)
       635066.00   3626895.00   5361.83835 (09010519)   635066.00
3627395.00   5125.97475 (11021719)
       635066.00   3627645.00   2841.96146 (12010907)   635066.00
3627895.00   1997.54170 (10020502)
       635066.00   3628145.00   1515.18766 (13021805)   635568.96
3627200.32   16535.55954 (10121824)
       635477.70   3627201.01   16457.62945 (10121824)   635402.81
3627199.07   16888.41613 (10121824)
       635353.44   3627198.80   16927.67891 (10121824)   635285.08
3627187.30   19906.70505 (14010119)
       635221.55   3627193.03   18333.97818 (14010119)   635097.32
3627472.29   4043.89861 (12022819)
       636103.75   3627230.12   10630.86270 (10122903)   636132.08
3627216.20   12281.39663 (10122903)
       636170.35   3627217.70   11887.00374 (10122903)   636187.59
3627222.09   11132.20441 (10122903)
       636202.98   3627221.95   11112.76339 (11021719)   636237.97
3627224.98   10763.24553 (11021719)
       636270.25   3627222.62   10920.60034 (11021719)   636297.14
3627224.42   10565.87633 (11021719)
       636333.51   3627223.32   10445.24543 (11021719)   635203.37
3627164.58   24886.87869 (14010119)
       635206.55   3627123.28   27480.46708 (11121921)   636845.73
3627126.46   21350.17793 (09012805)
       636845.73   3627177.29   19513.59178 (13011221)

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE SUMMARY OF MAXIMUM ANNUAL RESULTS AVERAGED OVER   5 YEARS ***

** CONC OF PM_10   IN MICROGRAMS/M**3 **

GROUP ID		AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	NETWORK GRID-ID
ALL	1ST HIGHEST VALUE IS	1200.34854 AT	(635568.96, 3627200.32, -10.36, -10.36, 0.00)	DC	
	2ND HIGHEST VALUE IS	1162.58688 AT	(636845.73, 3627177.29, -10.97, -10.97, 0.00)	DC	
	3RD HIGHEST VALUE IS	1113.10706 AT	(636132.08, 3627216.20, -10.88, -10.88, 0.00)	DC	
	4TH HIGHEST VALUE IS	1098.35870 AT	(636170.35, 3627217.70, -10.89, -10.89, 0.00)	DC	
	5TH HIGHEST VALUE IS	1095.60486 AT	(635477.70, 3627201.01, -10.36, -10.36, 0.00)	DC	
	6TH HIGHEST VALUE IS	1055.02312 AT	(636270.25, 3627222.62, -10.67, -10.67, 0.00)	DC	
	7TH HIGHEST VALUE IS	1053.96730 AT	(636333.51, 3627223.32, -10.65, -10.65, 0.00)	DC	
	8TH HIGHEST VALUE IS	1046.36000 AT	(636202.98, 3627221.95, -10.94, -10.94, 0.00)	DC	
	9TH HIGHEST VALUE IS	1042.32665 AT	(636187.59, 3627222.09, -10.94, -10.94, 0.00)	DC	
	10TH HIGHEST VALUE IS	1036.09907 AT	(636297.14, 3627224.42, -10.67, -10.67, 0.00)	DC	

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

*** THE SUMMARY OF HIGHEST 1-HR RESULTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

GROUP ID	AVERAGE	CONC OF TYPE	NETWORK GRID-ID	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)
ALL	HIGH 1ST HIGH VALUE IS	27715.00537	ON	09012307:	AT (635316.00, 3627145.00, -10.06, -10.06, 0.00) DC

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

*** Message Summary : AERMOD Model Execution ***

--------- Summary of Total Messages --------

A Total of 0 Fatal Error Message(s)
A Total of 2 Warning Message(s)
A Total of 10676 Informational Message(s)

A Total of 43872 Hours Were Processed

A Total of 8403 Calm Hours Identified

A Total of 2273 Missing Hours Identified (5.18 Percent)

```
   ******** FATAL ERROR MESSAGES ********
              ***  NONE  ***


   ********   WARNING MESSAGES   ********
ME W340     145       PRBASE: Possible Error in PROFBASE Input:  Value is < 0
 PROFBASE
MX W481   43873         MAIN: Data Remaining After End of Year. Number of Hours=
       48

   ***********************************
   *** AERMOD Finishes Successfully ***
   ***********************************
```

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**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.7.0
** Lakes Environmental Software Inc.
** Date: 10/28/2019
** File: C:\Lakes\AERMOD View\Segment 2, IMP SR-78\Segment 2, IMP SR-78.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\Segment 2, IMP SR-78\Segment 2, IMP SR-78.isc
   MODELOPT DFAULT CONC NODRYDPLT NOWETDPLT
   AVERTIME 1 ANNUAL
   URBANOPT 2269
   POLLUTID PM_10
   RUNORNOT RUN
   ERRORFIL "Segment 2, IMP SR-78.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
** ----------------------------------------------------------------------
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE1
** DESCRSRC
** PREFIX
** Length of Side = 26.00
** Configuration = Adjacent
** Emission Rate = 54.0
** Vertical Dimension = 2.00
** SZINIT = 0.93
** Nodes = 4
** 627912.760, 3656262.420, -51.49, 2.00, 12.09
** 629122.630, 3656276.740, -49.09, 2.00, 12.09
** 629221.860, 3656272.260, -48.81, 2.00, 12.09
** 629301.880, 3656245.860, -48.68, 2.00, 12.09
```

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** ------------------------------------------------------------------
   LOCATION L0000001     VOLUME   627925.759 3656262.574 -51.34
   LOCATION L0000002     VOLUME   627951.757 3656262.882 -51.20
   LOCATION L0000003     VOLUME   627977.755 3656263.189 -51.11
   LOCATION L0000004     VOLUME   628003.754 3656263.497 -50.90
   LOCATION L0000005     VOLUME   628029.752 3656263.805 -50.89
   LOCATION L0000006     VOLUME   628055.750 3656264.112 -50.64
   LOCATION L0000007     VOLUME   628081.748 3656264.420 -50.59
   LOCATION L0000008     VOLUME   628107.746 3656264.728 -50.41
   LOCATION L0000009     VOLUME   628133.745 3656265.036 -50.29
   LOCATION L0000010     VOLUME   628159.743 3656265.343 -50.29
   LOCATION L0000011     VOLUME   628185.741 3656265.651 -50.23
   LOCATION L0000012     VOLUME   628211.739 3656265.959 -49.99
   LOCATION L0000013     VOLUME   628237.737 3656266.266 -49.99
   LOCATION L0000014     VOLUME   628263.735 3656266.574 -49.99
   LOCATION L0000015     VOLUME   628289.734 3656266.882 -49.99
   LOCATION L0000016     VOLUME   628315.732 3656267.190 -49.99
   LOCATION L0000017     VOLUME   628341.730 3656267.497 -49.99
   LOCATION L0000018     VOLUME   628367.728 3656267.805 -49.99
   LOCATION L0000019     VOLUME   628393.726 3656268.113 -49.99
   LOCATION L0000020     VOLUME   628419.724 3656268.420 -49.99
   LOCATION L0000021     VOLUME   628445.723 3656268.728 -49.99
   LOCATION L0000022     VOLUME   628471.721 3656269.036 -49.99
   LOCATION L0000023     VOLUME   628497.719 3656269.344 -50.01
   LOCATION L0000024     VOLUME   628523.717 3656269.651 -50.03
   LOCATION L0000025     VOLUME   628549.715 3656269.959 -50.04
   LOCATION L0000026     VOLUME   628575.714 3656270.267 -50.04
   LOCATION L0000027     VOLUME   628601.712 3656270.574 -50.04
   LOCATION L0000028     VOLUME   628627.710 3656270.882 -49.99
   LOCATION L0000029     VOLUME   628653.708 3656271.190 -49.99
   LOCATION L0000030     VOLUME   628679.706 3656271.498 -49.99
   LOCATION L0000031     VOLUME   628705.704 3656271.805 -49.99
   LOCATION L0000032     VOLUME   628731.703 3656272.113 -49.99
   LOCATION L0000033     VOLUME   628757.701 3656272.421 -49.99
   LOCATION L0000034     VOLUME   628783.699 3656272.728 -49.96
   LOCATION L0000035     VOLUME   628809.697 3656273.036 -49.77
   LOCATION L0000036     VOLUME   628835.695 3656273.344 -49.69
   LOCATION L0000037     VOLUME   628861.694 3656273.652 -49.68
   LOCATION L0000038     VOLUME   628887.692 3656273.959 -49.68
   LOCATION L0000039     VOLUME   628913.690 3656274.267 -49.59
   LOCATION L0000040     VOLUME   628939.688 3656274.575 -49.44
   LOCATION L0000041     VOLUME   628965.686 3656274.882 -49.38
   LOCATION L0000042     VOLUME   628991.684 3656275.190 -49.38
   LOCATION L0000043     VOLUME   629017.683 3656275.498 -49.38
   LOCATION L0000044     VOLUME   629043.681 3656275.806 -49.38
   LOCATION L0000045     VOLUME   629069.679 3656276.113 -49.38
   LOCATION L0000046     VOLUME   629095.677 3656276.421 -49.28
   LOCATION L0000047     VOLUME   629121.675 3656276.729 -49.15
   LOCATION L0000048     VOLUME   629147.650 3656275.610 -49.07
   LOCATION L0000049     VOLUME   629173.623 3656274.438 -49.07
```

```
   LOCATION L0000050     VOLUME   629199.597 3656273.265 -49.07
   LOCATION L0000051     VOLUME   629225.387 3656271.096 -48.87
   LOCATION L0000052     VOLUME   629250.078 3656262.950 -48.77
   LOCATION L0000053     VOLUME   629274.769 3656254.804 -48.77
   LOCATION L0000054     VOLUME   629299.460 3656246.658 -48.67
** End of LINE VOLUME Source ID = SLINE1
** Source Parameters **
** LINE VOLUME Source ID = SLINE1
   SRCPARAM L0000001           1.0      2.00     12.09      0.93
   SRCPARAM L0000002           1.0      2.00     12.09      0.93
   SRCPARAM L0000003           1.0      2.00     12.09      0.93
   SRCPARAM L0000004           1.0      2.00     12.09      0.93
   SRCPARAM L0000005           1.0      2.00     12.09      0.93
   SRCPARAM L0000006           1.0      2.00     12.09      0.93
   SRCPARAM L0000007           1.0      2.00     12.09      0.93
   SRCPARAM L0000008           1.0      2.00     12.09      0.93
   SRCPARAM L0000009           1.0      2.00     12.09      0.93
   SRCPARAM L0000010           1.0      2.00     12.09      0.93
   SRCPARAM L0000011           1.0      2.00     12.09      0.93
   SRCPARAM L0000012           1.0      2.00     12.09      0.93
   SRCPARAM L0000013           1.0      2.00     12.09      0.93
   SRCPARAM L0000014           1.0      2.00     12.09      0.93
   SRCPARAM L0000015           1.0      2.00     12.09      0.93
   SRCPARAM L0000016           1.0      2.00     12.09      0.93
   SRCPARAM L0000017           1.0      2.00     12.09      0.93
   SRCPARAM L0000018           1.0      2.00     12.09      0.93
   SRCPARAM L0000019           1.0      2.00     12.09      0.93
   SRCPARAM L0000020           1.0      2.00     12.09      0.93
   SRCPARAM L0000021           1.0      2.00     12.09      0.93
   SRCPARAM L0000022           1.0      2.00     12.09      0.93
   SRCPARAM L0000023           1.0      2.00     12.09      0.93
   SRCPARAM L0000024           1.0      2.00     12.09      0.93
   SRCPARAM L0000025           1.0      2.00     12.09      0.93
   SRCPARAM L0000026           1.0      2.00     12.09      0.93
   SRCPARAM L0000027           1.0      2.00     12.09      0.93
   SRCPARAM L0000028           1.0      2.00     12.09      0.93
   SRCPARAM L0000029           1.0      2.00     12.09      0.93
   SRCPARAM L0000030           1.0      2.00     12.09      0.93
   SRCPARAM L0000031           1.0      2.00     12.09      0.93
   SRCPARAM L0000032           1.0      2.00     12.09      0.93
   SRCPARAM L0000033           1.0      2.00     12.09      0.93
   SRCPARAM L0000034           1.0      2.00     12.09      0.93
   SRCPARAM L0000035           1.0      2.00     12.09      0.93
   SRCPARAM L0000036           1.0      2.00     12.09      0.93
   SRCPARAM L0000037           1.0      2.00     12.09      0.93
   SRCPARAM L0000038           1.0      2.00     12.09      0.93
   SRCPARAM L0000039           1.0      2.00     12.09      0.93
   SRCPARAM L0000040           1.0      2.00     12.09      0.93
   SRCPARAM L0000041           1.0      2.00     12.09      0.93
   SRCPARAM L0000042           1.0      2.00     12.09      0.93
```

```
   SRCPARAM L0000043          1.0      2.00     12.09      0.93
   SRCPARAM L0000044          1.0      2.00     12.09      0.93
   SRCPARAM L0000045          1.0      2.00     12.09      0.93
   SRCPARAM L0000046          1.0      2.00     12.09      0.93
   SRCPARAM L0000047          1.0      2.00     12.09      0.93
   SRCPARAM L0000048          1.0      2.00     12.09      0.93
   SRCPARAM L0000049          1.0      2.00     12.09      0.93
   SRCPARAM L0000050          1.0      2.00     12.09      0.93
   SRCPARAM L0000051          1.0      2.00     12.09      0.93
   SRCPARAM L0000052          1.0      2.00     12.09      0.93
   SRCPARAM L0000053          1.0      2.00     12.09      0.93
   SRCPARAM L0000054          1.0      2.00     12.09      0.93
** ----------------------------------------------------------------------
   URBANSRC ALL
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED "Segment 2, IMP SR-78.rou"
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE "C:\Users\kheck\Desktop\MET Data\Imperial County Airport\747185.SFC"
   PROFFILE "C:\Users\kheck\Desktop\MET Data\Imperial County Airport\747185.PFL"
   SURFDATA 3144 2009
   UAIRDATA 3190 2009
   PROFBASE -17.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST "Segment 2, IMP SR-78.AD\01H1GALL.PLT" 31
   PLOTFILE ANNUAL ALL "Segment 2, IMP SR-78.AD\AN00GALL.PLT" 32
```

```
   SUMMFILE "Segment 2, IMP SR-78.sum"
OU FINISHED


  *** Message Summary For AERMOD Model Setup ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of            2 Warning Message(s)
 A Total of            0 Informational Message(s)


    ******** FATAL ERROR MESSAGES ********
               ***  NONE  ***


    ********   WARNING MESSAGES   ********
 CO W320      22       URBOPT: Input Parameter May Be Out-of-Range for Parameter
   URB-POP
 ME W340     187       PRBASE: Possible Error in PROFBASE Input:  Value is < 0
  PROFBASE

 ***********************************
 *** SETUP Finishes Successfully ***
 ***********************************

 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 2, IMP
SR-78\Segment 2, IMP SR-78.isc   ***        10/28/19
 *** AERMET - VERSION  14134 ***   ***
                       ***        16:27:13

                                  PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  NODRYDPLT  NOWETDPLT  URBAN

                                           ***     MODEL SETUP OPTIONS SUMMARY
  ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - -

 **Model Is Setup For Calculation of Average CONCentration Values.

   --  DEPOSITION LOGIC  --
 **NO GAS DEPOSITION Data Provided.
 **NO PARTICLE DEPOSITION Data Provided.
 **Model Uses NO DRY DEPLETION.  DRYDPLT  =  F
 **Model Uses NO WET DEPLETION.  WETDPLT  =  F

 **Model Uses URBAN Dispersion Algorithm for the SBL for    54 Source(s),
   for Total of    1 Urban Area(s):
```

```
   Urban Population =      2269.0 ;  Urban Roughness Length =  1.000 m

 **Model Uses Regulatory DEFAULT Options:
        1. Stack-tip Downwash.
        2. Model Accounts for ELEVated Terrain Effects.
        3. Use Calms Processing Routine.
        4. Use Missing Data Processing Routine.
        5. No Exponential Decay.
        6. Urban Roughness Length of 1.0 Meter Assumed.

 **Other Options Specified:
        CCVR_Sub - Meteorological data includes CCVR substitutions
        TEMP_Sub - Meteorological data includes TEMP substitutions

 **Model Assumes No FLAGPOLE Receptor Heights.

 **The User Specified a Pollutant Type of:  PM_10

 **Model Calculates  1 Short Term Average(s) of:   1-HR
     and Calculates ANNUAL Averages

 **This Run Includes:     54 Source(s);       1 Source Group(s); and     176
Receptor(s)

                with:      0 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                 and:     54 VOLUME source(s)
                 and:      0 AREA type source(s)
                 and:      0 LINE source(s)
                 and:      0 OPENPIT source(s)
                 and:      0 BUOYANT LINE source(s) with      0 line(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  14134

 **Output Options Selected:
          Model Outputs Tables of ANNUAL Averages by Receptor
          Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE
Keyword)
          Model Outputs External File(s) of High Values for Plotting (PLOTFILE
Keyword)
          Model Outputs Separate Summary File of High Ranked Values (SUMMFILE
Keyword)

 **NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                 m for Missing
Hours
                                                                 b for Both Calm
```

and Missing Hours

**Misc. Inputs: Base Elev. for Pot. Temp. Profile (m MSL) = -17.00 ; Decay Coef. = 0.000 ; Rot. Angle = 0.0
Emission Units = GRAMS/SEC ; Emission Rate Unit Factor = 0.10000E+07
Output Units = MICROGRAMS/M**3

**Approximate Storage Requirements of Model = 3.5 MB of RAM.

**Input Runstream File: aermod.inp

**Output Print File: aermod.out

**Detailed Error/Message File: Segment 2, IMP SR-78.err

**File for Summary of Results: Segment 2, IMP SR-78.sum

*** MODELOPTs: RegDFAULT CONC ELEV NODRYDPLT NOWETDPLT URBAN

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0000001	0	0.10000E+01	627925.8	3656262.6	-51.3	2.00	12.09	0.93	YES	
L0000002	0	0.10000E+01	627951.8	3656262.9	-51.2	2.00	12.09	0.93	YES	
L0000003	0	0.10000E+01	627977.8	3656263.2	-51.1	2.00	12.09	0.93	YES	
L0000004	0	0.10000E+01	628003.8	3656263.5	-50.9	2.00	12.09	0.93	YES	
L0000005	0	0.10000E+01	628029.8	3656263.8	-50.9	2.00	12.09	0.93	YES	
L0000006	0	0.10000E+01	628055.8	3656264.1	-50.6	2.00	12.09			

```
0.93     YES
 L0000007         0   0.10000E+01  628081.7 3656264.4   -50.6     2.00    12.09
0.93     YES
 L0000008         0   0.10000E+01  628107.7 3656264.7   -50.4     2.00    12.09
0.93     YES
 L0000009         0   0.10000E+01  628133.7 3656265.0   -50.3     2.00    12.09
0.93     YES
 L0000010         0   0.10000E+01  628159.7 3656265.3   -50.3     2.00    12.09
0.93     YES
 L0000011         0   0.10000E+01  628185.7 3656265.7   -50.2     2.00    12.09
0.93     YES
 L0000012         0   0.10000E+01  628211.7 3656266.0   -50.0     2.00    12.09
0.93     YES
 L0000013         0   0.10000E+01  628237.7 3656266.3   -50.0     2.00    12.09
0.93     YES
 L0000014         0   0.10000E+01  628263.7 3656266.6   -50.0     2.00    12.09
0.93     YES
 L0000015         0   0.10000E+01  628289.7 3656266.9   -50.0     2.00    12.09
0.93     YES
 L0000016         0   0.10000E+01  628315.7 3656267.2   -50.0     2.00    12.09
0.93     YES
 L0000017         0   0.10000E+01  628341.7 3656267.5   -50.0     2.00    12.09
0.93     YES
 L0000018         0   0.10000E+01  628367.7 3656267.8   -50.0     2.00    12.09
0.93     YES
 L0000019         0   0.10000E+01  628393.7 3656268.1   -50.0     2.00    12.09
0.93     YES
 L0000020         0   0.10000E+01  628419.7 3656268.4   -50.0     2.00    12.09
0.93     YES
 L0000021         0   0.10000E+01  628445.7 3656268.7   -50.0     2.00    12.09
0.93     YES
 L0000022         0   0.10000E+01  628471.7 3656269.0   -50.0     2.00    12.09
0.93     YES
 L0000023         0   0.10000E+01  628497.7 3656269.3   -50.0     2.00    12.09
0.93     YES
 L0000024         0   0.10000E+01  628523.7 3656269.7   -50.0     2.00    12.09
0.93     YES
 L0000025         0   0.10000E+01  628549.7 3656270.0   -50.0     2.00    12.09
0.93     YES
 L0000026         0   0.10000E+01  628575.7 3656270.3   -50.0     2.00    12.09
0.93     YES
 L0000027         0   0.10000E+01  628601.7 3656270.6   -50.0     2.00    12.09
0.93     YES
 L0000028         0   0.10000E+01  628627.7 3656270.9   -50.0     2.00    12.09
0.93     YES
 L0000029         0   0.10000E+01  628653.7 3656271.2   -50.0     2.00    12.09
0.93     YES
 L0000030         0   0.10000E+01  628679.7 3656271.5   -50.0     2.00    12.09
0.93     YES
 L0000031         0   0.10000E+01  628705.7 3656271.8   -50.0     2.00    12.09
```

0.93   YES
 L0000032   0   0.10000E+01 628731.7 3656272.1   -50.0   2.00   12.09
0.93   YES
 L0000033   0   0.10000E+01 628757.7 3656272.4   -50.0   2.00   12.09
0.93   YES
 L0000034   0   0.10000E+01 628783.7 3656272.7   -50.0   2.00   12.09
0.93   YES
 L0000035   0   0.10000E+01 628809.7 3656273.0   -49.8   2.00   12.09
0.93   YES
 L0000036   0   0.10000E+01 628835.7 3656273.3   -49.7   2.00   12.09
0.93   YES
 L0000037   0   0.10000E+01 628861.7 3656273.7   -49.7   2.00   12.09
0.93   YES
 L0000038   0   0.10000E+01 628887.7 3656274.0   -49.7   2.00   12.09
0.93   YES
 L0000039   0   0.10000E+01 628913.7 3656274.3   -49.6   2.00   12.09
0.93   YES
 L0000040   0   0.10000E+01 628939.7 3656274.6   -49.4   2.00   12.09
0.93   YES

 *** MODELOPTs: RegDFAULT CONC ELEV NODRYDPLT NOWETDPLT URBAN

                                                *** VOLUME SOURCE DATA ***

               NUMBER EMISSION RATE   BASE   RELEASE   INIT.
INIT.   URBAN EMISSION RATE
   SOURCE   PART. (GRAMS/SEC)   X   Y   ELEV.   HEIGHT   SY
SZ   SOURCE SCALAR VARY
     ID   CATS.   (METERS) (METERS) (METERS) (METERS) (METERS)
(METERS)   BY
 -
- -

 L0000041   0   0.10000E+01 628965.7 3656274.9   -49.4   2.00   12.09
0.93   YES
 L0000042   0   0.10000E+01 628991.7 3656275.2   -49.4   2.00   12.09
0.93   YES
 L0000043   0   0.10000E+01 629017.7 3656275.5   -49.4   2.00   12.09
0.93   YES
 L0000044   0   0.10000E+01 629043.7 3656275.8   -49.4   2.00   12.09
0.93   YES
 L0000045   0   0.10000E+01 629069.7 3656276.1   -49.4   2.00   12.09
0.93   YES
 L0000046   0   0.10000E+01 629095.7 3656276.4   -49.3   2.00   12.09

*** MODELOPTs: RegDFAULT CONC ELEV NODRYDPLT NOWETDPLT URBAN

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs
ALL	L0000001 , L0000002 , L0000003 , L0000004 , L0000005 , L0000006 , L0000007 , L0000008 ,
	L0000009 , L0000010 , L0000011 , L0000012 , L0000013 , L0000014 , L0000015 , L0000016 ,
	L0000017 , L0000018 , L0000019 , L0000020 , L0000021 , L0000022 , L0000023 , L0000024 ,
	L0000025 , L0000026 , L0000027 , L0000028 , L0000029 , L0000030 , L0000031 , L0000032 ,
	L0000033 , L0000034 , L0000035 , L0000036 , L0000037 , L0000038 , L0000039 , L0000040 ,
	L0000041 , L0000042 , L0000043 , L0000044 , L0000045 , L0000046 , L0000047 , L0000048 ,

                                        *** SOURCE IDs DEFINED AS URBAN SOURCES
***

  URBAN ID   URBAN POP   SOURCE IDs
  --------   ---------   ----------

                2269.   L0000001   , L0000002   , L0000003   , L0000004   ,
L0000005   , L0000006   , L0000007   ,
 L0000008   ,

             L0000009   , L0000010   , L0000011   , L0000012   , L0000013   ,
L0000014   , L0000015   , L0000016   ,

             L0000017   , L0000018   , L0000019   , L0000020   , L0000021   ,
L0000022   , L0000023   , L0000024   ,

             L0000025   , L0000026   , L0000027   , L0000028   , L0000029   ,
L0000030   , L0000031   , L0000032   ,

             L0000033   , L0000034   , L0000035   , L0000036   , L0000037   ,
L0000038   , L0000039   , L0000040   ,

             L0000041   , L0000042   , L0000043   , L0000044   , L0000045   ,
L0000046   , L0000047   , L0000048   ,

             L0000049   , L0000050   , L0000051   , L0000052   , L0000053   ,
L0000054   ,

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)

(METERS)

(628104.6, 3655755.8, -49.7, -49.7, 0.0); (628104.6, 3655855.8, -49.7, -49.7, 0.0);
(628104.6, 3655955.8, -49.9, -49.9, 0.0); (628104.6, 3656055.8, -50.0, -50.0, 0.0);
(628104.6, 3656155.8, -50.0, -50.0, 0.0); (628104.6, 3656255.8, -50.4, -50.4, 0.0);
(628104.6, 3656355.8, -50.8, -50.8, 0.0); (628104.6, 3656455.8, -51.1, -51.1, 0.0);
(628104.6, 3656555.8, -51.4, -51.4, 0.0); (628104.6, 3656655.8, -51.5, -51.5, 0.0);
(628104.6, 3656755.8, -51.5, -51.5, 0.0); (628204.6, 3655755.8, -49.4, -49.4, 0.0);
(628204.6, 3655855.8, -49.7, -49.7, 0.0); (628204.6, 3655955.8, -49.7, -49.7, 0.0);
(628204.6, 3656055.8, -50.0, -50.0, 0.0); (628204.6, 3656155.8, -50.0, -50.0, 0.0);
(628204.6, 3656255.8, -50.0, -50.0, 0.0); (628204.6, 3656355.8, -50.3, -50.3, 0.0);
(628204.6, 3656455.8, -50.6, -50.6, 0.0); (628204.6, 3656555.8, -50.8, -50.8, 0.0);
(628204.6, 3656655.8, -51.0, -51.0, 0.0); (628204.6, 3656755.8, -51.2, -51.2, 0.0);
(628304.6, 3655755.8, -49.1, -49.1, 0.0); (628304.6, 3655855.8, -49.4, -49.4, 0.0);
(628304.6, 3655955.8, -49.7, -49.7, 0.0); (628304.6, 3656055.8, -50.0, -50.0, 0.0);
(628304.6, 3656155.8, -50.0, -50.0, 0.0); (628304.6, 3656255.8, -50.0, -50.0, 0.0);
(628304.6, 3656355.8, -49.7, -49.7, 0.0); (628304.6, 3656455.8, -50.3, -50.3, 0.0);
(628304.6, 3656555.8, -50.6, -50.6, 0.0); (628304.6, 3656655.8, -50.6, -50.6, 0.0);
(628304.6, 3656755.8, -50.9, -50.9, 0.0); (628404.6, 3655755.8, -49.1, -49.1, 0.0);
(628404.6, 3655855.8, -49.4, -49.4, 0.0); (628404.6, 3655955.8, -49.7, -49.7, 0.0);
(628404.6, 3656055.8, -50.0, -50.0, 0.0); (628404.6, 3656155.8, -50.0, -50.0, 0.0);
(628404.6, 3656255.8, -50.0, -50.0, 0.0); (628404.6, 3656355.8, -50.0, -50.0, 0.0);
(628404.6, 3656455.8, -50.5, -50.5, 0.0); (628404.6, 3656555.8, -50.8, -50.8, 0.0);
(628404.6, 3656655.8, -50.9, -50.9, 0.0); (628404.6, 3656755.8, -51.1, -51.1, 0.0);
(628504.6, 3655755.8, -49.0, -49.0, 0.0); (628504.6, 3655855.8, -49.2, -49.2, 0.0);
(628504.6, 3655955.8, -49.4, -49.4, 0.0); (628504.6, 3656055.8, -49.7, -49.7, 0.0);

```
     ( 628504.6, 3656155.8,     -50.0,     -50.0,       0.0);         ( 628504.6,
3656255.8,     -50.0,     -50.0,       0.0);
     ( 628504.6, 3656355.8,     -50.3,     -50.3,       0.0);         ( 628504.6,
3656455.8,     -50.6,     -50.6,       0.0);
     ( 628504.6, 3656555.8,     -50.6,     -50.6,       0.0);         ( 628504.6,
3656655.8,     -50.9,     -50.9,       0.0);
     ( 628504.6, 3656755.8,     -51.0,     -51.0,       0.0);         ( 628604.6,
3655755.8,     -48.8,     -48.8,       0.0);
     ( 628604.6, 3655855.8,     -49.1,     -49.1,       0.0);         ( 628604.6,
3655955.8,     -49.4,     -49.4,       0.0);
     ( 628604.6, 3656055.8,     -49.6,     -49.6,       0.0);         ( 628604.6,
3656155.8,     -49.8,     -49.8,       0.0);
     ( 628604.6, 3656255.8,     -50.0,     -50.0,       0.0);         ( 628604.6,
3656355.8,     -50.3,     -50.3,       0.0);
     ( 628604.6, 3656455.8,     -50.3,     -50.3,       0.0);         ( 628604.6,
3656555.8,     -50.6,     -50.6,       0.0);
     ( 628604.6, 3656655.8,     -50.6,     -50.6,       0.0);         ( 628604.6,
3656755.8,     -50.9,     -50.9,       0.0);
     ( 628704.6, 3655755.8,     -48.8,     -48.8,       0.0);         ( 628704.6,
3655855.8,     -49.0,     -49.0,       0.0);
     ( 628704.6, 3655955.8,     -49.1,     -49.1,       0.0);         ( 628704.6,
3656055.8,     -49.4,     -49.4,       0.0);
     ( 628704.6, 3656155.8,     -49.7,     -49.7,       0.0);         ( 628704.6,
3656255.8,     -50.0,     -50.0,       0.0);
     ( 628704.6, 3656355.8,     -50.0,     -50.0,       0.0);         ( 628704.6,
3656455.8,     -50.3,     -50.3,       0.0);
     ( 628704.6, 3656555.8,     -50.4,     -50.4,       0.0);         ( 628704.6,
3656655.8,     -50.6,     -50.6,       0.0);
     ( 628704.6, 3656755.8,     -50.8,     -50.8,       0.0);         ( 628804.6,
3655755.8,     -48.5,     -48.5,       0.0);
     ( 628804.6, 3655855.8,     -48.8,     -48.8,       0.0);         ( 628804.6,
3655955.8,     -49.1,     -49.1,       0.0);
     ( 628804.6, 3656055.8,     -49.4,     -49.4,       0.0);         ( 628804.6,
3656155.8,     -49.5,     -49.5,       0.0);
     ( 628804.6, 3656255.8,     -49.7,     -49.7,       0.0);         ( 628804.6,
3656355.8,     -50.0,     -50.0,       0.0);
     ( 628804.6, 3656455.8,     -50.0,     -50.0,       0.0);         ( 628804.6,
3656555.8,     -50.3,     -50.3,       0.0);
     ( 628804.6, 3656655.8,     -50.6,     -50.6,       0.0);         ( 628804.6,
3656755.8,     -50.6,     -50.6,       0.0);
     ( 628904.6, 3655755.8,     -48.5,     -48.5,       0.0);         ( 628904.6,
3655855.8,     -48.8,     -48.8,       0.0);
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 2, IMP
SR-78\Segment 2, IMP SR-78.isc   ***        10/28/19
 *** AERMET - VERSION  14134 ***   ***
                          ***       16:27:13

                                    PAGE   7
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  NODRYDPLT  NOWETDPLT  URBAN
```

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(628904.6, 3655955.8, -48.8, -48.8, 0.0); (628904.6, 3656055.8, -49.1, -49.1, 0.0);
(628904.6, 3656155.8, -49.4, -49.4, 0.0); (628904.6, 3656255.8, -49.6, -49.6, 0.0);
(628904.6, 3656355.8, -49.7, -49.7, 0.0); (628904.6, 3656455.8, -50.0, -50.0, 0.0);
(628904.6, 3656555.8, -50.2, -50.2, 0.0); (628904.6, 3656655.8, -50.3, -50.3, 0.0);
(628904.6, 3656755.8, -50.6, -50.6, 0.0); (629004.6, 3655755.8, -48.3, -48.3, 0.0);
(629004.6, 3655855.8, -48.5, -48.5, 0.0); (629004.6, 3655955.8, -48.8, -48.8, 0.0);
(629004.6, 3656055.8, -49.1, -49.1, 0.0); (629004.6, 3656255.8, -49.4, -49.4, 0.0);
(629004.6, 3656355.8, -49.7, -49.7, 0.0); (629004.6, 3656455.8, -49.8, -49.8, 0.0);
(629004.6, 3656555.8, -50.0, -50.0, 0.0); (629004.6, 3656655.8, -50.3, -50.3, 0.0);
(629004.6, 3656755.8, -50.3, -50.3, 0.0); (629104.6, 3655755.8, -48.2, -48.2, 0.0);
(629104.6, 3655855.8, -48.5, -48.5, 0.0); (629104.6, 3655955.8, -48.5, -48.5, 0.0);
(629104.6, 3656055.8, -48.8, -48.8, 0.0); (629104.6, 3656255.8, -49.1, -49.1, 0.0);
(629104.6, 3656355.8, -49.4, -49.4, 0.0); (629104.6, 3656455.8, -49.7, -49.7, 0.0);
(629104.6, 3656555.8, -50.0, -50.0, 0.0); (629104.6, 3656655.8, -50.0, -50.0, 0.0);
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(628104.6, 3657255.8, -52.1, -52.1, 0.0); (628354.6, 3657005.8, -51.3, -51.3, 0.0);
(628354.6, 3657255.8, -51.5, -51.5, 0.0); (628604.6, 3657005.8, -51.5, -51.5, 0.0);
(628604.6, 3657255.8, -51.5, -51.5, 0.0); (628854.6, 3657005.8, -50.9, -50.9, 0.0);
(628854.6, 3657255.8, -51.5, -51.5, 0.0); (629104.6, 3657005.8, -50.6, -50.6, 0.0);
(629104.6, 3657255.8, -51.2, -51.2, 0.0); (629354.6, 3657005.8, -50.3, -50.3, 0.0);
(629354.6, 3657255.8, -50.9, -50.9, 0.0); (629604.6, 3657005.8, -50.0, -50.0, 0.0);
(629604.6, 3657255.8, -50.6, -50.6, 0.0); (629354.6, 3656755.8, -49.8, -49.8, 0.0);
(629604.6, 3656755.8, -49.4, -49.4, 0.0); (629104.6, 3655505.8, -47.5, -47.5, 0.0);

```
     ( 629104.6, 3655255.8,     -47.1,     -47.1,       0.0);         ( 628854.6,
3655505.8,     -48.1,     -48.1,       0.0);
     ( 628854.6, 3655255.8,     -47.6,     -47.6,       0.0);         ( 628604.6,
3655505.8,     -48.5,     -48.5,       0.0);
     ( 628604.6, 3655255.8,     -48.2,     -48.2,       0.0);         ( 628354.6,
3655505.8,     -48.5,     -48.5,       0.0);
     ( 628354.6, 3655255.8,     -48.5,     -48.5,       0.0);         ( 628104.6,
3655505.8,     -49.1,     -49.1,       0.0);
     ( 628104.6, 3655255.8,     -48.6,     -48.6,       0.0);         ( 627854.6,
3655505.8,     -49.3,     -49.3,       0.0);
     ( 627854.6, 3655255.8,     -48.5,     -48.5,       0.0);         ( 627604.6,
3655505.8,     -50.0,     -50.0,       0.0);
     ( 627604.6, 3655255.8,     -49.1,     -49.1,       0.0);         ( 627854.6,
3655755.8,     -50.0,     -50.0,       0.0);
     ( 627854.6, 3656005.8,     -50.6,     -50.6,       0.0);         ( 627854.6,
3656755.8,     -51.6,     -51.6,       0.0);
     ( 627854.6, 3657005.8,     -52.1,     -52.1,       0.0);         ( 627854.6,
3657255.8,     -52.4,     -52.4,       0.0);
     ( 627604.6, 3655755.8,     -50.6,     -50.6,       0.0);         ( 627604.6,
3656005.8,     -51.2,     -51.2,       0.0);
     ( 627604.6, 3656755.8,     -51.8,     -51.8,       0.0);         ( 627604.6,
3657005.8,     -52.3,     -52.3,       0.0);
     ( 627604.6, 3657255.8,     -52.7,     -52.7,       0.0);         ( 635058.2,
3627462.8,     -10.4,     -10.4,       0.0);
     ( 629046.3, 3656145.6,     -49.1,     -49.1,       0.0);         ( 628653.4,
3656224.3,     -50.0,     -50.0,       0.0);
     ( 628869.8, 3656243.2,     -49.7,     -49.7,       0.0);         ( 628867.9,
3656220.5,     -49.5,     -49.5,       0.0);
     ( 628916.3, 3656235.8,     -49.4,     -49.4,       0.0);         ( 628950.8,
3656245.0,     -49.4,     -49.4,       0.0);
     ( 628553.5, 3656243.1,     -50.0,     -50.0,       0.0);         ( 628683.6,
3656303.9,     -50.0,     -50.0,       0.0);
     ( 628904.8, 3656298.1,     -49.7,     -49.7,       0.0);         ( 628962.0,
3656326.3,     -49.7,     -49.7,       0.0);
     ( 629007.2, 3656300.3,     -49.4,     -49.4,       0.0);         ( 629054.7,
3656301.0,     -49.4,     -49.4,       0.0);
     ( 629071.0, 3656311.8,     -49.4,     -49.4,       0.0);         ( 629141.2,
3656208.1,     -49.1,     -49.1,       0.0);
     ( 629136.9, 3656171.5,     -49.0,     -49.0,       0.0);         ( 628732.3,
3656427.2,     -50.3,     -50.3,       0.0);
```


                    * SOURCE-RECEPTOR COMBINATIONS FOR WHICH CALCULATIONS MAY NOT
BE PERFORMED *

LESS THAN 1.0 METER; WITHIN OPENPIT; OR BEYOND 80KM FOR FASTAREA/FASTALL

SOURCE ID	- - RECEPTOR LOCATION - - XR (METERS)	YR (METERS)	DISTANCE (METERS)
L0000007	628104.6	3656255.8	-1.59
L0000008	628104.6	3656255.8	-16.47
L0000011	628204.6	3656255.8	-4.73
L0000012	628204.6	3656255.8	-13.51
L0000015	628304.6	3656255.8	-7.45
L0000016	628304.6	3656255.8	-10.00
L0000019	628404.6	3656255.8	-9.56
L0000020	628404.6	3656255.8	-6.23
L0000023	628504.6	3656255.8	-10.78
L0000024	628504.6	3656255.8	-2.32
L0000027	628604.6	3656255.8	-10.90
L0000031	628704.6	3656255.8	-9.90
L0000034	628804.6	3656255.8	0.90
L0000035	628804.6	3656255.8	-7.96
L0000038	628904.6	3656255.8	-1.17
L0000039	628904.6	3656255.8	-5.35
L0000039	628904.8	3656298.1	-0.60
L0000042	629004.6	3656255.8	-2.68
L0000043	629004.6	3656255.8	-2.28
L0000043	629007.2	3656300.3	

0.93
L0000046 629104.6 3656255.8
-3.49

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

```
          1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1
1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1
1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1
1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1
1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1
1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1
1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1
1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1  1 1 1 1 1
```

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: C:\Users\kheck\Desktop\MET Data\Imperial County Airport\747185.SFC Met Version: 14134
Profile file: C:\Users\kheck\Desktop\MET Data\Imperial County Airport\747185.PFL
Surface format: FREE

Profile format: FREE

Surface station no.: 3144 Upper air station no.: 3190
Name: UNKNOWN Name: UNKNOWN

Year: 2009 Year: 2009

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
09	01	01	1	01	-6.4	0.082	-9.000	-9.000	-999.	57.	7.9	0.14	0.79	1.00	1.76	261.	10.0	280.4	2.0
09	01	01	1	02	-6.4	0.082	-9.000	-9.000	-999.	57.	7.9	0.14	0.79	1.00	1.76	258.	10.0	279.2	2.0
09	01	01	1	03	-11.5	0.110	-9.000	-9.000	-999.	88.	10.6	0.14	0.79	1.00	2.36	254.	10.0	279.2	2.0
09	01	01	1	04	-11.5	0.110	-9.000	-9.000	-999.	88.	10.6	0.14	0.79	1.00	2.36	253.	10.0	278.8	2.0
09	01	01	1	05	-13.4	0.122	-9.000	-9.000	-999.	103.	12.4	0.21	0.79	1.00	2.36	223.	10.0	279.9	2.0
09	01	01	1	06	-11.5	0.110	-9.000	-9.000	-999.	88.	10.6	0.14	0.79	1.00	2.36	272.	10.0	278.1	2.0
09	01	01	1	07	-6.4	0.082	-9.000	-9.000	-999.	57.	7.9	0.14	0.79	1.00	1.76	245.	10.0	278.8	2.0
09	01	01	1	08	-5.4	0.091	-9.000	-9.000	-999.	66.	12.7	0.21	0.79	0.47	1.76	233.	10.0	281.4	2.0
09	01	01	1	09	33.6	-9.000	-9.000	-9.000	66.	-999.	-99999.0	0.20	0.79	0.29	0.00	0.	10.0	284.2	2.0
09	01	01	1	10	75.8	-9.000	-9.000	-9.000	132.	-999.	-99999.0	0.20	0.79	0.23	0.00	0.	10.0	287.5	2.0
09	01	01	1	11	104.7	0.272	0.844	0.009	209.	340.	-17.4	0.34	0.79	0.21	1.76	334.	10.0	291.4	2.0
09	01	01	1	12	117.5	-9.000	-9.000	-9.000	279.	-999.	-99999.0	0.20	0.79	0.20	0.00	0.	10.0	293.1	2.0
09	01	01	1	13	114.1	-9.000	-9.000	-9.000	379.	-999.	-99999.0	0.20	0.79	0.20	0.00	0.	10.0	294.2	2.0
09	01	01	1	14	94.9	-9.000	-9.000	-9.000	446.	-999.	-99999.0	0.20	0.79	0.21	0.00	0.	10.0	294.9	2.0
09	01	01	1	15	60.4	-9.000	-9.000	-9.000	484.	-999.	-99999.0	0.20	0.79						

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0.25    0.00    0.   10.0  294.9    2.0
 09 01 01   1 16   13.9 -9.000 -9.000 -9.000  501. -999. -99999.0  0.20   0.79
0.35    0.00    0.   10.0  294.2    2.0
 09 01 01   1 17 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.20   0.79
0.66    0.00    0.   10.0  293.1    2.0
 09 01 01   1 18 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.20   0.79
1.00    0.00    0.   10.0  289.2    2.0
 09 01 01   1 19   -8.9  0.104 -9.000 -9.000 -999.   80.     11.4  0.34   0.79
1.00    1.76   14.   10.0  287.5    2.0
 09 01 01   1 20 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.20   0.79
1.00    0.00    0.   10.0  286.4    2.0
 09 01 01   1 21 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.20   0.79
1.00    0.00    0.   10.0  284.2    2.0
 09 01 01   1 22  -11.4  0.110 -9.000 -9.000 -999.   88.     10.7  0.14   0.79
1.00    2.36  292.   10.0  281.4    2.0
 09 01 01   1 23 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.20   0.79
1.00    0.00    0.   10.0  282.5    2.0
 09 01 01   1 24  -11.4  0.110 -9.000 -9.000 -999.   88.     10.7  0.14   0.79
1.00    2.36  250.   10.0  280.9    2.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 09 01 01 01   10.0 1  261.    1.76   280.4   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 2, IMP
SR-78\Segment 2, IMP SR-78.isc   ***        10/28/19
 *** AERMET - VERSION  14134 ***   ***
                       ***        16:27:13

                                  PAGE  11
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  NODRYDPLT  NOWETDPLT  URBAN

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                   INCLUDING SOURCE(S):     L0000001    , L0000002
 , L0000003    , L0000004    , L0000005    ,
                   L0000006    , L0000007    , L0000008    , L0000009    , L0000010
 , L0000011    , L0000012    , L0000013    ,
                   L0000014    , L0000015    , L0000016    , L0000017    , L0000018
 , L0000019    , L0000020    , L0000021    ,
                   L0000022    , L0000023    , L0000024    , L0000025    , L0000026
 , L0000027    , L0000028    ,  . . .      ,

                                                *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                             ** CONC OF PM_10    IN MICROGRAMS/M**3
                     **
```

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
628104.56	3655755.75	44.73224	628104.56	3655855.75	60.38233
628104.56	3655955.75	88.34592	628104.56	3656055.75	148.33879
628104.56	3656155.75	348.30807	628104.56	3656255.75	1964.72540
628104.56	3656355.75	786.66280	628104.56	3656455.75	305.32593
628104.56	3656555.75	185.30119	628104.56	3656655.75	132.00739
628104.56	3656755.75	101.11377	628204.56	3655755.75	50.26180
628204.56	3655855.75	68.66045	628204.56	3655955.75	101.41719
628204.56	3656055.75	171.77345	628204.56	3656155.75	414.64346
628204.56	3656255.75	2137.16068	628204.56	3656355.75	952.70565
628204.56	3656455.75	364.10666	628204.56	3656555.75	211.12315
628204.56	3656655.75	145.40267	628204.56	3656755.75	108.62610
628304.56	3655755.75	55.26365	628304.56	3655855.75	75.79323
628304.56	3655955.75	112.20660	628304.56	3656055.75	193.01065
628304.56	3656155.75	462.48141	628304.56	3656255.75	2259.44081
628304.56	3656355.75	1065.89886	628304.56	3656455.75	421.26662
628304.56	3656555.75	237.48440	628304.56	3656655.75	159.34826
628304.56	3656755.75	116.38817	628404.56	3655755.75	59.60143
628404.56	3655855.75	81.80041	628404.56	3655955.75	121.70342
628404.56	3656055.75	212.73610	628404.56	3656155.75	495.34307
628404.56	3656255.75	2368.24754	628404.56	3656355.75	1145.29004
628404.56	3656455.75	471.28594	628404.56	3656555.75	263.07164
628404.56	3656655.75	172.88405	628404.56	3656755.75	124.05855
628504.56	3655755.75	63.28191	628504.56		

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3655855.75       86.91540
         628504.56    3655955.75      130.79441                       628504.56
3656055.75      229.48147
         628504.56    3656155.75      517.80375                       628504.56
3656255.75     2473.81898
         628504.56    3656355.75     1201.82743                       628504.56
3656455.75      512.68912
         628504.56    3656555.75      287.82381                       628504.56
3656655.75      185.77477
         628504.56    3656755.75      131.56007                       628604.56
3655755.75       66.37510
         628604.56    3655855.75       91.61660                       628604.56
3655955.75      139.38668
         628604.56    3656055.75      242.81146                       628604.56
3656155.75      532.85236
         628604.56    3656255.75     2911.34420                       628604.56
3656355.75     1248.73431
         628604.56    3656455.75      546.32472                       628604.56
3656555.75      309.62325
         628604.56    3656655.75      197.92595                       628604.56
3656755.75      138.32232
         628704.56    3655755.75       69.07100                       628704.56
3655855.75       96.13564
         628704.56    3655955.75      146.84097                       628704.56
3656055.75      252.85556
         628704.56    3656155.75      542.28267                       628704.56
3656255.75     2932.93496
         628704.56    3656355.75     1290.16089                       628704.56
3656455.75      571.49266
         628704.56    3656555.75      327.43470                       628704.56
3656655.75      208.60954
         628704.56    3656755.75      143.80313                       628804.56
3655755.75       71.48231
         628804.56    3655855.75      100.30889                       628804.56
3655955.75      152.88472
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 2, IMP
SR-78\Segment 2, IMP SR-78.isc   ***        10/28/19
 *** AERMET - VERSION  14134 ***   ***
                       ***        16:27:13

                                  PAGE  12
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  NODRYDPLT  NOWETDPLT  URBAN

                  *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                   INCLUDING SOURCE(S):     L0000001    , L0000002
 , L0000003    , L0000004    , L0000005    ,
                  L0000006    , L0000007    , L0000008    , L0000009    , L0000010
 , L0000011    , L0000012    , L0000013    ,
                  L0000014    , L0000015    , L0000016    , L0000017    , L0000018
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 , L0000019    , L0000020    , L0000021    ,
                L0000022    , L0000023    , L0000024    , L0000025    , L0000026
 , L0000027    , L0000028    ,  . . .      ,

                                                *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                          ** CONC OF PM_10    IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
         628804.56    3656055.75      259.98582                       628804.56
3656155.75      547.05365
         628804.56    3656255.75     2063.73477                       628804.56
3656355.75     1320.31368
         628804.56    3656455.75      589.81413                       628804.56
3656555.75      340.34189
         628804.56    3656655.75      216.74249                       628804.56
3656755.75      147.61996
         628904.56    3655755.75       73.66534                       628904.56
3655855.75      103.82193
         628904.56    3655955.75      157.27477                       628904.56
3656055.75      264.26051
         628904.56    3656155.75      547.58759                       628904.56
3656255.75     2067.08665
         628904.56    3656355.75     1345.94741                       628904.56
3656455.75      599.24675
         628904.56    3656555.75      347.47607                       628904.56
3656655.75      220.98805
         628904.56    3656755.75      149.41614                       629004.56
3655755.75       75.44729
         629004.56    3655855.75      106.30449                       629004.56
3655955.75      159.99190
         629004.56    3656055.75      265.75881                       629004.56
3656255.75     2077.09597
         629004.56    3656355.75     1360.67229                       629004.56
3656455.75      598.70399
         629004.56    3656555.75      346.16885                       629004.56
3656655.75      220.37529
         629004.56    3656755.75      149.39567                       629104.56
3655755.75       76.54573
         629104.56    3655855.75      107.56580                       629104.56
3655955.75      160.63476
         629104.56    3656055.75      264.24156                       629104.56
3656255.75     2408.21733
         629104.56    3656355.75     1351.06989                       629104.56
3656455.75      579.05207
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         629104.56    3656555.75      334.65715                      629104.56
3656655.75      216.26077
         629104.56    3656755.75      148.69792                      628104.56
3657005.75       60.33509
         628104.56    3657255.75       40.46136                      628354.56
3657005.75       65.90107
         628354.56    3657255.75       41.50443                      628604.56
3657005.75       69.49597
         628604.56    3657255.75       41.39646                      628854.56
3657005.75       70.57079
         628854.56    3657255.75       41.21110                      629104.56
3657005.75       71.41123
         629104.56    3657255.75       42.20481                      629354.56
3657005.75       73.85688
         629354.56    3657255.75       43.70862                      629604.56
3657005.75       76.01949
         629604.56    3657255.75       45.43425                      629354.56
3656755.75      147.76929
         629604.56    3656755.75      142.66351                      629104.56
3655505.75       40.37006
         629104.56    3655255.75       25.96914                      628854.56
3655505.75       39.41714
         628854.56    3655255.75       25.21069                      628604.56
3655505.75       36.42452
         628604.56    3655255.75       23.31119                      628354.56
3655505.75       31.65127
         628354.56    3655255.75       20.45087                      628104.56
3655505.75       25.63120
         628104.56    3655255.75       17.18996                      627854.56
3655505.75       20.11386
         627854.56    3655255.75       14.21643                      627604.56
3655505.75       15.84499
         627604.56    3655255.75       11.75825                      627854.56
3655755.75       31.76385
         627854.56    3656005.75       62.62672                      627854.56
3656755.75       82.69392
         627854.56    3657005.75       53.90361                      627854.56
3657255.75       38.20039
         627604.56    3655755.75       22.97493                      627604.56
3656005.75       37.65869
         627604.56    3656755.75       60.41561                      627604.56
3657005.75       45.79063
         627604.56    3657255.75       34.56889                      635058.17
3627462.76        0.12055
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 2, IMP
SR-78\Segment 2, IMP SR-78.isc   ***        10/28/19
 *** AERMET - VERSION  14134 ***   ***
                       ***       16:27:13

                                  PAGE  13
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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  NODRYDPLT  NOWETDPLT  URBAN

                  *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                 INCLUDING SOURCE(S):     L0000001    , L0000002
 , L0000003    , L0000004    , L0000005    ,
                L0000006    , L0000007    , L0000008    , L0000009    , L0000010
 , L0000011    , L0000012    , L0000013    ,
                L0000014    , L0000015    , L0000016    , L0000017    , L0000018
 , L0000019    , L0000020    , L0000021    ,
                L0000022    , L0000023    , L0000024    , L0000025    , L0000026
 , L0000027    , L0000028    ,  . . .      ,

                                           *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_10    IN MICROGRAMS/M**3
                   **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - -
         629046.29    3656145.58      494.47850                      628653.35
3656224.31     1384.96426
         628869.75    3656243.21     2171.66723                      628867.92
3656220.54     1245.10098
         628916.26    3656235.76     1716.53889                      628950.77
3656245.00     2237.32170
         628553.47    3656243.13     2413.59713                      628683.60
3656303.89     3086.66303
         628904.81    3656298.06     3339.83750                      628962.02
3656326.30     2044.11695
         629007.22    3656300.30     3278.41451                      629054.74
3656301.01     3843.03234
         629070.99    3656311.80     2839.41000                      629141.18
3656208.08      965.32480
         629136.85    3656171.46      618.88956                      628732.29
3656427.20      697.25318
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 2, IMP
SR-78\Segment 2, IMP SR-78.isc   ***        10/28/19
 *** AERMET - VERSION  14134 ***   ***
                       ***        16:27:13

                                  PAGE  14
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  NODRYDPLT  NOWETDPLT  URBAN

                              *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                 INCLUDING SOURCE(S):     L0000001    , L0000002
```

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 , L0000003    , L0000004    , L0000005    ,
                 L0000006    , L0000007    , L0000008    , L0000009    , L0000010
 , L0000011    , L0000012    , L0000013    ,
                 L0000014    , L0000015    , L0000016    , L0000017    , L0000018
 , L0000019    , L0000020    , L0000021    ,
                 L0000022    , L0000023    , L0000024    , L0000025    , L0000026
 , L0000027    , L0000028    ,  . . .      ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                       ** CONC OF PM_10    IN MICROGRAMS/M**3
                   **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
        628104.56   3655755.75     1723.07043  (12012701)               628104.56
 3655855.75     2144.64072  (09010521)
        628104.56   3655955.75     2800.25854  (13022618)               628104.56
 3656055.75     3868.19862  (13011322)
        628104.56   3656155.75     6784.63027  (11020518)               628104.56
 3656255.75    32953.06660  (10021118)
        628104.56   3656355.75     7988.28847  (11012817)               628104.56
 3656455.75     4318.71794  (11021719)
        628104.56   3656555.75     3038.75713  (11011718)               628104.56
 3656655.75     2333.80385  (09012219)
        628104.56   3656755.75     1898.72307  (10020818)               628204.56
 3655755.75     1554.56242  (12012701)
        628204.56   3655855.75     2107.28423  (12012701)               628204.56
 3655955.75     2734.50263  (13022618)
        628204.56   3656055.75     3820.29658  (13011322)               628204.56
 3656155.75     6667.32797  (11020518)
        628204.56   3656255.75    31126.38119  (10021118)               628204.56
 3656355.75     8076.81599  (11012817)
        628204.56   3656455.75     4255.62177  (11021719)               628204.56
 3656555.75     3019.69867  (09012223)
        628204.56   3656655.75     2319.64087  (09012219)               628204.56
 3656755.75     1887.25551  (10020818)
        628304.56   3655755.75     1287.02608  (11012017)               628304.56
 3655855.75     2013.89886  (12012701)
        628304.56   3655955.75     2619.33285  (13022618)               628304.56
 3656055.75     3718.29911  (13022618)
        628304.56   3656155.75     6485.13978  (11020518)               628304.56
 3656255.75    29175.04707  (10021118)
        628304.56   3656355.75     8143.29174  (11012817)               628304.56
 3656455.75     4225.03697  (12022819)
        628304.56   3656555.75     2994.42637  (09012223)               628304.56
 3656655.75     2279.49678  (10122522)
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       628304.56   3656755.75     1854.54662  (12012618)                628404.56
 3655755.75     1261.28353  (12120917)
       628404.56   3655855.75     1798.61026  (12012701)                628404.56
 3655955.75     2566.05091  (12012701)
       628404.56   3656055.75     3651.09579  (13022618)                628404.56
 3656155.75     6224.23383  (13122119)
       628404.56   3656255.75    27198.60859  (10021118)                628404.56
 3656355.75     8166.61513  (11012817)
       628404.56   3656455.75     4226.95257  (11011718)                628404.56
 3656555.75     2936.37768  (09012219)
       628404.56   3656655.75     2272.85101  (10020818)                628404.56
 3656755.75     1837.19479  (10022621)
       628504.56   3655755.75     1227.37607  (09010720)                628504.56
 3655855.75     1496.10381  (12120917)
       628504.56   3655955.75     2446.04489  (12012701)                628504.56
 3656055.75     3530.75622  (13022618)
       628504.56   3656155.75     6041.08585  (13122119)                628504.56
 3656255.75    25199.72130  (10021118)
       628504.56   3656355.75     8118.43866  (11012817)                628504.56
 3656455.75     4238.44695  (11011718)
       628504.56   3656555.75     2896.47209  (10121901)                628504.56
 3656655.75     2217.85476  (12012618)
       628504.56   3656755.75     1816.01368  (12121219)                628604.56
 3655755.75     1244.41117  (10122717)
       628604.56   3655855.75     1491.04871  (12122405)                628604.56
 3655955.75     2158.81114  (12012701)
       628604.56   3656055.75     3352.30577  (09010521)                628604.56
 3656155.75     5803.75074  (13011322)
       628604.56   3656255.75    27515.18659  (13050106)                628604.56
 3656355.75     7949.54084  (11012817)
       628604.56   3656455.75     4222.47313  (09012223)                628604.56
 3656555.75     2891.08345  (10020818)
       628604.56   3656655.75     2198.06535  (10022621)                628604.56
 3656755.75     1809.92444  (11011618)
       628704.56   3655755.75     1259.40814  (11012417)                628704.56
 3655855.75     1527.64025  (09012017)
       628704.56   3655955.75     2264.59344  (09120218)                628704.56
 3656055.75     3235.04342  (13020318)
       628704.56   3656155.75     5559.15043  (13022618)                628704.56
 3656255.75    25176.77089  (13050106)
       628704.56   3656355.75     7900.15560  (11021719)                628704.56
 3656455.75     4133.89434  (12010119)
       628704.56   3656555.75     2809.61703  (12012618)                628704.56
 3656655.75     2176.32062  (11011618)
       628704.56   3656755.75     1748.37660  (12121119)                628804.56
 3655755.75     1280.85559  (09012017)
       628804.56   3655855.75     1661.19290  (09120218)                628804.56
 3655955.75     2323.21724  (09120218)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 2, IMP
SR-78\Segment 2, IMP SR-78.isc   ***        10/28/19
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*** MODELOPTs: RegDFAULT CONC ELEV NODRYDPLT NOWETDPLT URBAN

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): L0000001 , L0000002 , L0000003 , L0000004 , L0000005 ,
L0000006 , L0000007 , L0000008 , L0000009 , L0000010 , L0000011 , L0000012 , L0000013 ,
L0000014 , L0000015 , L0000016 , L0000017 , L0000018 , L0000019 , L0000020 , L0000021 ,
L0000022 , L0000023 , L0000024 , L0000025 , L0000026 , L0000027 , L0000028 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
628804.56	3656055.75	3290.43084	(13020318)	628804.56	3656155.75	5445.08860	(11010222)
628804.56	3656255.75	22483.42227	(13050106)	628804.56	3656355.75	7763.35159	(12022819)
628804.56	3656455.75	4091.69520	(10122522)	628804.56	3656555.75	2798.13976	(12121219)
628804.56	3656655.75	2125.91368	(09010717)	628804.56	3656755.75	1734.46954	(12121718)
628904.56	3655755.75	1298.45986	(09012017)	628904.56	3655855.75	1826.84531	(09120218)
628904.56	3655955.75	2387.57843	(09020624)	628904.56	3656055.75	3312.04080	(13011817)
628904.56	3656155.75	5507.30603	(11010222)	628904.56	3656255.75	21031.40742	(12011522)
628904.56	3656355.75	8018.82466	(11011718)	628904.56	3656455.75	4007.71769	(13120219)
628904.56	3656555.75	2743.14003	(09010717)	628904.56	3656655.75	2084.40135	(12121718)
628904.56	3656755.75	1719.02425	(10011721)	629004.56	3655755.75	1404.82593	(09120218)
629004.56	3655855.75	1885.26583	(09120218)	629004.56	3655955.75	2440.73577	(13020318)
629004.56	3656055.75	3365.18503	(10012721)	629004.56			

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3656255.75    21217.93114  (12011522)
       629004.56   3656355.75     7882.99652  (12010119)                629004.56
3656455.75     3965.25561  (12011208)
       629004.56   3656555.75     2704.84786  (11011518)                629004.56
3656655.75     2066.34154  (10021619)
       629004.56   3656755.75     1653.21801  (11122917)                629104.56
3655755.75     1538.69479  (09120218)
       629104.56   3655855.75     1917.06148  (12020601)                629104.56
3655955.75     2474.33313  (13020318)
       629104.56   3656055.75     3393.86820  (10012721)                629104.56
3656255.75    21484.29975  (12011522)
       629104.56   3656355.75     7896.87989  (13020223)                629104.56
3656455.75     4023.46622  (13022818)
       629104.56   3656555.75     2752.33633  (13020307)                629104.56
3656655.75     2109.10421  (10121104)
       629104.56   3656755.75     1697.24742  (12120307)                628104.56
3657005.75     1316.31463  (12121219)
       628104.56   3657255.75     1012.49983  (09050302)                628354.56
3657005.75     1293.85041  (09010717)
       628354.56   3657255.75     1004.63227  (12121718)                628604.56
3657005.75     1254.27956  (12121718)
       628604.56   3657255.75      983.29896  (13010908)                628854.56
3657005.75     1202.28065  (11122917)
       628854.56   3657255.75      973.35851  (12121206)                629104.56
3657005.75     1174.40373  (09122307)
       629104.56   3657255.75      943.87035  (09122307)                629354.56
3657005.75     1145.91717  (13043006)
       629354.56   3657255.75      891.87121  (10020318)                629604.56
3657005.75     1241.39840  (12120307)
       629604.56   3657255.75      904.43897  (13031418)                629354.56
3656755.75     1776.03264  (10121104)
       629604.56   3656755.75     1829.63867  (11021803)                629104.56
3655505.75      931.83925  (12122405)
       629104.56   3655255.75      739.13614  (10122717)                628854.56
3655505.75      919.33521  (10122717)
       628854.56   3655255.75      726.16566  (10020218)                628604.56
3655505.75      907.71677  (11013020)
       628604.56   3655255.75      731.18130  (09022218)                628354.56
3655505.75      909.32715  (11013020)
       628354.56   3655255.75      735.36634  (11013020)                628104.56
3655505.75      918.78410  (12120917)
       628104.56   3655255.75      729.56419  (09032704)                627854.56
3655505.75      959.96857  (11012017)
       627854.56   3655255.75      735.28821  (09010720)                627604.56
3655505.75     1292.60284  (12012701)
       627604.56   3655255.75      758.87214  (12120917)                627854.56
3655755.75     1840.26751  (09010521)
       627854.56   3656005.75     3340.27860  (13122119)                627854.56
3656755.75     1960.85438  (09012219)
       627854.56   3657005.75     1337.15663  (13120219)                627854.56
```

 *** MODELOPTs: RegDFAULT CONC ELEV NODRYDPLT NOWETDPLT URBAN

                               *** THE   1ST HIGHEST 1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   L0000001   , L0000002
 , L0000003   , L0000004   , L0000005   ,
                 L0000006   , L0000007   , L0000008   , L0000009   , L0000010
 , L0000011   , L0000012   , L0000013   ,
                 L0000014   , L0000015   , L0000016   , L0000017   , L0000018
 , L0000019   , L0000020   , L0000021   ,
                 L0000022   , L0000023   , L0000024   , L0000025   , L0000026
 , L0000027   , L0000028   , . . .   ,

                                        *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                     ** CONC OF PM_10   IN MICROGRAMS/M**3
                    **

      X-COORD (M) Y-COORD (M)   CONC   (YYMMDDHH)   X-COORD (M)
Y-COORD (M)   CONC   (YYMMDDHH)
 -
- -
        629046.29   3656145.58   5199.58259 (10011517)   628653.35
 3656224.31   12309.47934 (11020518)
        628869.75   3656243.21   17087.29127 (12120718)   628867.92
 3656220.54   10650.91097 (13012217)
        628916.26   3656235.76   13981.55940 (13012117)   628950.77
 3656245.00   17674.56831 (12120718)
        628553.47   3656243.13   20103.28082 (12013017)   628683.60
 3656303.89   17588.08785 (11022719)
        628904.81   3656298.06   20385.25350 (10120417)   628962.02
 3656326.30   11276.69991 (12022819)
        629007.22   3656300.30   20053.34424 (10120417)   629054.74
 3656301.01   20450.55214 (10120417)
        629070.99   3656311.80   15272.68590 (11011718)   629141.18
 3656208.08   8914.53340 (13012217)

 *** MODELOPTs: RegDFAULT CONC ELEV NODRYDPLT NOWETDPLT URBAN

                                   *** THE SUMMARY OF MAXIMUM ANNUAL RESULTS
AVERAGED OVER   5 YEARS ***

                                    ** CONC OF PM_10   IN MICROGRAMS/M**3
             **

                       NETWORK
GROUP ID   AVERAGE CONC   RECEPTOR (XR, YR,
ZELEV, ZHILL, ZFLAG) OF TYPE GRID-ID
- -
- - - - - - - - - - - - - - - - - - -

ALL   1ST HIGHEST VALUE IS   3843.03234 AT (629054.74, 3656301.01,
-49.38,   -49.38,   0.00) DC
          2ND HIGHEST VALUE IS   3339.83750 AT (628904.81, 3656298.06,
-49.68,   -49.68,   0.00) DC
          3RD HIGHEST VALUE IS   3278.41451 AT (629007.22, 3656300.30,
-49.40,   -49.40,   0.00) DC
          4TH HIGHEST VALUE IS   3086.66303 AT (628683.60, 3656303.89,
-49.99,   -49.99,   0.00) DC
          5TH HIGHEST VALUE IS   2932.93496 AT (628704.56, 3656255.75,
-49.99,   -49.99,   0.00) DC
          6TH HIGHEST VALUE IS   2911.34420 AT (628604.56, 3656255.75,
-49.99,   -49.99,   0.00) DC
          7TH HIGHEST VALUE IS   2839.41000 AT (629070.99, 3656311.80,
-49.38,   -49.38,   0.00) DC
          8TH HIGHEST VALUE IS   2473.81898 AT (628504.56, 3656255.75,
-49.99,   -49.99,   0.00) DC
          9TH HIGHEST VALUE IS   2413.59713 AT (628553.47, 3656243.13,
-49.99,   -49.99,   0.00) DC
         10TH HIGHEST VALUE IS   2408.21733 AT (629104.56, 3656255.75,
-49.11,   -49.11,   0.00) DC

 *** RECEPTOR TYPES: GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR

```
↑ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 2, IMP
SR-78\Segment 2, IMP SR-78.isc   ***        10/28/19
 *** AERMET - VERSION  14134 ***   ***
                        ***        16:27:13

                                   PAGE  18
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  NODRYDPLT  NOWETDPLT  URBAN

                                                ***  THE SUMMARY OF HIGHEST  1-HR
RESULTS ***


                                            ** CONC OF PM_10    IN MICROGRAMS/M**3
                **

                                                      DATE
                                            NETWORK
GROUP ID                          AVERAGE CONC     (YYMMDDHH)             RECEPTOR
(XR, YR, ZELEV, ZHILL, ZFLAG)    OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -

ALL      HIGH   1ST HIGH VALUE IS   32953.06660  ON 10021118: AT (  628104.56,
3656255.75,   -50.40,   -50.40,    0.00)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
↑ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 2, IMP
SR-78\Segment 2, IMP SR-78.isc   ***        10/28/19
 *** AERMET - VERSION  14134 ***   ***
                        ***        16:27:13

                                   PAGE  19
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  NODRYDPLT  NOWETDPLT  URBAN

 *** Message Summary : AERMOD Model Execution ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of            3 Warning Message(s)
 A Total of        10676 Informational Message(s)

 A Total of        43872 Hours Were Processed

 A Total of         8403 Calm Hours Identified
```

```
A Total of         2273 Missing Hours Identified (  5.18 Percent)


   ******** FATAL ERROR MESSAGES ********
              ***  NONE  ***


   ********   WARNING MESSAGES   ********
CO W320      22       URBOPT: Input Parameter May Be Out-of-Range for Parameter
  URB-POP
ME W340     187       PRBASE: Possible Error in PROFBASE Input:  Value is < 0
 PROFBASE
MX W481   43873         MAIN: Data Remaining After End of Year. Number of Hours=
       48

   ***********************************
   *** AERMOD Finishes Successfully ***
   ***********************************
```

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.7.0
** Lakes Environmental Software Inc.
** Date: 10/28/2019
** File: C:\Lakes\AERMOD View\Segment 3, LA I-110\Segment 3, LA I-110.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\Segment 3, LA I-110\Segment 3, LA I-110.isc
   MODELOPT DFAULT CONC
   AVERTIME ANNUAL
   URBANOPT 92797
   POLLUTID PM_10
   RUNORNOT RUN
   ERRORFIL "Segment 3, LA I-110.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
** ----------------------------------------------------------------------
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE1
** DESCRSRC
** PREFIX
** Length of Side = 56.00
** Configuration = Adjacent
** Emission Rate = 29.0
** Vertical Dimension = 2.00
** SZINIT = 0.93
** Nodes = 3
** 380857.940, 3742066.060, 19.09, 2.00, 26.05
** 380860.250, 3742772.520, 18.96, 2.00, 26.05
** 380864.380, 3743713.660, 18.94, 2.00, 26.05
** ----------------------------------------------------------------------
```

```
   LOCATION L0000001     VOLUME   380858.032 3742094.060 18.73
   LOCATION L0000002     VOLUME   380858.215 3742150.060 18.74
   LOCATION L0000003     VOLUME   380858.398 3742206.059 18.75
   LOCATION L0000004     VOLUME   380858.581 3742262.059 18.75
   LOCATION L0000005     VOLUME   380858.764 3742318.059 18.76
   LOCATION L0000006     VOLUME   380858.947 3742374.058 18.77
   LOCATION L0000007     VOLUME   380859.130 3742430.058 18.77
   LOCATION L0000008     VOLUME   380859.313 3742486.058 18.78
   LOCATION L0000009     VOLUME   380859.496 3742542.057 18.79
   LOCATION L0000010     VOLUME   380859.680 3742598.057 18.79
   LOCATION L0000011     VOLUME   380859.863 3742654.057 18.80
   LOCATION L0000012     VOLUME   380860.046 3742710.057 18.81
   LOCATION L0000013     VOLUME   380860.229 3742766.056 18.81
   LOCATION L0000014     VOLUME   380860.467 3742822.056 18.82
   LOCATION L0000015     VOLUME   380860.713 3742878.055 18.83
   LOCATION L0000016     VOLUME   380860.959 3742934.055 18.83
   LOCATION L0000017     VOLUME   380861.205 3742990.054 18.84
   LOCATION L0000018     VOLUME   380861.450 3743046.054 18.84
   LOCATION L0000019     VOLUME   380861.696 3743102.053 18.85
   LOCATION L0000020     VOLUME   380861.942 3743158.053 18.86
   LOCATION L0000021     VOLUME   380862.188 3743214.052 18.86
   LOCATION L0000022     VOLUME   380862.433 3743270.051 18.87
   LOCATION L0000023     VOLUME   380862.679 3743326.051 18.87
   LOCATION L0000024     VOLUME   380862.925 3743382.050 18.88
   LOCATION L0000025     VOLUME   380863.171 3743438.050 18.89
   LOCATION L0000026     VOLUME   380863.416 3743494.049 18.89
   LOCATION L0000027     VOLUME   380863.662 3743550.049 18.90
   LOCATION L0000028     VOLUME   380863.908 3743606.048 18.90
   LOCATION L0000029     VOLUME   380864.154 3743662.048 18.91
** End of LINE VOLUME Source ID = SLINE1
** Source Parameters **
** LINE VOLUME Source ID = SLINE1
   SRCPARAM L0000001          1.0      2.00     26.05      0.93
   SRCPARAM L0000002          1.0      2.00     26.05      0.93
   SRCPARAM L0000003          1.0      2.00     26.05      0.93
   SRCPARAM L0000004          1.0      2.00     26.05      0.93
   SRCPARAM L0000005          1.0      2.00     26.05      0.93
   SRCPARAM L0000006          1.0      2.00     26.05      0.93
   SRCPARAM L0000007          1.0      2.00     26.05      0.93
   SRCPARAM L0000008          1.0      2.00     26.05      0.93
   SRCPARAM L0000009          1.0      2.00     26.05      0.93
   SRCPARAM L0000010          1.0      2.00     26.05      0.93
   SRCPARAM L0000011          1.0      2.00     26.05      0.93
   SRCPARAM L0000012          1.0      2.00     26.05      0.93
   SRCPARAM L0000013          1.0      2.00     26.05      0.93
   SRCPARAM L0000014          1.0      2.00     26.05      0.93
   SRCPARAM L0000015          1.0      2.00     26.05      0.93
   SRCPARAM L0000016          1.0      2.00     26.05      0.93
   SRCPARAM L0000017          1.0      2.00     26.05      0.93
   SRCPARAM L0000018          1.0      2.00     26.05      0.93
```

```
   SRCPARAM L0000019          1.0      2.00     26.05      0.93
   SRCPARAM L0000020          1.0      2.00     26.05      0.93
   SRCPARAM L0000021          1.0      2.00     26.05      0.93
   SRCPARAM L0000022          1.0      2.00     26.05      0.93
   SRCPARAM L0000023          1.0      2.00     26.05      0.93
   SRCPARAM L0000024          1.0      2.00     26.05      0.93
   SRCPARAM L0000025          1.0      2.00     26.05      0.93
   SRCPARAM L0000026          1.0      2.00     26.05      0.93
   SRCPARAM L0000027          1.0      2.00     26.05      0.93
   SRCPARAM L0000028          1.0      2.00     26.05      0.93
   SRCPARAM L0000029          1.0      2.00     26.05      0.93
** ----------------------------------------------------------------------
   URBANSRC ALL
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED "Segment 3, LA I-110.rou"
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE "C:\Users\kheck\Desktop\MET
Data\LongBeachAirportADJU\KLGB_V9_ADJU\KLGB_v9.SFC"
   PROFFILE "C:\Users\kheck\Desktop\MET
Data\LongBeachAirportADJU\KLGB_V9_ADJU\KLGB_v9.PFL"
   SURFDATA 23129 2012
   UAIRDATA 3190 2012
   PROFBASE 7.3 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
** Auto-Generated Plotfiles
   PLOTFILE ANNUAL ALL "Segment 3, LA I-110.AD\AN00GALL.PLT" 31
   SUMMFILE "Segment 3, LA I-110.sum"
OU FINISHED
```

```
 *** Message Summary For AERMOD Model Setup ***

 --------- Summary of Total Messages --------

A Total of            0 Fatal Error Message(s)
A Total of            2 Warning Message(s)
A Total of            0 Informational Message(s)


   ******** FATAL ERROR MESSAGES ********
              ***  NONE  ***


   ********   WARNING MESSAGES   ********
ME W186     137       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used
     0.50
ME W187     137       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET


 ***********************************
 *** SETUP Finishes Successfully ***
 ***********************************

 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 3, LA
I-110\Segment 3, LA I-110.isc     ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                        ***        09:11:30

                                   PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                          ***     MODEL SETUP OPTIONS SUMMARY
  ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - -

 **Model Is Setup For Calculation of Average CONCentration Values.

   --  DEPOSITION LOGIC  --
 **NO GAS DEPOSITION Data Provided.
 **NO PARTICLE DEPOSITION Data Provided.
 **Model Uses NO DRY DEPLETION.  DRYDPLT  =  F
 **Model Uses NO WET DEPLETION.  WETDPLT  =  F

 **Model Uses URBAN Dispersion Algorithm for the SBL for    29 Source(s),
   for Total of    1 Urban Area(s):
   Urban Population =     92797.0 ;  Urban Roughness Length =  1.000 m
```

```
 **Model Uses Regulatory DEFAULT Options:
        1. Stack-tip Downwash.
        2. Model Accounts for ELEVated Terrain Effects.
        3. Use Calms Processing Routine.
        4. Use Missing Data Processing Routine.
        5. No Exponential Decay.
        6. Urban Roughness Length of 1.0 Meter Assumed.

 **Other Options Specified:
        ADJ_U*   - Use ADJ_U* option for SBL in AERMET
        CCVR_Sub - Meteorological data includes CCVR substitutions
        TEMP_Sub - Meteorological data includes TEMP substitutions

 **Model Assumes No FLAGPOLE Receptor Heights.

 **The User Specified a Pollutant Type of:  PM_10

 **Model Calculates ANNUAL Averages Only

 **This Run Includes:     29 Source(s);       1 Source Group(s); and     175
Receptor(s)

               with:      0 POINT(s), including
                          0 POINTCAP(s) and      0 POINTHOR(s)
                and:     29 VOLUME source(s)
                and:      0 AREA type source(s)
                and:      0 LINE source(s)
                and:      0 OPENPIT source(s)
                and:      0 BUOYANT LINE source(s) with      0 line(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  16216

 **Output Options Selected:
         Model Outputs Tables of ANNUAL Averages by Receptor
         Model Outputs External File(s) of High Values for Plotting (PLOTFILE
Keyword)
         Model Outputs Separate Summary File of High Ranked Values (SUMMFILE
Keyword)

 **NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                 m for Missing
Hours
                                                                 b for Both Calm
and Missing Hours

 **Misc. Inputs:  Base Elev. for Pot. Temp. Profile (m MSL) =     7.30 ;  Decay
Coef. =    0.000     ;  Rot. Angle =     0.0
```

```
                  Emission Units = GRAMS/SEC                                    ;
Emission Rate Unit Factor =   0.10000E+07
                  Output Units   = MICROGRAMS/M**3

 **Approximate Storage Requirements of Model =      3.5 MB of RAM.

 **Input Runstream File:          aermod.inp

 **Output Print File:             aermod.out


 **Detailed Error/Message File:   Segment 3, LA I-110.err

 **File for Summary of Results:   Segment 3, LA I-110.sum

 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 3, LA
I-110\Segment 3, LA I-110.isc     ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                        ***        09:11:30

                                   PAGE   2
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                                  *** VOLUME SOURCE DATA ***

               NUMBER EMISSION RATE                    BASE    RELEASE    INIT.
INIT.   URBAN  EMISSION RATE
   SOURCE       PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY
SZ     SOURCE  SCALAR VARY
     ID         CATS.               (METERS) (METERS) (METERS) (METERS) (METERS)
(METERS)             BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - -

 L0000001         0   0.10000E+01  380858.0 3742094.1    18.7     2.00    26.05
0.93     YES
 L0000002         0   0.10000E+01  380858.2 3742150.1    18.7     2.00    26.05
0.93     YES
 L0000003         0   0.10000E+01  380858.4 3742206.1    18.8     2.00    26.05
0.93     YES
 L0000004         0   0.10000E+01  380858.6 3742262.1    18.8     2.00    26.05
0.93     YES
 L0000005         0   0.10000E+01  380858.8 3742318.1    18.8     2.00    26.05
0.93     YES
 L0000006         0   0.10000E+01  380858.9 3742374.1    18.8     2.00    26.05
0.93     YES
 L0000007         0   0.10000E+01  380859.1 3742430.1    18.8     2.00    26.05
0.93     YES
 L0000008         0   0.10000E+01  380859.3 3742486.1    18.8     2.00    26.05
```

```
0.93     YES
 L0000009         0   0.10000E+01  380859.5 3742542.1    18.8     2.00    26.05
0.93     YES
 L0000010         0   0.10000E+01  380859.7 3742598.1    18.8     2.00    26.05
0.93     YES
 L0000011         0   0.10000E+01  380859.9 3742654.1    18.8     2.00    26.05
0.93     YES
 L0000012         0   0.10000E+01  380860.0 3742710.1    18.8     2.00    26.05
0.93     YES
 L0000013         0   0.10000E+01  380860.2 3742766.1    18.8     2.00    26.05
0.93     YES
 L0000014         0   0.10000E+01  380860.5 3742822.1    18.8     2.00    26.05
0.93     YES
 L0000015         0   0.10000E+01  380860.7 3742878.1    18.8     2.00    26.05
0.93     YES
 L0000016         0   0.10000E+01  380861.0 3742934.1    18.8     2.00    26.05
0.93     YES
 L0000017         0   0.10000E+01  380861.2 3742990.1    18.8     2.00    26.05
0.93     YES
 L0000018         0   0.10000E+01  380861.5 3743046.1    18.8     2.00    26.05
0.93     YES
 L0000019         0   0.10000E+01  380861.7 3743102.1    18.9     2.00    26.05
0.93     YES
 L0000020         0   0.10000E+01  380861.9 3743158.1    18.9     2.00    26.05
0.93     YES
 L0000021         0   0.10000E+01  380862.2 3743214.1    18.9     2.00    26.05
0.93     YES
 L0000022         0   0.10000E+01  380862.4 3743270.1    18.9     2.00    26.05
0.93     YES
 L0000023         0   0.10000E+01  380862.7 3743326.1    18.9     2.00    26.05
0.93     YES
 L0000024         0   0.10000E+01  380862.9 3743382.0    18.9     2.00    26.05
0.93     YES
 L0000025         0   0.10000E+01  380863.2 3743438.0    18.9     2.00    26.05
0.93     YES
 L0000026         0   0.10000E+01  380863.4 3743494.0    18.9     2.00    26.05
0.93     YES
 L0000027         0   0.10000E+01  380863.7 3743550.0    18.9     2.00    26.05
0.93     YES
 L0000028         0   0.10000E+01  380863.9 3743606.0    18.9     2.00    26.05
0.93     YES
 L0000029         0   0.10000E+01  380864.2 3743662.0    18.9     2.00    26.05
0.93     YES
↑ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 3, LA
I-110\Segment 3, LA I-110.isc     ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                       ***        09:11:30

                                  PAGE   3
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*
```

*** SOURCE IDs DEFINING SOURCE GROUPS
***

 SRCGROUP ID   SOURCE IDs
 -----------   ----------

  ALL   L0000001   , L0000002   , L0000003   , L0000004   , L0000005   ,
L0000006   , L0000007   , L0000008   ,

             L0000009   , L0000010   , L0000011   , L0000012   , L0000013   ,
L0000014   , L0000015   , L0000016   ,

             L0000017   , L0000018   , L0000019   , L0000020   , L0000021   ,
L0000022   , L0000023   , L0000024   ,

             L0000025   , L0000026   , L0000027   , L0000028   , L0000029   ,

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** SOURCE IDs DEFINED AS URBAN SOURCES
***

  URBAN ID   URBAN POP   SOURCE IDs
  --------   ---------   ----------

               92797.   L0000001   , L0000002   , L0000003   , L0000004   ,
L0000005   , L0000006   , L0000007   ,
 L0000008   ,

             L0000009   , L0000010   , L0000011   , L0000012   , L0000013   ,
L0000014   , L0000015   , L0000016   ,

             L0000017   , L0000018   , L0000019   , L0000020   , L0000021   ,
L0000022   , L0000023   , L0000024   ,

             L0000025   , L0000026   , L0000027   , L0000028   , L0000029   ,

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(380484.6, 3742431.0, 21.9, 21.9, 0.0); (380484.6, 3742531.0, 21.7, 21.7, 0.0);
(380484.6, 3742631.0, 21.3, 21.3, 0.0); (380484.6, 3742731.0, 21.0, 21.0, 0.0);
(380484.6, 3742831.0, 21.0, 21.0, 0.0); (380484.6, 3742931.0, 21.0, 21.0, 0.0);
(380484.6, 3743031.0, 21.0, 21.0, 0.0); (380484.6, 3743131.0, 21.0, 21.0, 0.0);
(380484.6, 3743231.0, 21.0, 21.0, 0.0); (380484.6, 3743331.0, 21.0, 21.0, 0.0);
(380484.6, 3743431.0, 21.0, 21.0, 0.0); (380584.6, 3742431.0, 21.2, 21.2, 0.0);
(380584.6, 3742531.0, 21.0, 21.0, 0.0); (380584.6, 3742631.0, 21.0, 21.0, 0.0);
(380584.6, 3742731.0, 21.0, 21.0, 0.0); (380584.6, 3742831.0, 21.0, 21.0, 0.0);
(380584.6, 3742931.0, 21.0, 21.0, 0.0); (380584.6, 3743031.0, 21.0, 21.0, 0.0);
(380584.6, 3743131.0, 21.0, 21.0, 0.0); (380584.6, 3743231.0, 21.0, 21.0, 0.0);
(380584.6, 3743331.0, 21.0, 21.0, 0.0); (380584.6, 3743431.0, 21.0, 21.0, 0.0);
(380684.6, 3742431.0, 21.0, 21.0, 0.0); (380684.6, 3742531.0, 21.0, 21.0, 0.0);
(380684.6, 3742631.0, 21.0, 21.0, 0.0); (380684.6, 3742731.0, 21.0, 21.0, 0.0);
(380684.6, 3742831.0, 21.0, 21.0, 0.0); (380684.6, 3742931.0, 21.0, 21.0, 0.0);
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3742631.0,      15.6,      15.6,       0.0);
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     ( 381184.6, 3743331.0,      15.7,      15.7,       0.0);         ( 381184.6,
3743431.0,      15.7,      15.7,       0.0);
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3743131.0,      14.4,      14.4,       0.0);
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 3, LA
I-110\Segment 3, LA I-110.isc     ***        10/28/19
```

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(381284.6, 3743231.0, 14.4, 14.4, 0.0); (381284.6, 3743331.0, 14.4, 14.4, 0.0);
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(381984.6, 3743931.0, 12.0, 12.0, 0.0); (381734.6, 3743431.0, 10.6, 10.6, 0.0);

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3741931.0,      10.4,      10.4,       0.0);
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3742074.3,      19.2,      19.2,       0.0);
     ( 380879.6, 3742074.3,      18.4,      18.4,       0.0);         ( 380889.0,
3743693.5,      18.6,      18.6,       0.0);
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 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 3, LA
I-110\Segment 3, LA I-110.isc     ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                          ***       09:11:30
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* SOURCE-RECEPTOR COMBINATIONS FOR WHICH CALCULATIONS MAY NOT BE PERFORMED *
LESS THAN 1.0 METER; WITHIN OPENPIT; OR BEYOND 80KM FOR FASTAREA/FASTALL

SOURCE ID	- - RECEPTOR LOCATION - - XR (METERS)	YR (METERS)	DISTANCE (METERS)
L0000001	380822.9	3742074.3	-15.69
L0000001	380879.6	3742074.3	-26.80
L0000007	380884.6	3742431.0	-30.56
L0000008	380884.6	3742531.0	-4.46
L0000009	380884.6	3742531.0	-28.61
L0000010	380884.6	3742631.0	-14.72
L0000011	380884.6	3742631.0	-22.22
L0000012	380884.6	3742731.0	-23.77
L0000013	380884.6	3742731.0	-13.34
L0000014	380884.6	3742831.0	-30.31
L0000015	380884.6	3742831.0	-3.25
L0000029	380889.0	3743693.5	-15.92
L0000029	380835.5	3743693.5	-13.45

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***

(1=YES; 0=NO)

```
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
```

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***

(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: C:\Users\kheck\Desktop\MET Data\LongBeachAirportADJU\KLGB_V9_ADJU\KLGB_v9.SFC Met Version: 16216
Profile file: C:\Users\kheck\Desktop\MET Data\LongBeachAirportADJU\KLGB_V9_ADJU\KLGB_v9.PFL
Surface format: FREE

Profile format: FREE

Surface station no.: 23129 Upper air station no.: 3190
Name: UNKNOWN Name: UNKNOWN

Year: 2012 Year: 2012

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
12	01	01	1	01	-5.3	0.094	-9.000	-9.000	-999.	70.	14.3	0.10	2.68	1.00	1.13	322.	7.9	282.0	2.0
12	01	01	1	02	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.10	2.68	1.00	0.00	0.	7.9	281.4	2.0
12	01	01	1	03	-2.5	0.068	-9.000	-9.000	-999.	43.	11.4	0.10	2.68	1.00	0.74	79.	7.9	280.9	2.0
12	01	01	1	04	-3.2	0.075	-9.000	-9.000	-999.	49.	11.7	0.10	2.68	1.00	0.86	137.	7.9	280.9	2.0
12	01	01	1	05	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.10	2.68	1.00	0.00	0.	7.9	280.4	2.0
12	01	01	1	06	-5.2	0.093	-9.000	-9.000	-999.	68.	14.0	0.10	2.68	1.00	1.11	92.	7.9	279.9	2.0
12	01	01	1	07	-2.3	0.066	-9.000	-9.000	-999.	41.	11.5	0.10	2.68	1.00	0.69	67.	7.9	278.8	2.0
12	01	01	1	08	-1.7	0.060	-9.000	-9.000	-999.	36.	11.4	0.10	2.68	0.54	0.65	91.	7.9	279.9	2.0
12	01	01	1	09	36.2	-9.000	-9.000	-9.000	37.	-999.	-99999.0	0.10	2.68	0.31	0.00	0.	7.9	283.8	2.0
12	01	01	1	10	108.4	0.139	0.707	0.009	119.	124.	-2.3	0.10	2.68	0.24	0.92	319.	7.9	287.5	2.0
12	01	01	1	11	160.5	0.114	1.137	0.005	334.	93.	-1.0	0.10	2.68	0.21	0.62	23.	7.9	292.5	2.0
12	01	01	1	12	186.7	0.125	1.473	0.005	623.	105.	-1.0	0.10	2.68	0.20	0.69	18.	7.9	295.4	2.0
12	01	01	1	13	186.8	0.130	1.761	0.005	1065.	112.	-1.1	0.10	2.68	0.20	0.74	250.	7.9	297.5	2.0
12	01	01	1	14	161.7	0.150	1.834	0.005	1387.	139.	-1.9	0.10	2.68	0.21	0.96	347.	7.9	300.4	2.0
12	01	01	1	15	105.5	0.243	1.633	0.005	1499.	288.	-12.4	0.10	2.68	0.24	2.11	194.	7.9	295.9	2.0
12	01	01	1	16	32.4	0.211	1.109	0.005	1530.	233.	-26.3	0.10	2.68	0.33	1.98	186.	7.9	295.4	2.0
12	01	01	1	17	-20.5	0.250	-9.000	-9.000	-999.	300.	69.2	0.10	2.68	0.60	2.81	293.	7.9	291.4	2.0
12	01	01	1	18	-25.4	0.257	-9.000	-9.000	-999.	313.	72.8	0.10	2.68	1.00	2.90	301.	7.9	288.1	2.0
12	01	01	1	19	-21.0	0.211	-9.000	-9.000	-999.	233.	49.0	0.10	2.68	1.00	2.40	313.	7.9	286.4	2.0
12	01	01	1	20	-25.7	0.258	-9.000	-9.000	-999.	315.	73.3	0.10	2.68						

```
1.00    2.91  302.    7.9  286.4    2.0
 12 01 01   1 21  -22.5  0.225 -9.000 -9.000 -999.  256.     55.7  0.10   2.68
1.00    2.55  306.    7.9  285.4    2.0
 12 01 01   1 22   -9.3  0.126 -9.000 -9.000 -999.  111.     19.5  0.10   2.68
1.00    1.48  284.    7.9  285.9    2.0
 12 01 01   1 23  -21.4  0.214 -9.000 -9.000 -999.  237.     50.3  0.10   2.68
1.00    2.43  282.    7.9  285.4    2.0
 12 01 01   1 24  -30.1  0.300 -9.000 -9.000 -999.  394.     98.9  0.10   2.68
1.00    3.36  300.    7.9  284.2    2.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 12 01 01 01    7.9 1  322.    1.13   282.1   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
↑ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 3, LA
I-110\Segment 3, LA I-110.isc     ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                       ***        09:11:30

                                  PAGE  10
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                  *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                  INCLUDING SOURCE(S):     L0000001    , L0000002
 , L0000003    , L0000004    , L0000005    ,
                L0000006    , L0000007    , L0000008    , L0000009    , L0000010
 , L0000011    , L0000012    , L0000013    ,
                L0000014    , L0000015    , L0000016    , L0000017    , L0000018
 , L0000019    , L0000020    , L0000021    ,
                L0000022    , L0000023    , L0000024    , L0000025    , L0000026
 , L0000027    , L0000028    , L0000029    ,

                                             *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_10    IN MICROGRAMS/M**3
                   **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - -
         380484.56    3742431.00       98.22217                       380484.56
3742531.00      104.52600
         380484.56    3742631.00      109.39435                       380484.56
3742731.00      113.03277
         380484.56    3742831.00      115.55760                       380484.56
```

3742931.00 117.11159
380484.56 3743031.00 117.71927 380484.56
3743131.00 117.34665
380484.56 3743231.00 115.87430 380484.56
3743331.00 113.03487
380484.56 3743431.00 108.30116 380584.56
3742431.00 139.75388
380584.56 3742531.00 148.13101 380584.56
3742631.00 154.22622
380584.56 3742731.00 158.58351 380584.56
3742831.00 161.49396
380584.56 3742931.00 163.13609 380584.56
3743031.00 163.59049
380584.56 3743131.00 162.83273 380584.56
3743231.00 160.70687
380584.56 3743331.00 156.85201 380584.56
3743431.00 150.49130
380684.56 3742431.00 227.40504 380684.56
3742531.00 238.03279
380684.56 3742631.00 245.14446 380684.56
3742731.00 249.80703
380684.56 3742831.00 252.62055 380684.56
3742931.00 253.92403
380684.56 3743031.00 253.87793 380684.56
3743131.00 252.45328
380684.56 3743231.00 249.39611 380684.56
3743331.00 244.10924
380684.56 3743431.00 235.31345 380784.56
3742431.00 537.26737
380784.56 3742531.00 547.16217 380784.56
3742631.00 552.78579
380784.56 3742731.00 555.75109 380784.56
3742831.00 556.18612
380784.56 3742931.00 554.73882 380784.56
3743031.00 551.84255
380784.56 3743131.00 547.72118 380784.56
3743231.00 541.78780
380784.56 3743331.00 532.96464 380784.56
3743431.00 519.38087
380884.56 3742431.00 770.28508 380884.56
3742531.00 512.85932
380884.56 3742631.00 479.95955 380884.56
3742731.00 475.13619
380884.56 3742831.00 498.26532 380984.56
3742431.00 421.32449
380984.56 3742531.00 431.56532 380984.56
3742631.00 438.75361
380984.56 3742731.00 443.81837 380984.56
3742831.00 447.33840
380984.56 3742931.00 449.58066 380984.56

```
3743031.00      450.41005
         380984.56    3743131.00      449.47626                       380984.56
3743231.00      446.20637
         380984.56    3743331.00      438.83757                       380984.56
3743431.00      422.83189
         381084.56    3742431.00      246.08558                       381084.56
3742531.00      252.50673
         381084.56    3742631.00      257.08267                       381084.56
3742731.00      260.22649
         381084.56    3742831.00      262.09643                       381084.56
3742931.00      262.67443
         381084.56    3743031.00      261.84185                       381084.56
3743131.00      259.16960
         381084.56    3743231.00      253.68934                       381084.56
3743331.00      243.08755
         381084.56    3743431.00      221.06061                       381184.56
3742431.00      173.54582
         381184.56    3742531.00      177.55108                       381184.56
3742631.00      180.37823
         381184.56    3742731.00      182.12819                       381184.56
3742831.00      182.83544
         381184.56    3742931.00      182.38597                       381184.56
3743031.00      180.50022
         381184.56    3743131.00      176.61130                       381184.56
3743231.00      169.39441
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 3, LA
I-110\Segment 3, LA I-110.isc     ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                       ***        09:11:30

                                   PAGE  11
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                  *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                   INCLUDING SOURCE(S):     L0000001    , L0000002
 , L0000003    , L0000004    , L0000005    ,
                  L0000006    , L0000007    , L0000008    , L0000009    , L0000010
 , L0000011    , L0000012    , L0000013    ,
                  L0000014    , L0000015    , L0000016    , L0000017    , L0000018
 , L0000019    , L0000020    , L0000021    ,
                  L0000022    , L0000023    , L0000024    , L0000025    , L0000026
 , L0000027    , L0000028    , L0000029    ,

                                             *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                          ** CONC OF PM_10    IN MICROGRAMS/M**3
                    **
```

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
381184.56	3743331.00	156.14498	381184.56	3743431.00	133.09988
381284.56	3742431.00	133.65305	381284.56	3742531.00	136.18586
381284.56	3742631.00	137.81402	381284.56	3742731.00	138.57418
381284.56	3742831.00	138.38190	381284.56	3742931.00	137.07219
381284.56	3743031.00	134.24930	381284.56	3743131.00	129.13152
381284.56	3743231.00	120.36040	381284.56	3743331.00	106.29943
381284.56	3743431.00	87.47556	381384.56	3742431.00	108.65946
381384.56	3742531.00	110.21414	381384.56	3742631.00	111.01798
381384.56	3742731.00	111.02031	381384.56	3742831.00	110.10346
381384.56	3742931.00	108.00150	381384.56	3743031.00	104.22796
381384.56	3743131.00	98.01494	381384.56	3743231.00	88.54193
381384.56	3743331.00	75.91745	381384.56	3743431.00	62.46592
381484.56	3742431.00	90.54729	381484.56	3742531.00	91.37942
381484.56	3742631.00	91.54197	381484.56	3742731.00	90.93953
381484.56	3742831.00	89.38454	381484.56	3742931.00	86.56933
381484.56	3743031.00	82.02574	381484.56	3743131.00	75.30467
381484.56	3743231.00	66.40502	381484.56	3743331.00	56.41107
381484.56	3743431.00	47.34213	380484.56	3743681.00	84.86892
380484.56	3743931.00	58.00889	380734.56	3743681.00	225.08309
380734.56	3743931.00	84.85269	380984.56	3743681.00	189.07776
380984.56	3743931.00	72.42786	381234.56	3743681.00	59.94254
381234.56	3743931.00	40.09128	381484.56	3743681.00	33.77424
381484.56	3743931.00	25.85246	381734.56	3743681.00	22.62165

```
         381734.56    3743931.00       18.52221                       381984.56
3743681.00       16.62757
         381984.56    3743931.00       14.16041                       381734.56
3743431.00       28.38332
         381734.56    3743181.00       39.13248                       381734.56
3742931.00       52.09205
         381734.56    3742681.00       59.80766                       381734.56
3742431.00       62.11684
         381734.56    3742181.00       61.01671                       381734.56
3741931.00       57.42965
         381984.56    3743431.00       19.67014                       381984.56
3743181.00       24.70040
         381984.56    3742931.00       32.69894                       381984.56
3742681.00       40.32118
         381984.56    3742431.00       44.64412                       381984.56
3742181.00       45.80752
         381984.56    3741931.00       44.86416                       381484.56
3742181.00       85.68607
         381484.56    3741931.00       76.43956                       381234.56
3742181.00      137.33559
         381234.56    3741931.00      108.13797                       380984.56
3742181.00      365.56552
         380984.56    3741931.00      129.16382                       380734.56
3742181.00      246.88146
         380734.56    3741931.00       72.44302                       380484.56
3742181.00       74.48926
         380484.56    3741931.00       44.86917                       380234.56
3742181.00       43.03546
         380234.56    3741931.00       30.62978                       379984.56
3742181.00       29.90982
         379984.56    3741931.00       23.25619                       380234.56
3742431.00       53.23793
         380234.56    3742681.00       60.45840                       380234.56
3742931.00       64.04923
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 3, LA
I-110\Segment 3, LA I-110.isc     ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                       ***        09:11:30

                                   PAGE  12
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                  *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                   INCLUDING SOURCE(S):     L0000001    , L0000002
 , L0000003    , L0000004    , L0000005    ,
                   L0000006    , L0000007    , L0000008    , L0000009    , L0000010
 , L0000011    , L0000012    , L0000013    ,
                   L0000014    , L0000015    , L0000016    , L0000017    , L0000018
 , L0000019    , L0000020    , L0000021    ,
```

```
                 L0000022    , L0000023    , L0000024    , L0000025    , L0000026
 , L0000027    , L0000028    , L0000029    ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_10    IN MICROGRAMS/M**3
                   **

       X-COORD (M)   Y-COORD (M)        CONC                        X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - -
         380234.56    3743181.00       64.07630                      380234.56
3743431.00       59.56839
         380234.56    3743681.00       50.24797                      380234.56
3743931.00       40.11912
         379984.56    3742431.00       35.43774                      379984.56
3742681.00       39.04120
         379984.56    3742931.00       41.33824                      379984.56
3743181.00       41.32246
         379984.56    3743431.00       38.62032                      379984.56
3743681.00       34.03137
         379984.56    3743931.00       29.10153                      380822.87
3742074.33      192.26662
         380879.57    3742074.33      278.61471                      380889.02
3743693.49      258.40010
         380835.47    3743693.49      280.26978

↟ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 3, LA
I-110\Segment 3, LA I-110.isc     ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                       ***        09:11:30

                                  PAGE  13
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                  *** THE SUMMARY OF MAXIMUM ANNUAL RESULTS
AVERAGED OVER   5 YEARS ***


                                   ** CONC OF PM_10    IN MICROGRAMS/M**3
              **


                        NETWORK
GROUP ID                      AVERAGE CONC                RECEPTOR  (XR, YR,
ZELEV, ZHILL, ZFLAG)  OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - -
```

```
ALL       1ST HIGHEST VALUE IS     770.28508 AT (  380884.56,  3742431.00,
18.44,    18.44,    0.00)  DC
          2ND HIGHEST VALUE IS     556.18612 AT (  380784.56,  3742831.00,
19.81,    19.81,    0.00)  DC
          3RD HIGHEST VALUE IS     555.75109 AT (  380784.56,  3742731.00,
19.79,    19.79,    0.00)  DC
          4TH HIGHEST VALUE IS     554.73882 AT (  380784.56,  3742931.00,
19.82,    19.82,    0.00)  DC
          5TH HIGHEST VALUE IS     552.78579 AT (  380784.56,  3742631.00,
19.77,    19.77,    0.00)  DC
          6TH HIGHEST VALUE IS     551.84255 AT (  380784.56,  3743031.00,
19.84,    19.84,    0.00)  DC
          7TH HIGHEST VALUE IS     547.72118 AT (  380784.56,  3743131.00,
19.85,    19.85,    0.00)  DC
          8TH HIGHEST VALUE IS     547.16217 AT (  380784.56,  3742531.00,
19.76,    19.76,    0.00)  DC
          9TH HIGHEST VALUE IS     541.78780 AT (  380784.56,  3743231.00,
19.87,    19.87,    0.00)  DC
         10TH HIGHEST VALUE IS     537.26737 AT (  380784.56,  3742431.00,
19.74,    19.74,    0.00)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
↑ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 3, LA
I-110\Segment 3, LA I-110.isc     ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                       ***        09:11:30

                                  PAGE  14
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

 *** Message Summary : AERMOD Model Execution ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of            2 Warning Message(s)
 A Total of         1017 Informational Message(s)

 A Total of        43848 Hours Were Processed

 A Total of          747 Calm Hours Identified

 A Total of          270 Missing Hours Identified (  0.62 Percent)
```

```
   ******** FATAL ERROR MESSAGES ********
              ***  NONE  ***


   ********   WARNING MESSAGES   ********
ME W186     137       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used
     0.50
ME W187     137       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET


   ***********************************
   *** AERMOD Finishes Successfully ***
   ***********************************
```

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.7.0
** Lakes Environmental Software Inc.
** Date: 10/28/2019
** File: C:\Lakes\AERMOD View\Segment 4, LA I-710\Segment 4, LA I-710.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\Segment 4, LA I-710\Segment 4, LA I-710.isc
   MODELOPT DFAULT CONC
   AVERTIME ANNUAL
   URBANOPT 97550
   POLLUTID PM_10
   RUNORNOT RUN
   ERRORFIL "Segment 4, LA I-710.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
** ----------------------------------------------------------------------
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE1
** DESCRSRC
** PREFIX
** Length of Side = 67.00
** Configuration = Adjacent
** Emission Rate = 23.0
** Vertical Dimension = 2.00
** SZINIT = 0.93
** Nodes = 4
** 390327.790, 3751957.600, 29.00, 2.00, 31.16
** 390256.180, 3751725.600, 29.00, 2.00, 31.16
** 390083.100, 3750558.360, 29.00, 2.00, 31.16
** 390039.340, 3750428.420, 28.97, 2.00, 31.16
```

```
** ------------------------------------------------------------------
   LOCATION L0000001     VOLUME   390317.910 3751925.590 29.00
   LOCATION L0000002     VOLUME   390298.149 3751861.570 29.00
   LOCATION L0000003     VOLUME   390278.389 3751797.551 29.00
   LOCATION L0000004     VOLUME   390258.628 3751733.531 29.00
   LOCATION L0000005     VOLUME   390247.570 3751667.535 29.00
   LOCATION L0000006     VOLUME   390237.743 3751601.260 29.00
   LOCATION L0000007     VOLUME   390227.915 3751534.984 29.00
   LOCATION L0000008     VOLUME   390218.088 3751468.709 29.00
   LOCATION L0000009     VOLUME   390208.260 3751402.434 29.00
   LOCATION L0000010     VOLUME   390198.433 3751336.158 29.00
   LOCATION L0000011     VOLUME   390188.606 3751269.883 29.00
   LOCATION L0000012     VOLUME   390178.778 3751203.608 29.00
   LOCATION L0000013     VOLUME   390168.951 3751137.332 29.00
   LOCATION L0000014     VOLUME   390159.123 3751071.057 29.00
   LOCATION L0000015     VOLUME   390149.296 3751004.782 29.00
   LOCATION L0000016     VOLUME   390139.469 3750938.506 29.00
   LOCATION L0000017     VOLUME   390129.641 3750872.231 29.00
   LOCATION L0000018     VOLUME   390119.814 3750805.956 29.00
   LOCATION L0000019     VOLUME   390109.986 3750739.680 29.00
   LOCATION L0000020     VOLUME   390100.159 3750673.405 29.00
   LOCATION L0000021     VOLUME   390090.332 3750607.130 29.00
   LOCATION L0000022     VOLUME   390077.452 3750541.588 29.00
   LOCATION L0000023     VOLUME   390056.068 3750478.092 29.00
** End of LINE VOLUME Source ID = SLINE1
** Source Parameters **
** LINE VOLUME Source ID = SLINE1
   SRCPARAM L0000001          1.0      2.00     31.16      0.93
   SRCPARAM L0000002          1.0      2.00     31.16      0.93
   SRCPARAM L0000003          1.0      2.00     31.16      0.93
   SRCPARAM L0000004          1.0      2.00     31.16      0.93
   SRCPARAM L0000005          1.0      2.00     31.16      0.93
   SRCPARAM L0000006          1.0      2.00     31.16      0.93
   SRCPARAM L0000007          1.0      2.00     31.16      0.93
   SRCPARAM L0000008          1.0      2.00     31.16      0.93
   SRCPARAM L0000009          1.0      2.00     31.16      0.93
   SRCPARAM L0000010          1.0      2.00     31.16      0.93
   SRCPARAM L0000011          1.0      2.00     31.16      0.93
   SRCPARAM L0000012          1.0      2.00     31.16      0.93
   SRCPARAM L0000013          1.0      2.00     31.16      0.93
   SRCPARAM L0000014          1.0      2.00     31.16      0.93
   SRCPARAM L0000015          1.0      2.00     31.16      0.93
   SRCPARAM L0000016          1.0      2.00     31.16      0.93
   SRCPARAM L0000017          1.0      2.00     31.16      0.93
   SRCPARAM L0000018          1.0      2.00     31.16      0.93
   SRCPARAM L0000019          1.0      2.00     31.16      0.93
   SRCPARAM L0000020          1.0      2.00     31.16      0.93
   SRCPARAM L0000021          1.0      2.00     31.16      0.93
   SRCPARAM L0000022          1.0      2.00     31.16      0.93
   SRCPARAM L0000023          1.0      2.00     31.16      0.93
```

```
** ------------------------------------------------------------------
   URBANSRC ALL
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED "Segment 4, LA I-710.rou"
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE "C:\Users\kheck\Desktop\MET
Data\LongBeachAirportADJU\KLGB_V9_ADJU\KLGB_v9.SFC"
   PROFFILE "C:\Users\kheck\Desktop\MET
Data\LongBeachAirportADJU\KLGB_V9_ADJU\KLGB_v9.PFL"
   SURFDATA 23129 2012
   UAIRDATA 3190 2012
   PROFBASE 7.3 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
** Auto-Generated Plotfiles
   PLOTFILE ANNUAL ALL "Segment 4, LA I-710.AD\AN00GALL.PLT" 31
   SUMMFILE "Segment 4, LA I-710.sum"
OU FINISHED


  *** Message Summary For AERMOD Model Setup ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of            2 Warning Message(s)
 A Total of            0 Informational Message(s)
```

```
   ******** FATAL ERROR MESSAGES ********
              ***  NONE  ***


   ********   WARNING MESSAGES   ********
 ME W186     126       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used
      0.50
 ME W187     126       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET


 *********************************
 *** SETUP Finishes Successfully ***
 *********************************

 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 4, LA
I-710\Segment 4, LA I-710.isc     ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                         ***       09:43:12

                                   PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                            ***     MODEL SETUP OPTIONS SUMMARY
  ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - -

 **Model Is Setup For Calculation of Average CONCentration Values.

   --  DEPOSITION LOGIC  --
 **NO GAS DEPOSITION Data Provided.
 **NO PARTICLE DEPOSITION Data Provided.
 **Model Uses NO DRY DEPLETION.  DRYDPLT  =  F
 **Model Uses NO WET DEPLETION.  WETDPLT  =  F

 **Model Uses URBAN Dispersion Algorithm for the SBL for    23 Source(s),
   for Total of    1 Urban Area(s):
   Urban Population =     97550.0 ;  Urban Roughness Length =  1.000 m

 **Model Uses Regulatory DEFAULT Options:
         1. Stack-tip Downwash.
         2. Model Accounts for ELEVated Terrain Effects.
         3. Use Calms Processing Routine.
         4. Use Missing Data Processing Routine.
         5. No Exponential Decay.
         6. Urban Roughness Length of 1.0 Meter Assumed.

 **Other Options Specified:
         ADJ_U*   - Use ADJ_U* option for SBL in AERMET
         CCVR_Sub - Meteorological data includes CCVR substitutions
```

```
         TEMP_Sub - Meteorological data includes TEMP substitutions

 **Model Assumes No FLAGPOLE Receptor Heights.

 **The User Specified a Pollutant Type of:  PM_10

 **Model Calculates ANNUAL Averages Only

 **This Run Includes:     23 Source(s);       1 Source Group(s); and     149
Receptor(s)

                with:      0 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                 and:     23 VOLUME source(s)
                 and:      0 AREA type source(s)
                 and:      0 LINE source(s)
                 and:      0 OPENPIT source(s)
                 and:      0 BUOYANT LINE source(s) with      0 line(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  16216

 **Output Options Selected:
          Model Outputs Tables of ANNUAL Averages by Receptor
          Model Outputs External File(s) of High Values for Plotting (PLOTFILE
Keyword)
          Model Outputs Separate Summary File of High Ranked Values (SUMMFILE
Keyword)

 **NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                 m for Missing
Hours
                                                                 b for Both Calm
and Missing Hours

 **Misc. Inputs:  Base Elev. for Pot. Temp. Profile (m MSL) =     7.30 ;  Decay
Coef. =    0.000     ;  Rot. Angle =     0.0
                  Emission Units = GRAMS/SEC                                 ;
Emission Rate Unit Factor =   0.10000E+07
                  Output Units   = MICROGRAMS/M**3

 **Approximate Storage Requirements of Model =      3.5 MB of RAM.

 **Input Runstream File:          aermod.inp

 **Output Print File:             aermod.out
```

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER EMISSION RATE PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ	URBAN SOURCE	EMISSION RATE VARY BY
L0000001	0	0.10000E+01	390317.9	3751925.6	29.0	2.00	31.16	0.93	YES	
L0000002	0	0.10000E+01	390298.1	3751861.6	29.0	2.00	31.16	0.93	YES	
L0000003	0	0.10000E+01	390278.4	3751797.6	29.0	2.00	31.16	0.93	YES	
L0000004	0	0.10000E+01	390258.6	3751733.5	29.0	2.00	31.16	0.93	YES	
L0000005	0	0.10000E+01	390247.6	3751667.5	29.0	2.00	31.16	0.93	YES	
L0000006	0	0.10000E+01	390237.7	3751601.3	29.0	2.00	31.16	0.93	YES	
L0000007	0	0.10000E+01	390227.9	3751535.0	29.0	2.00	31.16	0.93	YES	
L0000008	0	0.10000E+01	390218.1	3751468.7	29.0	2.00	31.16	0.93	YES	
L0000009	0	0.10000E+01	390208.3	3751402.4	29.0	2.00	31.16	0.93	YES	
L0000010	0	0.10000E+01	390198.4	3751336.2	29.0	2.00	31.16	0.93	YES	
L0000011	0	0.10000E+01	390188.6	3751269.9	29.0	2.00	31.16	0.93	YES	
L0000012	0	0.10000E+01	390178.8	3751203.6	29.0	2.00	31.16	0.93	YES	
L0000013	0	0.10000E+01	390169.0	3751137.3	29.0	2.00	31.16	0.93	YES	

```
 L0000014         0   0.10000E+01  390159.1 3751071.1    29.0     2.00    31.16
0.93     YES
 L0000015         0   0.10000E+01  390149.3 3751004.8    29.0     2.00    31.16
0.93     YES
 L0000016         0   0.10000E+01  390139.5 3750938.5    29.0     2.00    31.16
0.93     YES
 L0000017         0   0.10000E+01  390129.6 3750872.2    29.0     2.00    31.16
0.93     YES
 L0000018         0   0.10000E+01  390119.8 3750806.0    29.0     2.00    31.16
0.93     YES
 L0000019         0   0.10000E+01  390110.0 3750739.7    29.0     2.00    31.16
0.93     YES
 L0000020         0   0.10000E+01  390100.2 3750673.4    29.0     2.00    31.16
0.93     YES
 L0000021         0   0.10000E+01  390090.3 3750607.1    29.0     2.00    31.16
0.93     YES
 L0000022         0   0.10000E+01  390077.5 3750541.6    29.0     2.00    31.16
0.93     YES
 L0000023         0   0.10000E+01  390056.1 3750478.1    29.0     2.00    31.16
0.93     YES
↑ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 4, LA
I-710\Segment 4, LA I-710.isc     ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                         ***       09:43:12

                                   PAGE   3
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                          *** SOURCE IDs DEFINING SOURCE GROUPS
***

 SRCGROUP ID                                          SOURCE IDs
 -----------                                          ----------


  ALL        L0000001    , L0000002    , L0000003    , L0000004    , L0000005    ,
L0000006    , L0000007    , L0000008    ,

             L0000009    , L0000010    , L0000011    , L0000012    , L0000013    ,
L0000014    , L0000015    , L0000016    ,

             L0000017    , L0000018    , L0000019    , L0000020    , L0000021    ,
L0000022    , L0000023    ,
↑ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 4, LA
I-710\Segment 4, LA I-710.isc     ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                         ***       09:43:12

                                   PAGE   4
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*** SOURCE IDs DEFINED AS URBAN SOURCES ***

URBAN ID	URBAN POP	SOURCE IDs
	97550.	L0000001 , L0000002 , L0000003 , L0000004 , L0000005 , L0000006 , L0000007 , L0000008 ,
		L0000009 , L0000010 , L0000011 , L0000012 , L0000013 , L0000014 , L0000015 , L0000016 ,
		L0000017 , L0000018 , L0000019 , L0000020 , L0000021 , L0000022 , L0000023 ,

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(389682.8, 3750743.0, 15.2, 15.2, 0.0); (389682.8, 3750843.0, 15.1, 15.1, 0.0);
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(389682.8, 3751143.0, 14.7, 21.0, 0.0); (389682.8, 3751243.0, 14.6, 21.0, 0.0);
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(389782.8, 3750843.0, 23.6, 23.6, 0.0); (389782.8, 3750943.0, 23.5, 23.5, 0.0);
(389782.8, 3751043.0, 23.4, 23.4, 0.0); (389782.8, 3751143.0, 23.4, 23.4, 0.0);
(389782.8, 3751243.0, 23.3, 23.3, 0.0); (389782.8, 3751343.0, 23.3, 23.3, 0.0);
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     ( 389782.8, 3751643.0,      23.1,      23.1,       0.0);         ( 389782.8,
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 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 4, LA
I-710\Segment 4, LA I-710.isc     ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                        ***        09:43:12

                                   PAGE   6
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                       (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                   (METERS)

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3750779.9,      29.0,      29.0,       0.0);
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     ( 390270.8, 3751980.1,      29.0,      29.0,       0.0);         ( 390199.0,
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 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 4, LA
I-710\Segment 4, LA I-710.isc     ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                          ***       09:43:12

                                   PAGE   7
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*
```

* SOURCE-RECEPTOR COMBINATIONS FOR WHICH CALCULATIONS MAY NOT BE PERFORMED *

LESS THAN 1.0 METER; WITHIN OPENPIT; OR BEYOND 80KM FOR FASTAREA/FASTALL

SOURCE ID	- - RECEPTOR LOCATION - - XR (METERS)	YR (METERS)	DISTANCE (METERS)
L0000001	390352.8	3751964.8	-14.51
L0000003	390311.8	3751739.1	0.37
L0000004	390311.8	3751739.1	-13.53
L0000005	390199.0	3751662.1	-18.08
L0000016	390082.8	3750943.0	-10.10
L0000017	390082.8	3750843.0	-11.74
L0000018	390082.8	3750843.0	-14.59
L0000018	390178.4	3750779.9	-2.83
L0000019	390082.8	3750743.0	-39.56
L0000019	390070.7	3750702.9	-13.23
L0000020	390070.7	3750702.9	-25.30
L0000023	390014.3	3750446.5	-14.61

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***

(1=YES; 0=NO)

```
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
```

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***

(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: C:\Users\kheck\Desktop\MET Data\LongBeachAirportADJU\KLGB_V9_ADJU\KLGB_v9.SFC Met Version: 16216
Profile file: C:\Users\kheck\Desktop\MET Data\LongBeachAirportADJU\KLGB_V9_ADJU\KLGB_v9.PFL
Surface format: FREE

Profile format: FREE

Surface station no.: 23129 Upper air station no.: 3190
Name: UNKNOWN Name: UNKNOWN

Year: 2012 Year: 2012

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
12	01	01	1	01	-5.3	0.094	-9.000	-9.000	-999.	70.	14.3	0.10	2.68	1.00	1.13	322.	7.9	282.0	2.0
12	01	01	1	02	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.10	2.68	1.00	0.00	0.	7.9	281.4	2.0
12	01	01	1	03	-2.5	0.068	-9.000	-9.000	-999.	43.	11.4	0.10	2.68	1.00	0.74	79.	7.9	280.9	2.0
12	01	01	1	04	-3.2	0.075	-9.000	-9.000	-999.	49.	11.7	0.10	2.68	1.00	0.86	137.	7.9	280.9	2.0
12	01	01	1	05	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.10	2.68	1.00	0.00	0.	7.9	280.4	2.0
12	01	01	1	06	-5.2	0.093	-9.000	-9.000	-999.	68.	14.0	0.10	2.68	1.00	1.11	92.	7.9	279.9	2.0
12	01	01	1	07	-2.3	0.066	-9.000	-9.000	-999.	41.	11.5	0.10	2.68	1.00	0.69	67.	7.9	278.8	2.0
12	01	01	1	08	-1.7	0.060	-9.000	-9.000	-999.	36.	11.4	0.10	2.68	0.54	0.65	91.	7.9	279.9	2.0
12	01	01	1	09	36.2	-9.000	-9.000	-9.000	37.	-999.	-99999.0	0.10	2.68	0.31	0.00	0.	7.9	283.8	2.0
12	01	01	1	10	108.4	0.139	0.707	0.009	119.	124.	-2.3	0.10	2.68	0.24	0.92	319.	7.9	287.5	2.0
12	01	01	1	11	160.5	0.114	1.137	0.005	334.	93.	-1.0	0.10	2.68	0.21	0.62	23.	7.9	292.5	2.0
12	01	01	1	12	186.7	0.125	1.473	0.005	623.	105.	-1.0	0.10	2.68	0.20	0.69	18.	7.9	295.4	2.0
12	01	01	1	13	186.8	0.130	1.761	0.005	1065.	112.	-1.1	0.10	2.68	0.20	0.74	250.	7.9	297.5	2.0
12	01	01	1	14	161.7	0.150	1.834	0.005	1387.	139.	-1.9	0.10	2.68	0.21	0.96	347.	7.9	300.4	2.0
12	01	01	1	15	105.5	0.243	1.633	0.005	1499.	288.	-12.4	0.10	2.68	0.24	2.11	194.	7.9	295.9	2.0
12	01	01	1	16	32.4	0.211	1.109	0.005	1530.	233.	-26.3	0.10	2.68	0.33	1.98	186.	7.9	295.4	2.0
12	01	01	1	17	-20.5	0.250	-9.000	-9.000	-999.	300.	69.2	0.10	2.68	0.60	2.81	293.	7.9	291.4	2.0
12	01	01	1	18	-25.4	0.257	-9.000	-9.000	-999.	313.	72.8	0.10	2.68	1.00	2.90	301.	7.9	288.1	2.0
12	01	01	1	19	-21.0	0.211	-9.000	-9.000	-999.	233.	49.0	0.10	2.68	1.00	2.40	313.	7.9	286.4	2.0
12	01	01	1	20	-25.7	0.258	-9.000	-9.000	-999.	315.	73.3	0.10	2.68	1.00	2.91	302.	7.9	286.4	2.0
12	01	01	1	21	-22.5	0.225	-9.000	-9.000	-999.	256.	55.7	0.10	2.68	1.00	2.55	306.	7.9	285.4	2.0
12	01	01	1	22	-9.3	0.126	-9.000	-9.000	-999.	111.	19.5	0.10	2.68	1.00	1.48	284.	7.9	285.9	2.0

```
 12 01 01   1 23  -21.4  0.214 -9.000 -9.000 -999.  237.     50.3  0.10   2.68
1.00    2.43  282.    7.9  285.4    2.0
 12 01 01   1 24  -30.1  0.300 -9.000 -9.000 -999.  394.     98.9  0.10   2.68
1.00    3.36  300.    7.9  284.2    2.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 12 01 01 01    7.9 1  322.    1.13   282.1   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 4, LA
I-710\Segment 4, LA I-710.isc     ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                       ***        09:43:12

                                  PAGE  10
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                  *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                  INCLUDING SOURCE(S):     L0000001    , L0000002
 , L0000003    , L0000004    , L0000005    ,
                  L0000006    , L0000007    , L0000008    , L0000009    , L0000010
 , L0000011    , L0000012    , L0000013    ,
                  L0000014    , L0000015    , L0000016    , L0000017    , L0000018
 , L0000019    , L0000020    , L0000021    ,
                  L0000022    , L0000023    ,

                                             *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_10    IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - -
         389682.75    3750743.00       60.50946                     389682.75
3750843.00       63.41042
         389682.75    3750943.00       65.12493                     389682.75
3751043.00       65.90922
         389682.75    3751143.00       65.95636                     389682.75
3751243.00       65.36317
         389682.75    3751343.00       64.18958                     389682.75
3751443.00       62.44595
         389682.75    3751543.00       60.07132                     389682.75
3751643.00       56.99102
         389682.75    3751743.00       53.19434                     389782.75
```

3750743.00 88.81984
389782.75 3750843.00 92.05585 389782.75
3750943.00 93.40461
389782.75 3751043.00 93.40298 389782.75
3751143.00 92.39161
389782.75 3751243.00 90.58387 389782.75
3751343.00 88.09671
389782.75 3751443.00 84.95973 389782.75
3751543.00 81.10070
389782.75 3751643.00 76.33249 389782.75
3751743.00 70.49517
389882.75 3750743.00 138.74329 389882.75
3750843.00 139.84123
389882.75 3750943.00 138.33937 389882.75
3751043.00 135.27970
389882.75 3751143.00 131.23801 389882.75
3751243.00 126.52614
389882.75 3751343.00 121.29165 389882.75
3751443.00 115.55391
389882.75 3751543.00 109.18452 389882.75
3751643.00 101.82366
389882.75 3751743.00 92.95889 389982.75
3750743.00 263.09116
389982.75 3750843.00 247.56481 389982.75
3750943.00 232.25010
389982.75 3751043.00 217.78762 389982.75
3751143.00 204.25416
389982.75 3751243.00 191.55539 389982.75
3751343.00 179.46306
389982.75 3751443.00 167.72563 389982.75
3751543.00 155.96748
389982.75 3751643.00 143.51921 389982.75
3751743.00 129.08782
390082.75 3750743.00 488.92433 390082.75
3750843.00 279.09478
390082.75 3750943.00 402.88828 390082.75
3751043.00 510.19148
390082.75 3751143.00 426.96129 390082.75
3751243.00 368.42811
390082.75 3751343.00 324.26681 390082.75
3751443.00 288.96975
390082.75 3751543.00 258.87776 390082.75
3751643.00 231.24860
390082.75 3751743.00 202.17441 390182.75
3751643.00 591.30637
390182.75 3751743.00 456.49925 390382.75
3750743.00 171.62619
390382.75 3750843.00 185.07146 390482.75
3750743.00 128.59661
390482.75 3750843.00 136.40452 390482.75

```
3751443.00      177.44110
         390482.75    3751543.00      182.08221                      390482.75
3751643.00      185.83899
         390582.75    3750743.00      102.69765                      390582.75
3750843.00      107.70295
         390582.75    3750943.00      112.31381                      390582.75
3751043.00      116.54259
         390582.75    3751143.00      120.34220                      390582.75
3751243.00      123.57643
         390582.75    3751343.00      125.97862                      390582.75
3751443.00      127.14334
         390582.75    3751543.00      126.52731                      390582.75
3751643.00      122.23621
         390582.75    3751743.00      108.23284                      390682.75
3750743.00       85.15317
         390682.75    3750843.00       88.48758                      390682.75
3750943.00       91.41864
         390682.75    3751043.00       93.90214                      390682.75
3751143.00       95.84125
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 4, LA
I-710\Segment 4, LA I-710.isc     ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                       ***        09:43:12

                                  PAGE  11
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                  *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                  INCLUDING SOURCE(S):     L0000001    , L0000002
 , L0000003    , L0000004    , L0000005    ,
                L0000006    , L0000007    , L0000008    , L0000009    , L0000010
 , L0000011    , L0000012    , L0000013    ,
                L0000014    , L0000015    , L0000016    , L0000017    , L0000018
 , L0000019    , L0000020    , L0000021    ,
                L0000022    , L0000023    ,

                                             *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_10    IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
         390682.75    3751243.00       97.05128                      390682.75
3751343.00       97.23182
         390682.75    3751443.00       95.90629                      390682.75
```

3751543.00 92.05185
390682.75 3751643.00 83.48406 390682.75
3751743.00 68.97966
389682.75 3751993.00 42.33679 389682.75
3752243.00 32.48824
389932.75 3751993.00 74.51276 389932.75
3752243.00 47.49135
390182.75 3751993.00 170.00607 390182.75
3752243.00 62.25947
390432.75 3752243.00 49.99926 390682.75
3751993.00 40.34123
390682.75 3752243.00 27.78099 390932.75
3751993.00 23.72193
390932.75 3752243.00 18.39039 391182.75
3751993.00 16.30106
391182.75 3752243.00 13.44042 390932.75
3751743.00 32.17377
390932.75 3751493.00 47.95525 390932.75
3751243.00 58.14256
390932.75 3750993.00 60.23962 390932.75
3750743.00 58.31869
390932.75 3750493.00 54.20501 390932.75
3750243.00 48.36674
391182.75 3751743.00 20.07554 391182.75
3751493.00 27.09891
391182.75 3751243.00 36.06316 391182.75
3750993.00 41.29783
391182.75 3750743.00 42.50689 391182.75
3750493.00 41.33185
391182.75 3750243.00 38.70051 390682.75
3750493.00 75.15488
390682.75 3750243.00 61.74485 390432.75
3750493.00 119.04036
390432.75 3750243.00 77.37497 390182.75
3750243.00 67.57039
389932.75 3750493.00 151.66327 389932.75
3750243.00 44.46284
389682.75 3750493.00 47.06259 389682.75
3750243.00 28.75676
389432.75 3750493.00 28.54641 389432.75
3750243.00 20.84567
389182.75 3750493.00 20.47982 389182.75
3750243.00 16.35124
389432.75 3750743.00 34.63782 389432.75
3750993.00 38.37889
389432.75 3751243.00 39.38593 389432.75
3751493.00 37.92299
389432.75 3751743.00 34.10793 389432.75
3751993.00 29.16249
389432.75 3752243.00 24.34389 389182.75

```
3750743.00       23.81752
         389182.75    3750993.00       26.10230                         389182.75
3751243.00       26.99056
         389182.75    3751493.00       26.24341                         389182.75
3751743.00       24.13322
         389182.75    3751993.00       21.45395                         389182.75
3752243.00       18.74407
         389888.48    3751448.38      117.44836                         390014.31
3750446.47      112.93901
         390101.50    3750420.82      347.57257                         390178.44
3750779.88      410.02595
         390311.81    3751739.06      257.98328                         390352.84
3751964.76      150.92756
         390270.77    3751980.14      350.28390                         390198.96
3751662.12      451.74716
         390070.73    3750702.94      272.60816
```



```
                                   *** THE SUMMARY OF MAXIMUM ANNUAL RESULTS
AVERAGED OVER   5 YEARS ***


                                    ** CONC OF PM_10    IN MICROGRAMS/M**3
                **



                         NETWORK
GROUP ID                       AVERAGE CONC                RECEPTOR  (XR, YR,
ZELEV, ZHILL, ZFLAG)  OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -

ALL       1ST HIGHEST VALUE IS     591.30637 AT (  390182.75,  3751643.00,
29.00,    29.00,    0.00)  DC
          2ND HIGHEST VALUE IS     510.19148 AT (  390082.75,  3751043.00,
29.00,    29.00,    0.00)  DC
          3RD HIGHEST VALUE IS     488.92433 AT (  390082.75,  3750743.00,
29.00,    29.00,    0.00)  DC
          4TH HIGHEST VALUE IS     456.49925 AT (  390182.75,  3751743.00,
29.00,    29.00,    0.00)  DC
          5TH HIGHEST VALUE IS     451.74716 AT (  390198.96,  3751662.12,
29.00,    29.00,    0.00)  DC
          6TH HIGHEST VALUE IS     426.96129 AT (  390082.75,  3751143.00,
```

```
29.00,    29.00,    0.00)  DC
          7TH HIGHEST VALUE IS     410.02595 AT (  390178.44,  3750779.88,
29.00,    29.00,    0.00)  DC
          8TH HIGHEST VALUE IS     402.88828 AT (  390082.75,  3750943.00,
29.00,    29.00,    0.00)  DC
          9TH HIGHEST VALUE IS     368.42811 AT (  390082.75,  3751243.00,
29.00,    29.00,    0.00)  DC
         10TH HIGHEST VALUE IS     350.28390 AT (  390270.77,  3751980.14,
29.00,    29.00,    0.00)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 4, LA
I-710\Segment 4, LA I-710.isc     ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                       ***        09:43:12

                                  PAGE  13
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

 *** Message Summary : AERMOD Model Execution ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of            2 Warning Message(s)
 A Total of         1017 Informational Message(s)

 A Total of        43848 Hours Were Processed

 A Total of          747 Calm Hours Identified

 A Total of          270 Missing Hours Identified (  0.62 Percent)


    ******** FATAL ERROR MESSAGES ********
               ***  NONE  ***


    ********   WARNING MESSAGES   ********
 ME W186     126       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used
      0.50
 ME W187     126       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET


    ***********************************
    *** AERMOD Finishes Successfully ***
```

****

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.7.0
** Lakes Environmental Software Inc.
** Date: 10/28/2019
** File: C:\Lakes\AERMOD View\Segment 5, LA SR-60 DB\Segment 5, LA SR-60 DB.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\Segment 5, LA SR-60 DB\Segment 5, LA SR-60 DB.i
   MODELOPT DFAULT CONC
   AVERTIME ANNUAL
   URBANOPT 56793
   POLLUTID PM_10
   RUNORNOT RUN
   ERRORFIL "Segment 5, LA SR-60 DB.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
** ----------------------------------------------------------------------
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE1
** DESCRSRC
** PREFIX
** Length of Side = 56.00
** Configuration = Adjacent
** Emission Rate = 29.0
** Vertical Dimension = 2.00
** SZINIT = 0.93
** Nodes = 5
** 426025.770, 3765446.350, 238.01, 2.00, 26.05
** 425364.450, 3765194.950, 242.42, 2.00, 26.05
** 425070.270, 3765055.580, 219.13, 2.00, 26.05
** 424880.610, 3764863.090, 220.40, 2.00, 26.05
```

```
** 424689.830, 3764610.670, 222.18, 2.00, 26.05
** ----------------------------------------------------------------
   LOCATION L0000001     VOLUME   425999.597 3765436.400 239.29
   LOCATION L0000002     VOLUME   425947.252 3765416.501 239.65
   LOCATION L0000003     VOLUME   425894.907 3765396.602 245.62
   LOCATION L0000004     VOLUME   425842.561 3765376.703 250.04
   LOCATION L0000005     VOLUME   425790.216 3765356.804 242.64
   LOCATION L0000006     VOLUME   425737.871 3765336.905 241.52
   LOCATION L0000007     VOLUME   425685.526 3765317.006 238.30
   LOCATION L0000008     VOLUME   425633.180 3765297.107 232.06
   LOCATION L0000009     VOLUME   425580.835 3765277.208 235.97
   LOCATION L0000010     VOLUME   425528.490 3765257.309 239.14
   LOCATION L0000011     VOLUME   425476.144 3765237.410 232.71
   LOCATION L0000012     VOLUME   425423.799 3765217.511 240.46
   LOCATION L0000013     VOLUME   425371.454 3765197.612 243.92
   LOCATION L0000014     VOLUME   425320.613 3765174.182 235.61
   LOCATION L0000015     VOLUME   425270.006 3765150.206 238.28
   LOCATION L0000016     VOLUME   425219.398 3765126.230 240.43
   LOCATION L0000017     VOLUME   425168.790 3765102.255 229.90
   LOCATION L0000018     VOLUME   425118.182 3765078.279 219.32
   LOCATION L0000019     VOLUME   425068.176 3765053.455 218.68
   LOCATION L0000020     VOLUME   425028.873 3765013.565 221.46
   LOCATION L0000021     VOLUME   424989.569 3764973.675 224.55
   LOCATION L0000022     VOLUME   424950.265 3764933.785 223.63
   LOCATION L0000023     VOLUME   424910.962 3764893.895 221.80
   LOCATION L0000024     VOLUME   424872.919 3764852.914 219.97
   LOCATION L0000025     VOLUME   424839.154 3764808.239 220.91
   LOCATION L0000026     VOLUME   424805.388 3764763.564 219.92
   LOCATION L0000027     VOLUME   424771.622 3764718.889 222.61
   LOCATION L0000028     VOLUME   424737.856 3764674.214 223.98
   LOCATION L0000029     VOLUME   424704.091 3764629.538 223.39
** End of LINE VOLUME Source ID = SLINE1
** Source Parameters **
** LINE VOLUME Source ID = SLINE1
   SRCPARAM L0000001          1.0      2.00     26.05      0.93
   SRCPARAM L0000002          1.0      2.00     26.05      0.93
   SRCPARAM L0000003          1.0      2.00     26.05      0.93
   SRCPARAM L0000004          1.0      2.00     26.05      0.93
   SRCPARAM L0000005          1.0      2.00     26.05      0.93
   SRCPARAM L0000006          1.0      2.00     26.05      0.93
   SRCPARAM L0000007          1.0      2.00     26.05      0.93
   SRCPARAM L0000008          1.0      2.00     26.05      0.93
   SRCPARAM L0000009          1.0      2.00     26.05      0.93
   SRCPARAM L0000010          1.0      2.00     26.05      0.93
   SRCPARAM L0000011          1.0      2.00     26.05      0.93
   SRCPARAM L0000012          1.0      2.00     26.05      0.93
   SRCPARAM L0000013          1.0      2.00     26.05      0.93
   SRCPARAM L0000014          1.0      2.00     26.05      0.93
   SRCPARAM L0000015          1.0      2.00     26.05      0.93
   SRCPARAM L0000016          1.0      2.00     26.05      0.93
```

```
   SRCPARAM L0000017          1.0      2.00     26.05      0.93
   SRCPARAM L0000018          1.0      2.00     26.05      0.93
   SRCPARAM L0000019          1.0      2.00     26.05      0.93
   SRCPARAM L0000020          1.0      2.00     26.05      0.93
   SRCPARAM L0000021          1.0      2.00     26.05      0.93
   SRCPARAM L0000022          1.0      2.00     26.05      0.93
   SRCPARAM L0000023          1.0      2.00     26.05      0.93
   SRCPARAM L0000024          1.0      2.00     26.05      0.93
   SRCPARAM L0000025          1.0      2.00     26.05      0.93
   SRCPARAM L0000026          1.0      2.00     26.05      0.93
   SRCPARAM L0000027          1.0      2.00     26.05      0.93
   SRCPARAM L0000028          1.0      2.00     26.05      0.93
   SRCPARAM L0000029          1.0      2.00     26.05      0.93
** ----------------------------------------------------------------------
   URBANSRC ALL
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED "Segment 5, LA SR-60 DB.rou"
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE "C:\Users\kheck\Desktop\MET Data\PicoRiveraADJU
(1)\PICO_V9_ADJU\PICO_v9.SFC"
   PROFFILE "C:\Users\kheck\Desktop\MET Data\PicoRiveraADJU
(1)\PICO_V9_ADJU\PICO_v9.PFL"
   SURFDATA 3166 2010
   UAIRDATA 3190 2010
   SITEDATA 99999 2010
   PROFBASE 46.6 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
** Auto-Generated Plotfiles
```

```
   PLOTFILE ANNUAL ALL "Segment 5, LA SR-60 DB.AD\AN00GALL.PLT" 31
   SUMMFILE "Segment 5, LA SR-60 DB.sum"
OU FINISHED


  *** Message Summary For AERMOD Model Setup ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of            2 Warning Message(s)
 A Total of            0 Informational Message(s)


    ******** FATAL ERROR MESSAGES ********
              ***  NONE  ***


    ********   WARNING MESSAGES   ********
 ME W186     140       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used
      0.50
 ME W187     140       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET


 **********************************
 *** SETUP Finishes Successfully ***
 **********************************

 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 5, LA SR-60
DB\Segment 5, LA SR-60 DB.i ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                        ***        10:02:30

                                   PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                          ***     MODEL SETUP OPTIONS SUMMARY
  ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - -

 **Model Is Setup For Calculation of Average CONCentration Values.

   --  DEPOSITION LOGIC  --
 **NO GAS DEPOSITION Data Provided.
 **NO PARTICLE DEPOSITION Data Provided.
 **Model Uses NO DRY DEPLETION.  DRYDPLT  =  F
 **Model Uses NO WET DEPLETION.  WETDPLT  =  F

 **Model Uses URBAN Dispersion Algorithm for the SBL for    29 Source(s),
```

```
   for Total of    1 Urban Area(s):
   Urban Population =     56793.0 ;  Urban Roughness Length =  1.000 m

 **Model Uses Regulatory DEFAULT Options:
        1. Stack-tip Downwash.
        2. Model Accounts for ELEVated Terrain Effects.
        3. Use Calms Processing Routine.
        4. Use Missing Data Processing Routine.
        5. No Exponential Decay.
        6. Urban Roughness Length of 1.0 Meter Assumed.

 **Other Options Specified:
        ADJ_U*   - Use ADJ_U* option for SBL in AERMET
        TEMP_Sub - Meteorological data includes TEMP substitutions

 **Model Assumes No FLAGPOLE Receptor Heights.

 **The User Specified a Pollutant Type of:  PM_10

 **Model Calculates ANNUAL Averages Only

 **This Run Includes:     29 Source(s);       1 Source Group(s); and     185
Receptor(s)

               with:      0 POINT(s), including
                          0 POINTCAP(s) and      0 POINTHOR(s)
                and:     29 VOLUME source(s)
                and:      0 AREA type source(s)
                and:      0 LINE source(s)
                and:      0 OPENPIT source(s)
                and:      0 BUOYANT LINE source(s) with      0 line(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  16216

 **Output Options Selected:
         Model Outputs Tables of ANNUAL Averages by Receptor
         Model Outputs External File(s) of High Values for Plotting (PLOTFILE
Keyword)
         Model Outputs Separate Summary File of High Ranked Values (SUMMFILE
Keyword)

 **NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                 m for Missing
Hours
                                                                 b for Both Calm
and Missing Hours
```

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0000001	0	0.10000E+01	425999.6	3765436.4	239.3	2.00	26.05	0.93	YES	
L0000002	0	0.10000E+01	425947.3	3765416.5	239.7	2.00	26.05	0.93	YES	
L0000003	0	0.10000E+01	425894.9	3765396.6	245.6	2.00	26.05	0.93	YES	
L0000004	0	0.10000E+01	425842.6	3765376.7	250.0	2.00	26.05	0.93	YES	
L0000005	0	0.10000E+01	425790.2	3765356.8	242.6	2.00	26.05	0.93	YES	
L0000006	0	0.10000E+01	425737.9	3765336.9	241.5	2.00	26.05	0.93	YES	
L0000007	0	0.10000E+01	425685.5	3765317.0	238.3	2.00	26.05			

```
0.93     YES
 L0000008         0   0.10000E+01  425633.2 3765297.1   232.1     2.00    26.05
0.93     YES
 L0000009         0   0.10000E+01  425580.8 3765277.2   236.0     2.00    26.05
0.93     YES
 L0000010         0   0.10000E+01  425528.5 3765257.3   239.1     2.00    26.05
0.93     YES
 L0000011         0   0.10000E+01  425476.1 3765237.4   232.7     2.00    26.05
0.93     YES
 L0000012         0   0.10000E+01  425423.8 3765217.5   240.5     2.00    26.05
0.93     YES
 L0000013         0   0.10000E+01  425371.5 3765197.6   243.9     2.00    26.05
0.93     YES
 L0000014         0   0.10000E+01  425320.6 3765174.2   235.6     2.00    26.05
0.93     YES
 L0000015         0   0.10000E+01  425270.0 3765150.2   238.3     2.00    26.05
0.93     YES
 L0000016         0   0.10000E+01  425219.4 3765126.2   240.4     2.00    26.05
0.93     YES
 L0000017         0   0.10000E+01  425168.8 3765102.3   229.9     2.00    26.05
0.93     YES
 L0000018         0   0.10000E+01  425118.2 3765078.3   219.3     2.00    26.05
0.93     YES
 L0000019         0   0.10000E+01  425068.2 3765053.5   218.7     2.00    26.05
0.93     YES
 L0000020         0   0.10000E+01  425028.9 3765013.6   221.5     2.00    26.05
0.93     YES
 L0000021         0   0.10000E+01  424989.6 3764973.7   224.6     2.00    26.05
0.93     YES
 L0000022         0   0.10000E+01  424950.3 3764933.8   223.6     2.00    26.05
0.93     YES
 L0000023         0   0.10000E+01  424911.0 3764893.9   221.8     2.00    26.05
0.93     YES
 L0000024         0   0.10000E+01  424872.9 3764852.9   220.0     2.00    26.05
0.93     YES
 L0000025         0   0.10000E+01  424839.2 3764808.2   220.9     2.00    26.05
0.93     YES
 L0000026         0   0.10000E+01  424805.4 3764763.6   219.9     2.00    26.05
0.93     YES
 L0000027         0   0.10000E+01  424771.6 3764718.9   222.6     2.00    26.05
0.93     YES
 L0000028         0   0.10000E+01  424737.9 3764674.2   224.0     2.00    26.05
0.93     YES
 L0000029         0   0.10000E+01  424704.1 3764629.5   223.4     2.00    26.05
0.93     YES
↟ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 5, LA SR-60
DB\Segment 5, LA SR-60 DB.i ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                       ***         10:02:30
```

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs
ALL	L0000001 , L0000002 , L0000003 , L0000004 , L0000005 , L0000006 , L0000007 , L0000008 , L0000009 , L0000010 , L0000011 , L0000012 , L0000013 , L0000014 , L0000015 , L0000016 , L0000017 , L0000018 , L0000019 , L0000020 , L0000021 , L0000022 , L0000023 , L0000024 , L0000025 , L0000026 , L0000027 , L0000028 , L0000029 ,

*** SOURCE IDs DEFINED AS URBAN SOURCES ***

URBAN ID	URBAN POP	SOURCE IDs
	56793.	L0000001 , L0000002 , L0000003 , L0000004 , L0000005 , L0000006 , L0000007 , L0000008 , L0000009 , L0000010 , L0000011 , L0000012 , L0000013 , L0000014 , L0000015 , L0000016 , L0000017 , L0000018 , L0000019 , L0000020 , L0000021 , L0000022 , L0000023 , L0000024 , L0000025 , L0000026 , L0000027 , L0000028 , L0000029 ,

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(424840.4, 3764682.5, 218.0, 366.0, 0.0); (424840.4, 3764782.5, 220.9, 263.0, 0.0);
(424840.4, 3764882.5, 227.3, 263.0, 0.0); (424840.4, 3764982.5, 240.9, 263.0, 0.0);
(424840.4, 3765082.5, 259.6, 259.6, 0.0); (424840.4, 3765182.5, 246.9, 263.0, 0.0);
(424840.4, 3765282.5, 236.7, 263.0, 0.0); (424840.4, 3765382.5, 248.3, 252.0, 0.0);
(424840.4, 3765482.5, 232.9, 252.0, 0.0); (424840.4, 3765582.5, 220.6, 252.0, 0.0);
(424840.4, 3765682.5, 219.9, 252.0, 0.0); (424940.4, 3764682.5, 220.1, 368.0, 0.0);
(424940.4, 3764782.5, 219.0, 366.0, 0.0); (424940.4, 3764882.5, 219.0, 362.0, 0.0);
(424940.4, 3764982.5, 238.0, 263.0, 0.0); (424940.4, 3765082.5, 241.3, 263.0, 0.0);
(424940.4, 3765182.5, 218.9, 263.0, 0.0); (424940.4, 3765282.5, 233.8, 263.0, 0.0);
(424940.4, 3765382.5, 223.5, 263.0, 0.0); (424940.4, 3765482.5, 234.0, 252.0, 0.0);
(424940.4, 3765582.5, 214.2, 263.0, 0.0); (424940.4, 3765682.5, 207.1, 316.0, 0.0);
(425040.4, 3764682.5, 222.8, 368.0, 0.0); (425040.4, 3764782.5, 219.9, 368.0, 0.0);
(425040.4, 3764882.5, 219.0, 368.0, 0.0); (425040.4, 3764982.5, 221.3, 362.0, 0.0);
(425040.4, 3765082.5, 216.8, 362.0, 0.0); (425040.4, 3765182.5, 215.0, 263.0, 0.0);
(425040.4, 3765282.5, 213.4, 263.0, 0.0); (425040.4, 3765382.5, 213.1, 263.0, 0.0);
(425040.4, 3765482.5, 211.8, 312.0, 0.0); (425040.4, 3765582.5, 210.0, 316.0, 0.0);
(425040.4, 3765682.5, 209.0, 316.0, 0.0); (425140.4, 3764682.5, 226.0, 368.0, 0.0);
(425140.4, 3764782.5, 223.0, 368.0, 0.0); (425140.4, 3764882.5, 221.0, 368.0, 0.0);
(425140.4, 3764982.5, 219.0, 368.0, 0.0); (425140.4, 3765082.5, 221.0, 362.0, 0.0);
(425140.4, 3765182.5, 220.5, 263.0, 0.0); (425140.4, 3765282.5, 228.8, 250.0, 0.0);

```
    ( 425140.4, 3765382.5,     228.7,     251.0,       0.0);         ( 425140.4,
3765482.5,     222.6,     256.0,       0.0);
    ( 425140.4, 3765582.5,     212.0,     316.0,       0.0);         ( 425140.4,
3765682.5,     210.0,     316.0,       0.0);
    ( 425240.4, 3764682.5,     228.1,     388.0,       0.0);         ( 425240.4,
3764782.5,     225.2,     388.0,       0.0);
    ( 425240.4, 3764882.5,     223.4,     388.0,       0.0);         ( 425240.4,
3764982.5,     221.1,     388.0,       0.0);
    ( 425240.4, 3765082.5,     231.7,     362.0,       0.0);         ( 425240.4,
3765182.5,     230.7,     251.0,       0.0);
    ( 425240.4, 3765282.5,     236.0,     251.0,       0.0);         ( 425240.4,
3765382.5,     240.3,     250.0,       0.0);
    ( 425240.4, 3765482.5,     237.2,     256.0,       0.0);         ( 425240.4,
3765582.5,     214.1,     316.0,       0.0);
    ( 425240.4, 3765682.5,     211.4,     316.0,       0.0);         ( 425340.4,
3764682.5,     230.7,     388.0,       0.0);
    ( 425340.4, 3764782.5,     228.5,     388.0,       0.0);         ( 425340.4,
3764882.5,     225.5,     388.0,       0.0);
    ( 425340.4, 3764982.5,     222.8,     388.0,       0.0);         ( 425340.4,
3765082.5,     222.4,     388.0,       0.0);
    ( 425340.4, 3765182.5,     238.7,     250.0,       0.0);         ( 425340.4,
3765282.5,     247.8,     250.0,       0.0);
    ( 425340.4, 3765382.5,     249.1,     249.1,       0.0);         ( 425340.4,
3765482.5,     231.7,     316.0,       0.0);
    ( 425340.4, 3765582.5,     224.3,     316.0,       0.0);         ( 425340.4,
3765682.5,     215.1,     316.0,       0.0);
    ( 425440.4, 3764682.5,     234.2,     388.0,       0.0);         ( 425440.4,
3764782.5,     231.8,     388.0,       0.0);
    ( 425440.4, 3764882.5,     228.0,     388.0,       0.0);         ( 425440.4,
3764982.5,     224.0,     388.0,       0.0);
    ( 425440.4, 3765082.5,     224.0,     388.0,       0.0);         ( 425440.4,
3765182.5,     233.2,     362.0,       0.0);
    ( 425440.4, 3765282.5,     243.5,     254.0,       0.0);         ( 425440.4,
3765382.5,     254.2,     254.2,       0.0);
    ( 425440.4, 3765482.5,     251.2,     256.0,       0.0);         ( 425440.4,
3765582.5,     229.3,     316.0,       0.0);
    ( 425440.4, 3765682.5,     225.9,     316.0,       0.0);         ( 425540.4,
3764682.5,     239.7,     388.0,       0.0);
    ( 425540.4, 3764782.5,     236.5,     388.0,       0.0);         ( 425540.4,
3764882.5,     232.8,     388.0,       0.0);
    ( 425540.4, 3764982.5,     226.6,     388.0,       0.0);         ( 425540.4,
3765082.5,     226.1,     388.0,       0.0);
    ( 425540.4, 3765182.5,     227.7,     388.0,       0.0);         ( 425540.4,
3765282.5,     242.0,     254.0,       0.0);
    ( 425540.4, 3765382.5,     252.4,     252.4,       0.0);         ( 425540.4,
3765482.5,     253.7,     275.0,       0.0);
    ( 425540.4, 3765582.5,     242.4,     316.0,       0.0);         ( 425540.4,
3765682.5,     239.9,     316.0,       0.0);
    ( 425640.4, 3764682.5,     243.9,     388.0,       0.0);         ( 425640.4,
3764782.5,     241.6,     388.0,       0.0);
```

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

                                    *** DISCRETE CARTESIAN RECEPTORS ***
                                  (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                           (METERS)

     (425640.4, 3764882.5,   235.1,   416.0,   0.0);   (425640.4, 3764982.5,   229.2,   416.0,   0.0);
     (425640.4, 3765082.5,   227.7,   388.0,   0.0);   (425640.4, 3765182.5,   228.0,   388.0,   0.0);
     (425640.4, 3765282.5,   230.9,   388.0,   0.0);   (425640.4, 3765382.5,   254.1,   276.0,   0.0);
     (425640.4, 3765482.5,   261.6,   275.0,   0.0);   (425640.4, 3765582.5,   249.6,   316.0,   0.0);
     (425640.4, 3765682.5,   247.4,   316.0,   0.0);   (425740.4, 3764682.5,   252.1,   388.0,   0.0);
     (425740.4, 3764782.5,   253.6,   388.0,   0.0);   (425740.4, 3764882.5,   239.4,   416.0,   0.0);
     (425740.4, 3764982.5,   232.0,   416.0,   0.0);   (425740.4, 3765082.5,   229.0,   416.0,   0.0);
     (425740.4, 3765182.5,   229.0,   416.0,   0.0);   (425740.4, 3765282.5,   230.9,   388.0,   0.0);
     (425740.4, 3765382.5,   249.5,   316.0,   0.0);   (425740.4, 3765482.5,   265.0,   278.0,   0.0);
     (425740.4, 3765582.5,   275.1,   275.1,   0.0);   (425740.4, 3765682.5,   254.1,   316.0,   0.0);
     (425840.4, 3764682.5,   276.4,   388.0,   0.0);   (425840.4, 3764782.5,   260.7,   388.0,   0.0);
     (425840.4, 3764882.5,   238.7,   418.0,   0.0);   (425840.4, 3764982.5,   235.0,   418.0,   0.0);
     (425840.4, 3765082.5,   231.0,   418.0,   0.0);   (425840.4, 3765182.5,   231.7,   416.0,   0.0);
     (425840.4, 3765282.5,   232.3,   416.0,   0.0);   (425840.4, 3765382.5,   251.0,   374.0,   0.0);
     (425840.4, 3765482.5,   259.9,   316.0,   0.0);   (425840.4, 3765582.5,   271.2,   316.0,   0.0);
     (425840.4, 3765682.5,   268.5,   316.0,   0.0);   (424840.4, 3765932.5,   205.0,   312.0,   0.0);
     (424840.4, 3766182.5,   226.0,   239.0,   0.0);   (425090.4, 3765932.5,   240.7,   255.0,   0.0);
     (425090.4, 3766182.5,   219.4,   316.0,   0.0);   (425340.4, 3765932.5,   213.7,   316.0,   0.0);
     (425340.4, 3766182.5,   226.8,   316.0,   0.0);   (425590.4, 3765932.5,   251.7,   316.0,   0.0);

```
     ( 425590.4, 3766182.5,     232.7,     316.0,       0.0);         ( 425840.4,
3765932.5,     288.1,     316.0,       0.0);
     ( 425840.4, 3766182.5,     259.2,     316.0,       0.0);         ( 426090.4,
3765932.5,     297.4,     316.0,       0.0);
     ( 426090.4, 3766182.5,     262.4,     336.0,       0.0);         ( 426340.4,
3765932.5,     290.1,     336.0,       0.0);
     ( 426340.4, 3766182.5,     293.4,     336.0,       0.0);         ( 426090.4,
3765682.5,     266.8,     316.0,       0.0);
     ( 426090.4, 3765432.5,     246.1,     388.0,       0.0);         ( 426090.4,
3765182.5,     238.0,     445.0,       0.0);
     ( 426090.4, 3764932.5,     258.0,     419.0,       0.0);         ( 426090.4,
3764682.5,     283.8,     416.0,       0.0);
     ( 426090.4, 3764432.5,     290.8,     416.0,       0.0);         ( 426090.4,
3764182.5,     346.8,     368.0,       0.0);
     ( 426340.4, 3765682.5,     288.5,     296.0,       0.0);         ( 426340.4,
3765432.5,     251.5,     445.0,       0.0);
     ( 426340.4, 3765182.5,     259.5,     445.0,       0.0);         ( 426340.4,
3764932.5,     255.1,     446.0,       0.0);
     ( 426340.4, 3764682.5,     272.5,     446.0,       0.0);         ( 426340.4,
3764432.5,     335.5,     388.0,       0.0);
     ( 426340.4, 3764182.5,     335.1,     388.0,       0.0);         ( 425840.4,
3764432.5,     274.0,     388.0,       0.0);
     ( 425840.4, 3764182.5,     302.9,     368.0,       0.0);         ( 425590.4,
3764432.5,     252.0,     388.0,       0.0);
     ( 425590.4, 3764182.5,     269.4,     388.0,       0.0);         ( 425340.4,
3764432.5,     237.7,     388.0,       0.0);
     ( 425340.4, 3764182.5,     248.5,     388.0,       0.0);         ( 425090.4,
3764432.5,     228.4,     368.0,       0.0);
     ( 425090.4, 3764182.5,     235.6,     374.0,       0.0);         ( 424840.4,
3764432.5,     219.0,     368.0,       0.0);
     ( 424840.4, 3764182.5,     219.2,     374.0,       0.0);         ( 424590.4,
3764432.5,     219.6,     252.0,       0.0);
     ( 424590.4, 3764182.5,     213.6,     368.0,       0.0);         ( 424340.4,
3764432.5,     233.5,     252.0,       0.0);
     ( 424340.4, 3764182.5,     233.1,     233.1,       0.0);         ( 424590.4,
3764682.5,     234.8,     250.0,       0.0);
     ( 424590.4, 3764932.5,     231.0,     269.0,       0.0);         ( 424590.4,
3765182.5,     238.2,     269.0,       0.0);
     ( 424590.4, 3765432.5,     222.9,     269.0,       0.0);         ( 424590.4,
3765682.5,     203.6,     269.0,       0.0);
     ( 424590.4, 3765932.5,     201.7,     239.0,       0.0);         ( 424590.4,
3766182.5,     206.2,     239.0,       0.0);
     ( 424340.4, 3764682.5,     236.3,     259.0,       0.0);         ( 424340.4,
3764932.5,     242.2,     268.0,       0.0);
     ( 424340.4, 3765182.5,     266.7,     266.7,       0.0);         ( 424340.4,
3765432.5,     209.1,     269.0,       0.0);
     ( 424340.4, 3765682.5,     197.3,     269.0,       0.0);         ( 424340.4,
3765932.5,     197.2,     269.0,       0.0);
     ( 424340.4, 3766182.5,     195.6,     195.6,       0.0);         ( 424661.6,
3764623.0,     226.3,     252.0,       0.0);
```

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(425174.5, 3765063.5, 222.3, 362.0, 0.0); (426049.5, 3765425.6, 239.5, 388.0, 0.0);
(426025.4, 3765491.9, 250.9, 382.0, 0.0); (425029.7, 3765081.6, 216.8, 362.0, 0.0);
(424890.9, 3764966.9, 245.4, 262.0, 0.0);

* SOURCE-RECEPTOR COMBINATIONS FOR WHICH CALCULATIONS MAY NOT BE PERFORMED *
LESS THAN 1.0 METER; WITHIN OPENPIT; OR BEYOND 80KM FOR FASTAREA/FASTALL

SOURCE ID	- - RECEPTOR LOCATION - - XR (METERS)	YR (METERS)	DISTANCE (METERS)
L0000001	426049.5	3765425.6	-4.91
L0000003	425840.4	3765382.5	0.26
L0000004	425840.4	3765382.5	-49.83
L0000005	425740.4	3765382.5	0.01
L0000005	425840.4	3765382.5	

0.41			
	L0000006	425740.4	3765282.5
-1.54			
	L0000006	425740.4	3765382.5
-10.34			
	L0000007	425640.4	3765282.5
0.77			
	L0000008	425640.4	3765282.5
-39.70			
	L0000009	425540.4	3765282.5
-15.27			
	L0000010	425540.4	3765282.5
-28.13			
	L0000012	425440.4	3765182.5
-17.24			
	L0000013	425340.4	3765182.5
-21.51			
	L0000014	425340.4	3765182.5
-34.51			
	L0000015	425240.4	3765182.5
-12.22			
	L0000016	425240.4	3765082.5
-7.48			
	L0000017	425140.4	3765082.5
-21.45			
	L0000017	425174.5	3765063.5
-16.82			
	L0000018	425140.4	3765082.5
-33.35			
	L0000019	425040.4	3765082.5
-15.85			
	L0000019	425029.7	3765081.6
-8.34			
	L0000020	425040.4	3764982.5
-22.86			
	L0000020	425041.8	3764960.9
-1.79			
	L0000021	424940.4	3764982.5
-6.09			
	L0000021	425040.4	3764982.5
-4.38			
	L0000021	425041.8	3764960.9
-2.27			
	L0000022	424940.4	3764882.5
-3.79			
	L0000022	424940.4	3764982.5
-6.31			
	L0000023	424940.4	3764882.5
-24.40			
	L0000024	424840.4	3764882.5

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

                                          *** METEOROLOGICAL DAYS SELECTED FOR
PROCESSING ***
                                                              (1=YES; 0=NO)

           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1

               NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON
WHAT IS INCLUDED IN THE DATA FILE.

                                       *** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED
CATEGORIES ***
                                                                 (METERS/SEC)

                                                    1.54,   3.09,   5.14,   8.23,
10.80,

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: C:\Users\kheck\Desktop\MET Data\PicoRiveraADJU (1)\PICO_V9_ADJU\PICO_v9.SFC Met Version: 16216
Profile file: C:\Users\kheck\Desktop\MET Data\PicoRiveraADJU (1)\PICO_V9_ADJU\PICO_v9.PFL
Surface format: FREE

Profile format: FREE

Surface station no.: 3166 Upper air station no.: 3190
Name: UNKNOWN Name: UNKNOWN

Year: 2010 Year: 2010

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
10	01	01	1	01	-38.6	0.384	-9.000	-9.000	-999.	572.	162.4	0.34	0.73	1.00	3.10	321.	9.1	283.8	5.5
10	01	01	1	02	-33.5	0.333	-9.000	-9.000	-999.	462.	121.8	0.34	0.73	1.00	2.70	217.	9.1	282.5	5.5
10	01	01	1	03	-21.9	0.218	-9.000	-9.000	-999.	251.	52.2	0.34	0.73	1.00	1.80	290.	9.1	282.5	5.5
10	01	01	1	04	-27.1	0.269	-9.000	-9.000	-999.	334.	79.5	0.34	0.73	1.00	2.20	255.	9.1	282.0	5.5
10	01	01	1	05	-21.9	0.218	-9.000	-9.000	-999.	245.	52.2	0.34	0.73	1.00	1.80	234.	9.1	282.0	5.5
10	01	01	1	06	-27.1	0.269	-9.000	-9.000	-999.	334.	79.5	0.34	0.73	1.00	2.20	258.	9.1	282.0	5.5
10	01	01	1	07	-27.2	0.269	-9.000	-9.000	-999.	334.	79.5	0.34	0.73	1.00	2.20	213.	9.1	281.4	5.5
10	01	01	1	08	-22.6	0.335	-9.000	-9.000	-999.	466.	151.7	0.34	0.73	0.54	2.70	215.	9.1	282.0	5.5
10	01	01	1	09	26.9	0.249	0.347	0.008	56.	302.	-51.9	0.34	0.73	0.32	1.80	199.	9.1	284.2	5.5
10	01	01	1	10	65.3	0.365	0.593	0.008	116.	529.	-67.5	0.34	0.73	0.24	2.70	117.	9.1	288.1	5.5
10	01	01	1	11	94.5	0.374	0.933	0.008	311.	550.	-50.3	0.34	0.73	0.21	2.70	243.	9.1	290.4	5.5
10	01	01	1	12	103.9	0.279	1.087	0.008	448.	359.	-19.0	0.34	0.73	0.20	1.80	130.	9.1	293.1	5.5
10	01	01	1	13	83.7	0.273	1.073	0.008	533.	343.	-22.0	0.34	0.73						

```
0.20    1.80  282.    9.1  294.9    5.5
 10 01 01   1 14   82.0  0.218  1.112  0.008  606.  245.    -11.4  0.34   0.73
0.21    1.30  290.    9.1  295.9    5.5
 10 01 01   1 15   38.9  0.202  0.881  0.008  636.  217.    -19.0  0.34   0.73
0.25    1.30  192.    9.1  294.9    5.5
 10 01 01   1 16   11.4  0.181  0.588  0.008  643.  185.    -47.4  0.34   0.73
0.33    1.30  218.    9.1  293.8    5.5
 10 01 01   1 17  -10.7  0.155 -9.000 -9.000 -999.  147.     31.4  0.34   0.73
0.60    1.30  255.    9.1  292.0    5.5
 10 01 01   1 18   -5.5  0.104 -9.000 -9.000 -999.   81.     18.6  0.34   0.73
1.00    0.90  129.    9.1  289.2    5.5
 10 01 01   1 19  -11.8  0.154 -9.000 -9.000 -999.  145.     27.8  0.34   0.73
1.00    1.30  264.    9.1  287.5    5.5
 10 01 01   1 20  -11.8  0.154 -9.000 -9.000 -999.  144.     27.8  0.34   0.73
1.00    1.30   25.    9.1  287.0    5.5
 10 01 01   1 21  -21.6  0.218 -9.000 -9.000 -999.  244.     52.2  0.34   0.73
1.00    1.80  343.    9.1  285.9    5.5
 10 01 01   1 22  -21.7  0.218 -9.000 -9.000 -999.  244.     52.2  0.34   0.73
1.00    1.80  332.    9.1  284.9    5.5
 10 01 01   1 23  -21.7  0.218 -9.000 -9.000 -999.  244.     52.2  0.34   0.73
1.00    1.80  178.    9.1  284.2    5.5
 10 01 01   1 24  -11.8  0.154 -9.000 -9.000 -999.  145.     27.6  0.34   0.73
1.00    1.30   28.    9.1  283.1    5.5


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 10 01 01 01    5.5 0 -999.  -99.00   283.8   99.0  -99.00  -99.00
 10 01 01 01    9.1 1  321.    3.10  -999.0   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
↟ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 5, LA SR-60
DB\Segment 5, LA SR-60 DB.i ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                       ***        10:02:30

                                   PAGE  11
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                   INCLUDING SOURCE(S):     L0000001    , L0000002
 , L0000003    , L0000004    , L0000005    ,
                 L0000006    , L0000007    , L0000008    , L0000009    , L0000010
 , L0000011    , L0000012    , L0000013    ,
                 L0000014    , L0000015    , L0000016    , L0000017    , L0000018
 , L0000019    , L0000020    , L0000021    ,
                 L0000022    , L0000023    , L0000024    , L0000025    , L0000026
 , L0000027    , L0000028    , L0000029    ,
```

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
424840.44	3764682.50	495.81792	424840.44	3764782.50	480.97111
424840.44	3764882.50	648.25327	424840.44	3764982.50	309.91879
424840.44	3765082.50	160.43279	424840.44	3765182.50	142.33394
424840.44	3765282.50	136.95014	424840.44	3765382.50	93.59280
424840.44	3765482.50	93.80254	424840.44	3765582.50	71.51913
424840.44	3765682.50	60.48609	424940.44	3764682.50	262.67462
424940.44	3764782.50	461.67338	424940.44	3764882.50	512.78754
424940.44	3764982.50	423.01453	424940.44	3765082.50	331.47866
424940.44	3765182.50	248.57029	424940.44	3765282.50	186.16351
424940.44	3765382.50	129.33075	424940.44	3765482.50	113.77004
424940.44	3765582.50	80.45977	424940.44	3765682.50	65.31045
425040.44	3764682.50	185.27404	425040.44	3764782.50	271.46669
425040.44	3764882.50	452.37081	425040.44	3764982.50	506.26490
425040.44	3765082.50	605.31710	425040.44	3765182.50	355.15093
425040.44	3765282.50	212.73780	425040.44	3765382.50	150.30582
425040.44	3765482.50	113.84166	425040.44	3765582.50	89.90157
425040.44	3765682.50	73.39735	425140.44	3764682.50	138.62735
425140.44	3764782.50	198.91405	425140.44	3764882.50	288.25317
425140.44	3764982.50	496.91103	425140.44	3765082.50	504.41166
425140.44	3765182.50	541.22393	425140.44	3765282.50	312.02348

```
         425140.44    3765382.50      206.05996                      425140.44
3765482.50      137.37819
         425140.44    3765582.50      102.08695                      425140.44
3765682.50       81.55353
         425240.44    3764682.50      111.20279                      425240.44
3764782.50      154.91299
         425240.44    3764882.50      218.71858                      425240.44
3764982.50      330.45474
         425240.44    3765082.50      568.45862                      425240.44
3765182.50      683.28408
         425240.44    3765282.50      415.90216                      425240.44
3765382.50      248.66147
         425240.44    3765482.50      178.79661                      425240.44
3765582.50      115.00383
         425240.44    3765682.50       89.99174                      425340.44
3764682.50       91.58314
         425340.44    3764782.50      124.64603                      425340.44
3764882.50      174.46249
         425340.44    3764982.50      254.20449                      425340.44
3765082.50      441.37945
         425340.44    3765182.50      531.66417                      425340.44
3765282.50      530.36006
         425340.44    3765382.50      281.43824                      425340.44
3765482.50      199.55810
         425340.44    3765582.50      134.50578                      425340.44
3765682.50       99.54000
         425440.44    3764682.50       79.24371                      425440.44
3764782.50      104.18154
         425440.44    3764882.50      145.15049                      425440.44
3764982.50      207.36581
         425440.44    3765082.50      326.97356                      425440.44
3765182.50      634.24864
         425440.44    3765282.50      815.25388                      425440.44
3765382.50      315.37416
         425440.44    3765482.50      219.86294                      425440.44
3765582.50      158.13441
         425440.44    3765682.50      114.70678                      425540.44
3764682.50       66.42251
         425540.44    3764782.50       89.23988                      425540.44
3764882.50      121.86998
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 5, LA SR-60
DB\Segment 5, LA SR-60 DB.i ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                       ***        10:02:30

                                  PAGE  12
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
```

INCLUDING SOURCE(S): L0000001 , L0000002
, L0000003 , L0000004 , L0000005 ,
L0000006 , L0000007 , L0000008 , L0000009 , L0000010
, L0000011 , L0000012 , L0000013 ,
L0000014 , L0000015 , L0000016 , L0000017 , L0000018
, L0000019 , L0000020 , L0000021 ,
L0000022 , L0000023 , L0000024 , L0000025 , L0000026
, L0000027 , L0000028 , L0000029 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS
***

** CONC OF PM_10 IN MICROGRAMS/M**3
**

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
425540.44	3764982.50	173.24110	425540.44	3765082.50	262.31312
425540.44	3765182.50	536.83749	425540.44	3765282.50	488.60326
425540.44	3765382.50	401.03933	425540.44	3765482.50	247.22980
425540.44	3765582.50	187.17832	425540.44	3765682.50	135.28265
425640.44	3764682.50	54.64415	425640.44	3764782.50	72.72032
425640.44	3764882.50	104.95585	425640.44	3764982.50	146.19283
425640.44	3765082.50	213.97278	425640.44	3765182.50	378.34447
425640.44	3765282.50	516.14971	425640.44	3765382.50	505.45389
425640.44	3765482.50	244.49421	425640.44	3765582.50	211.31102
425640.44	3765682.50	152.76174	425740.44	3764682.50	36.45166
425740.44	3764782.50	43.64355	425740.44	3764882.50	86.95484
425740.44	3764982.50	122.86911	425740.44	3765082.50	174.37161
425740.44	3765182.50	281.40763	425740.44	3765282.50	512.91716
425740.44	3765382.50	436.69821	425740.44	3765482.50	274.11710
425740.44	3765582.50	156.83845	425740.44	3765682.50	158.46874
425840.44	3764682.50	15.78761	425840.44		

```
3764782.50       29.63499
         425840.44    3764882.50       76.06048                       425840.44
3764982.50      102.61691
         425840.44    3765082.50      140.98493                       425840.44
3765182.50      214.46021
         425840.44    3765282.50      418.70184                       425840.44
3765382.50      268.70884
         425840.44    3765482.50      383.68571                       425840.44
3765582.50      180.13961
         425840.44    3765682.50      133.25828                       424840.44
3765932.50       40.63585
         424840.44    3766182.50       32.15578                       425090.44
3765932.50       60.39761
         425090.44    3766182.50       36.41253                       425340.44
3765932.50       59.77694
         425340.44    3766182.50       43.32048                       425590.44
3765932.50       81.91419
         425590.44    3766182.50       48.13401                       425840.44
3765932.50       58.87493
         425840.44    3766182.50       55.08043                       426090.44
3765932.50       51.39713
         426090.44    3766182.50       50.58688                       426340.44
3765932.50       39.76680
         426340.44    3766182.50       29.85641                       426090.44
3765682.50      113.48381
         426090.44    3765432.50      220.44289                       426090.44
3765182.50      101.18868
         426090.44    3764932.50       31.42001                       426090.44
3764682.50       11.04010
         426090.44    3764432.50        7.48725                       426090.44
3764182.50        4.35009
         426340.44    3765682.50       42.51233                       426340.44
3765432.50       47.16209
         426340.44    3765182.50       27.45244                       426340.44
3764932.50       23.40243
         426340.44    3764682.50       11.27009                       426340.44
3764432.50        4.92260
         426340.44    3764182.50        4.00239                       425840.44
3764432.50       11.71374
         425840.44    3764182.50        5.84006                       425590.44
3764432.50       26.76360
         425590.44    3764182.50       11.25041                       425340.44
3764432.50       48.46771
         425340.44    3764182.50       24.12266                       425090.44
3764432.50       72.98198
         425090.44    3764182.50       35.28153                       424840.44
3764432.50      107.26767
         424840.44    3764182.50       51.24925                       424590.44
3764432.50      100.25187
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 5, LA SR-60
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*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): L0000001 , L0000002 , L0000003 , L0000004 , L0000005 ,
L0000006 , L0000007 , L0000008 , L0000009 , L0000010 , L0000011 , L0000012 , L0000013 ,
L0000014 , L0000015 , L0000016 , L0000017 , L0000018 , L0000019 , L0000020 , L0000021 ,
L0000022 , L0000023 , L0000024 , L0000025 , L0000026 , L0000027 , L0000028 , L0000029 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
424590.44	3764182.50	48.70033	424340.44	3764432.50	69.89512
424340.44	3764182.50	56.93106	424590.44	3764682.50	188.79159
424590.44	3764932.50	120.89006	424590.44	3765182.50	77.88409
424590.44	3765432.50	61.47044	424590.44	3765682.50	42.57976
424590.44	3765932.50	32.12233	424590.44	3766182.50	25.40050
424340.44	3764682.50	57.44221	424340.44	3764932.50	46.80904
424340.44	3765182.50	30.21161	424340.44	3765432.50	40.07905
424340.44	3765682.50	31.05404	424340.44	3765932.50	25.17349
424340.44	3766182.50	20.55829	424661.60	3764622.97	262.13063
424721.94	3764568.66	353.92567	425041.77	3764960.90	455.54087
425174.53	3765063.49	662.81143	426049.53	3765425.56	216.99098

*** THE SUMMARY OF MAXIMUM ANNUAL RESULTS
AVERAGED OVER   5 YEARS ***

** CONC OF PM_10   IN MICROGRAMS/M**3
             **

GROUP ID	NETWORK AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	GRID-ID
ALL	1ST HIGHEST VALUE IS	815.25388 AT (425440.44, 3765282.50, 243.49, 254.00, 0.00)	DC	
	2ND HIGHEST VALUE IS	683.28408 AT (425240.44, 3765182.50, 230.67, 251.00, 0.00)	DC	
	3RD HIGHEST VALUE IS	662.81143 AT (425174.53, 3765063.49, 222.33, 362.00, 0.00)	DC	
	4TH HIGHEST VALUE IS	648.25327 AT (424840.44, 3764882.50, 227.29, 263.00, 0.00)	DC	
	5TH HIGHEST VALUE IS	634.24864 AT (425440.44, 3765182.50, 233.21, 362.00, 0.00)	DC	
	6TH HIGHEST VALUE IS	605.31710 AT (425040.44, 3765082.50, 216.80, 362.00, 0.00)	DC	
	7TH HIGHEST VALUE IS	585.07163 AT (425029.70, 3765081.59, 216.83, 362.00, 0.00)	DC	
	8TH HIGHEST VALUE IS	568.45862 AT (425240.44, 3765082.50, 231.65, 362.00, 0.00)	DC	
	9TH HIGHEST VALUE IS	541.22393 AT (425140.44, 3765182.50, 220.50, 263.00, 0.00)	DC	
	10TH HIGHEST VALUE IS	536.83749 AT (425540.44, 3765182.50, 227.67, 388.00, 0.00)	DC	

 *** RECEPTOR TYPES: GC = GRIDCART
                      GP = GRIDPOLR

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

 *** Message Summary : AERMOD Model Execution ***

  --------- Summary of Total Messages --------

 A Total of   0 Fatal Error Message(s)
 A Total of   4 Warning Message(s)
 A Total of   1277 Informational Message(s)

 A Total of   43848 Hours Were Processed

 A Total of   152 Calm Hours Identified

 A Total of   1125 Missing Hours Identified (2.57 Percent)

    ******** FATAL ERROR MESSAGES ********
               *** NONE ***

    ********   WARNING MESSAGES   ********
 ME W186   140   MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used
      0.50
 ME W187   140   MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET

 MX W450   26305   CHKDAT: Record Out of Sequence in Meteorological File at:
  15010101
 MX W450   26305   CHKDAT: Record Out of Sequence in Meteorological File at:
2 year gap

    ****
    *** AERMOD Finishes Successfully ***
    ****

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.7.0
** Lakes Environmental Software Inc.
** Date: 10/28/2019
** File: C:\Lakes\AERMOD View\Segment 6, 10\Segment 6, 10.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\Segment 6, 10\Segment 6, 10.isc
   MODELOPT DFAULT CONC
   AVERTIME ANNUAL
   URBANOPT 20883
   POLLUTID PM_10
   RUNORNOT RUN
   ERRORFIL "Segment 6, 10.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
** ------------------------------------------------------------------------
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE1
** DESCRSRC
** PREFIX
** Length of Side = 46.00
** Configuration = Adjacent
** Emission Rate = 34.0
** Vertical Dimension = 2.00
** SZINIT = 0.93
** Nodes = 2
** 404145.160, 3766788.200, 72.97, 2.00, 21.40
** 402601.200, 3767147.880, 67.94, 2.00, 21.40
** ------------------------------------------------------------------------
   LOCATION L0000001     VOLUME   404122.760 3766793.418 73.00
```

```
   LOCATION L0000002     VOLUME   404077.959 3766803.855 73.00
   LOCATION L0000003     VOLUME   404033.159 3766814.292 73.00
   LOCATION L0000004     VOLUME   403988.359 3766824.728 73.00
   LOCATION L0000005     VOLUME   403943.558 3766835.165 73.20
   LOCATION L0000006     VOLUME   403898.758 3766845.602 73.00
   LOCATION L0000007     VOLUME   403853.957 3766856.038 73.00
   LOCATION L0000008     VOLUME   403809.157 3766866.475 73.00
   LOCATION L0000009     VOLUME   403764.357 3766876.912 72.99
   LOCATION L0000010     VOLUME   403719.556 3766887.348 71.02
   LOCATION L0000011     VOLUME   403674.756 3766897.785 70.52
   LOCATION L0000012     VOLUME   403629.955 3766908.222 70.00
   LOCATION L0000013     VOLUME   403585.155 3766918.658 70.00
   LOCATION L0000014     VOLUME   403540.355 3766929.095 70.00
   LOCATION L0000015     VOLUME   403495.554 3766939.532 70.00
   LOCATION L0000016     VOLUME   403450.754 3766949.968 69.58
   LOCATION L0000017     VOLUME   403405.953 3766960.405 69.00
   LOCATION L0000018     VOLUME   403361.153 3766970.842 69.00
   LOCATION L0000019     VOLUME   403316.353 3766981.278 69.00
   LOCATION L0000020     VOLUME   403271.552 3766991.715 69.00
   LOCATION L0000021     VOLUME   403226.752 3767002.152 68.67
   LOCATION L0000022     VOLUME   403181.951 3767012.588 68.05
   LOCATION L0000023     VOLUME   403137.151 3767023.025 68.00
   LOCATION L0000024     VOLUME   403092.351 3767033.462 68.00
   LOCATION L0000025     VOLUME   403047.550 3767043.899 67.62
   LOCATION L0000026     VOLUME   403002.750 3767054.335 67.00
   LOCATION L0000027     VOLUME   402957.949 3767064.772 67.00
   LOCATION L0000028     VOLUME   402913.149 3767075.209 67.00
   LOCATION L0000029     VOLUME   402868.349 3767085.645 67.00
   LOCATION L0000030     VOLUME   402823.548 3767096.082 67.32
   LOCATION L0000031     VOLUME   402778.748 3767106.519 67.67
   LOCATION L0000032     VOLUME   402733.947 3767116.955 68.00
   LOCATION L0000033     VOLUME   402689.147 3767127.392 67.79
   LOCATION L0000034     VOLUME   402644.347 3767137.829 67.71
** End of LINE VOLUME Source ID = SLINE1
** Source Parameters **
** LINE VOLUME Source ID = SLINE1
   SRCPARAM L0000001          1.0      2.00     21.40      0.93
   SRCPARAM L0000002          1.0      2.00     21.40      0.93
   SRCPARAM L0000003          1.0      2.00     21.40      0.93
   SRCPARAM L0000004          1.0      2.00     21.40      0.93
   SRCPARAM L0000005          1.0      2.00     21.40      0.93
   SRCPARAM L0000006          1.0      2.00     21.40      0.93
   SRCPARAM L0000007          1.0      2.00     21.40      0.93
   SRCPARAM L0000008          1.0      2.00     21.40      0.93
   SRCPARAM L0000009          1.0      2.00     21.40      0.93
   SRCPARAM L0000010          1.0      2.00     21.40      0.93
   SRCPARAM L0000011          1.0      2.00     21.40      0.93
   SRCPARAM L0000012          1.0      2.00     21.40      0.93
   SRCPARAM L0000013          1.0      2.00     21.40      0.93
   SRCPARAM L0000014          1.0      2.00     21.40      0.93
```

```
   SRCPARAM L0000015          1.0      2.00     21.40      0.93
   SRCPARAM L0000016          1.0      2.00     21.40      0.93
   SRCPARAM L0000017          1.0      2.00     21.40      0.93
   SRCPARAM L0000018          1.0      2.00     21.40      0.93
   SRCPARAM L0000019          1.0      2.00     21.40      0.93
   SRCPARAM L0000020          1.0      2.00     21.40      0.93
   SRCPARAM L0000021          1.0      2.00     21.40      0.93
   SRCPARAM L0000022          1.0      2.00     21.40      0.93
   SRCPARAM L0000023          1.0      2.00     21.40      0.93
   SRCPARAM L0000024          1.0      2.00     21.40      0.93
   SRCPARAM L0000025          1.0      2.00     21.40      0.93
   SRCPARAM L0000026          1.0      2.00     21.40      0.93
   SRCPARAM L0000027          1.0      2.00     21.40      0.93
   SRCPARAM L0000028          1.0      2.00     21.40      0.93
   SRCPARAM L0000029          1.0      2.00     21.40      0.93
   SRCPARAM L0000030          1.0      2.00     21.40      0.93
   SRCPARAM L0000031          1.0      2.00     21.40      0.93
   SRCPARAM L0000032          1.0      2.00     21.40      0.93
   SRCPARAM L0000033          1.0      2.00     21.40      0.93
   SRCPARAM L0000034          1.0      2.00     21.40      0.93
** ------------------------------------------------------------------
   URBANSRC ALL
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED "Segment 6, 10.rou"
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE "C:\Users\kheck\Desktop\MET Data\PicoRiveraADJU
(1)\PICO_V9_ADJU\PICO_v9.SFC"
   PROFFILE "C:\Users\kheck\Desktop\MET Data\PicoRiveraADJU
(1)\PICO_V9_ADJU\PICO_v9.PFL"
   SURFDATA 3166 2010
   UAIRDATA 3190 2010
   SITEDATA 99999 2010
   PROFBASE 47.0 METERS
ME FINISHED
**
```

```
************************************
** AERMOD Output Pathway
************************************
**
**
OU STARTING
** Auto-Generated Plotfiles
   PLOTFILE ANNUAL ALL "Segment 6, 10.AD\AN00GALL.PLT" 31
   SUMMFILE "Segment 6, 10.sum"
OU FINISHED


  *** Message Summary For AERMOD Model Setup ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of            3 Warning Message(s)
 A Total of            0 Informational Message(s)


    ******** FATAL ERROR MESSAGES ********
               ***  NONE  ***


    ********   WARNING MESSAGES   ********
 CO W320      22       URBOPT: Input Parameter May Be Out-of-Range for Parameter
   URB-POP
 ME W186     147       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used
      0.50
 ME W187     147       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET


 ***********************************
 *** SETUP Finishes Successfully ***
 ***********************************

 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 6, 10\Segment
6, 10.isc                  ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                         ***       16:09:50

                                   PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                            ***     MODEL SETUP OPTIONS SUMMARY
  ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - -
```

```
 **Model Is Setup For Calculation of Average CONCentration Values.

   --  DEPOSITION LOGIC  --
 **NO GAS DEPOSITION Data Provided.
 **NO PARTICLE DEPOSITION Data Provided.
 **Model Uses NO DRY DEPLETION.  DRYDPLT  =  F
 **Model Uses NO WET DEPLETION.  WETDPLT  =  F

 **Model Uses URBAN Dispersion Algorithm for the SBL for    34 Source(s),
   for Total of    1 Urban Area(s):
   Urban Population =     20883.0 ;  Urban Roughness Length =  1.000 m

 **Model Uses Regulatory DEFAULT Options:
         1. Stack-tip Downwash.
         2. Model Accounts for ELEVated Terrain Effects.
         3. Use Calms Processing Routine.
         4. Use Missing Data Processing Routine.
         5. No Exponential Decay.
         6. Urban Roughness Length of 1.0 Meter Assumed.

 **Other Options Specified:
         ADJ_U*   - Use ADJ_U* option for SBL in AERMET
         TEMP_Sub - Meteorological data includes TEMP substitutions

 **Model Assumes No FLAGPOLE Receptor Heights.

 **The User Specified a Pollutant Type of:  PM_10

 **Model Calculates ANNUAL Averages Only

 **This Run Includes:     34 Source(s);       1 Source Group(s); and     137
Receptor(s)

                with:      0 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                 and:     34 VOLUME source(s)
                 and:      0 AREA type source(s)
                 and:      0 LINE source(s)
                 and:      0 OPENPIT source(s)
                 and:      0 BUOYANT LINE source(s) with      0 line(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  16216

 **Output Options Selected:
          Model Outputs Tables of ANNUAL Averages by Receptor
          Model Outputs External File(s) of High Values for Plotting (PLOTFILE
Keyword)
```

Model Outputs Separate Summary File of High Ranked Values (SUMMFILE Keyword)

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
m for Missing Hours
b for Both Calm and Missing Hours

**Misc. Inputs: Base Elev. for Pot. Temp. Profile (m MSL) = 47.00 ; Decay Coef. = 0.000 ; Rot. Angle = 0.0
Emission Units = GRAMS/SEC ;
Emission Rate Unit Factor = 0.10000E+07
Output Units = MICROGRAMS/M**3

**Approximate Storage Requirements of Model = 3.5 MB of RAM.

**Input Runstream File: aermod.inp

**Output Print File: aermod.out

**Detailed Error/Message File: Segment 6, 10.err

**File for Summary of Results: Segment 6, 10.sum

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0000001	0	0.10000E+01	404122.8	3766793.4	73.0	2.00	21.40	0.93	YES	
L0000002	0	0.10000E+01	404078.0	3766803.9	73.0	2.00	21.40	0.93	YES	

```
 L0000003         0   0.10000E+01  404033.2 3766814.3    73.0     2.00    21.40
0.93     YES
 L0000004         0   0.10000E+01  403988.4 3766824.7    73.0     2.00    21.40
0.93     YES
 L0000005         0   0.10000E+01  403943.6 3766835.2    73.2     2.00    21.40
0.93     YES
 L0000006         0   0.10000E+01  403898.8 3766845.6    73.0     2.00    21.40
0.93     YES
 L0000007         0   0.10000E+01  403854.0 3766856.0    73.0     2.00    21.40
0.93     YES
 L0000008         0   0.10000E+01  403809.2 3766866.5    73.0     2.00    21.40
0.93     YES
 L0000009         0   0.10000E+01  403764.4 3766876.9    73.0     2.00    21.40
0.93     YES
 L0000010         0   0.10000E+01  403719.6 3766887.3    71.0     2.00    21.40
0.93     YES
 L0000011         0   0.10000E+01  403674.8 3766897.8    70.5     2.00    21.40
0.93     YES
 L0000012         0   0.10000E+01  403630.0 3766908.2    70.0     2.00    21.40
0.93     YES
 L0000013         0   0.10000E+01  403585.2 3766918.7    70.0     2.00    21.40
0.93     YES
 L0000014         0   0.10000E+01  403540.4 3766929.1    70.0     2.00    21.40
0.93     YES
 L0000015         0   0.10000E+01  403495.6 3766939.5    70.0     2.00    21.40
0.93     YES
 L0000016         0   0.10000E+01  403450.8 3766950.0    69.6     2.00    21.40
0.93     YES
 L0000017         0   0.10000E+01  403406.0 3766960.4    69.0     2.00    21.40
0.93     YES
 L0000018         0   0.10000E+01  403361.2 3766970.8    69.0     2.00    21.40
0.93     YES
 L0000019         0   0.10000E+01  403316.4 3766981.3    69.0     2.00    21.40
0.93     YES
 L0000020         0   0.10000E+01  403271.6 3766991.7    69.0     2.00    21.40
0.93     YES
 L0000021         0   0.10000E+01  403226.8 3767002.2    68.7     2.00    21.40
0.93     YES
 L0000022         0   0.10000E+01  403182.0 3767012.6    68.0     2.00    21.40
0.93     YES
 L0000023         0   0.10000E+01  403137.2 3767023.0    68.0     2.00    21.40
0.93     YES
 L0000024         0   0.10000E+01  403092.4 3767033.5    68.0     2.00    21.40
0.93     YES
 L0000025         0   0.10000E+01  403047.5 3767043.9    67.6     2.00    21.40
0.93     YES
 L0000026         0   0.10000E+01  403002.8 3767054.3    67.0     2.00    21.40
0.93     YES
 L0000027         0   0.10000E+01  402957.9 3767064.8    67.0     2.00    21.40
0.93     YES
```

```
 L0000028         0   0.10000E+01  402913.1 3767075.2    67.0     2.00    21.40
0.93     YES
 L0000029         0   0.10000E+01  402868.3 3767085.6    67.0     2.00    21.40
0.93     YES
 L0000030         0   0.10000E+01  402823.5 3767096.1    67.3     2.00    21.40
0.93     YES
 L0000031         0   0.10000E+01  402778.7 3767106.5    67.7     2.00    21.40
0.93     YES
 L0000032         0   0.10000E+01  402733.9 3767117.0    68.0     2.00    21.40
0.93     YES
 L0000033         0   0.10000E+01  402689.1 3767127.4    67.8     2.00    21.40
0.93     YES
 L0000034         0   0.10000E+01  402644.3 3767137.8    67.7     2.00    21.40
0.93     YES
```



```
                                          *** SOURCE IDs DEFINING SOURCE GROUPS
***

 SRCGROUP ID                                              SOURCE IDs
 -----------                                              ----------


  ALL        L0000001    , L0000002    , L0000003    , L0000004    , L0000005    ,
L0000006    , L0000007    , L0000008    ,

             L0000009    , L0000010    , L0000011    , L0000012    , L0000013    ,
L0000014    , L0000015    , L0000016    ,

             L0000017    , L0000018    , L0000019    , L0000020    , L0000021    ,
L0000022    , L0000023    , L0000024    ,

             L0000025    , L0000026    , L0000027    , L0000028    , L0000029    ,
L0000030    , L0000031    , L0000032    ,

             L0000033    , L0000034    ,
```

*** SOURCE IDs DEFINED AS URBAN SOURCES ***

URBAN ID	URBAN POP	SOURCE IDs
	20883.	L0000001 , L0000002 , L0000003 , L0000004 , L0000005 , L0000006 , L0000007 , L0000008 ,
		L0000009 , L0000010 , L0000011 , L0000012 , L0000013 , L0000014 , L0000015 , L0000016 ,
		L0000017 , L0000018 , L0000019 , L0000020 , L0000021 , L0000022 , L0000023 , L0000024 ,
		L0000025 , L0000026 , L0000027 , L0000028 , L0000029 , L0000030 , L0000031 , L0000032 ,
		L0000033 , L0000034 ,

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(402999.6, 3766432.2, 68.0, 68.0, 0.0); (402999.6, 3766532.2, 68.0, 68.0, 0.0);
(402999.6, 3766632.2, 68.0, 68.0, 0.0); (402999.6, 3766732.2, 67.0, 67.0, 0.0);
(402999.6, 3767032.2, 67.0, 67.0, 0.0); (402999.6, 3767232.2, 68.0, 68.0, 0.0);
(402999.6, 3767332.2, 69.0, 69.0, 0.0); (402999.6, 3767432.2, 69.0, 69.0, 0.0);
(403099.6, 3766432.2, 68.0, 68.0, 0.0); (403099.6, 3766532.2, 68.2, 68.2, 0.0);
(403099.6, 3766632.2, 68.0, 68.0, 0.0); (403099.6, 3766732.2, 68.0, 68.0, 0.0);
(403099.6, 3766832.2, 67.3, 67.3, 0.0); (403099.6, 3767032.2, 68.0, 68.0, 0.0);
(403099.6, 3767132.2, 68.0, 68.0, 0.0); (403099.6,

```
3767332.2,      69.0,      69.0,       0.0);
     ( 403099.6, 3767432.2,      69.7,      69.7,       0.0);         ( 403199.6,
3766432.2,      69.0,      69.0,       0.0);
     ( 403199.6, 3766532.2,      69.0,      69.0,       0.0);         ( 403199.6,
3766632.2,      68.7,      68.7,       0.0);
     ( 403199.6, 3766732.2,      68.0,      68.0,       0.0);         ( 403199.6,
3766832.2,      68.0,      68.0,       0.0);
     ( 403199.6, 3766932.2,      68.0,      68.0,       0.0);         ( 403199.6,
3767032.2,      68.7,      68.7,       0.0);
     ( 403199.6, 3767132.2,      69.0,      69.0,       0.0);         ( 403199.6,
3767232.2,      69.0,      69.0,       0.0);
     ( 403199.6, 3767432.2,      70.0,      70.0,       0.0);         ( 403299.6,
3766432.2,      70.0,      70.0,       0.0);
     ( 403299.6, 3766532.2,      69.0,      69.0,       0.0);         ( 403299.6,
3766632.2,      69.0,      69.0,       0.0);
     ( 403299.6, 3766732.2,      69.0,      69.0,       0.0);         ( 403299.6,
3766832.2,      69.0,      69.0,       0.0);
     ( 403299.6, 3766932.2,      69.0,      69.0,       0.0);         ( 403299.6,
3767032.2,      69.0,      69.0,       0.0);
     ( 403299.6, 3767132.2,      69.0,      69.0,       0.0);         ( 403299.6,
3767232.2,      69.0,      69.0,       0.0);
     ( 403299.6, 3767332.2,      70.0,      70.0,       0.0);         ( 403399.6,
3766432.2,      70.0,      70.0,       0.0);
     ( 403399.6, 3766532.2,      70.0,      70.0,       0.0);         ( 403399.6,
3766632.2,      70.0,      70.0,       0.0);
     ( 403399.6, 3766732.2,      69.0,      69.0,       0.0);         ( 403399.6,
3766832.2,      69.2,      69.2,       0.0);
     ( 403399.6, 3766932.2,      69.0,      69.0,       0.0);         ( 403399.6,
3767032.2,      69.1,      69.1,       0.0);
     ( 403399.6, 3767132.2,      70.0,      70.0,       0.0);         ( 403399.6,
3767232.2,      70.0,      70.0,       0.0);
     ( 403399.6, 3767332.2,      70.0,      70.0,       0.0);         ( 403399.6,
3767432.2,      70.0,      70.0,       0.0);
     ( 403499.6, 3766432.2,      70.0,      70.0,       0.0);         ( 403499.6,
3766532.2,      70.0,      70.0,       0.0);
     ( 403499.6, 3766632.2,      70.0,      70.0,       0.0);         ( 403499.6,
3766732.2,      70.0,      70.0,       0.0);
     ( 403499.6, 3766832.2,      70.0,      70.0,       0.0);         ( 403499.6,
3766932.2,      70.0,      70.0,       0.0);
     ( 403499.6, 3767032.2,      70.0,      70.0,       0.0);         ( 403499.6,
3767132.2,      70.0,      70.0,       0.0);
     ( 403499.6, 3767232.2,      70.0,      70.0,       0.0);         ( 403499.6,
3767332.2,      70.0,      70.0,       0.0);
     ( 403499.6, 3767432.2,      70.4,      70.4,       0.0);         ( 403599.6,
3766632.2,      70.0,      70.0,       0.0);
     ( 403599.6, 3766732.2,      70.0,      70.0,       0.0);         ( 403599.6,
3766832.2,      70.0,      70.0,       0.0);
     ( 403599.6, 3766932.2,      70.0,      70.0,       0.0);         ( 403599.6,
3767032.2,      70.0,      70.0,       0.0);
     ( 403599.6, 3767132.2,      70.0,      70.0,       0.0);         ( 403599.6,
```

3767232.2,   70.0,   70.0,   0.0);
     (403599.6, 3767332.2,   70.0,   70.0,   0.0);   (403599.6,
3767432.2,   71.0,   71.0,   0.0);
     (403699.6, 3766632.2,   70.0,   70.0,   0.0);   (403699.6,
3766732.2,   70.9,   70.9,   0.0);
     (403699.6, 3766832.2,   70.5,   70.5,   0.0);   (403699.6,
3766932.2,   70.1,   70.1,   0.0);
     (403699.6, 3767032.2,   70.0,   70.0,   0.0);   (403699.6,
3767132.2,   70.2,   70.2,   0.0);
     (403699.6, 3767232.2,   71.0,   71.0,   0.0);   (403699.6,
3767332.2,   71.0,   71.0,   0.0);
     (403699.6, 3767432.2,   71.3,   71.3,   0.0);   (403799.6,
3766632.2,   70.0,   70.0,   0.0);
     (403799.6, 3766732.2,   71.2,   71.2,   0.0);   (403799.6,
3766832.2,   72.8,   72.8,   0.0);
     (403799.6, 3766932.2,   70.9,   70.9,   0.0);   (403799.6,
3767032.2,   70.7,   70.7,   0.0);
     (403799.6, 3767132.2,   71.0,   71.0,   0.0);   (403799.6,
3767232.2,   71.0,   71.0,   0.0);
     (403799.6, 3767332.2,   71.7,   71.7,   0.0);   (403799.6,
3767432.2,   72.0,   72.0,   0.0);
     (403899.6, 3766632.2,   70.0,   70.0,   0.0);   (403899.6,
3766732.2,   70.0,   70.0,   0.0);
     (403899.6, 3766832.2,   73.0,   73.0,   0.0);   (403899.6,
3766932.2,   72.2,   72.2,   0.0);

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                    (METERS)

     (403899.6, 3767032.2,   72.0,   72.0,   0.0);   (403899.6,
3767132.2,   72.0,   72.0,   0.0);
     (403899.6, 3767232.2,   72.0,   72.0,   0.0);   (403899.6,
3767332.2,   72.0,   72.0,   0.0);
     (403899.6, 3767432.2,   72.0,   72.0,   0.0);   (403999.6,
3766732.2,   70.4,   70.4,   0.0);
     (403999.6, 3766832.2,   73.0,   73.0,   0.0);   (403999.6,
3766932.2,   73.0,   73.0,   0.0);
     (403999.6, 3767032.2,   72.0,   72.0,   0.0);   (403999.6,
3767132.2,   72.0,   72.0,   0.0);
     (403999.6, 3767232.2,   72.0,   72.0,   0.0);   (403999.6,
3767332.2,   72.5,   72.5,   0.0);
     (403999.6, 3767432.2,   73.0,   73.0,   0.0);   (402999.6,

3767682.2,   70.0,   70.0,   0.0);
     (402999.6, 3767932.2,   72.0,   72.0,   0.0);   (403249.6,
3767682.2,   71.0,   71.0,   0.0);
     (403249.6, 3767932.2,   72.5,   72.5,   0.0);   (403499.6,
3767682.2,   72.0,   72.0,   0.0);
     (403499.6, 3767932.2,   73.0,   73.0,   0.0);   (403749.6,
3767682.2,   73.0,   73.0,   0.0);
     (403749.6, 3767932.2,   74.2,   74.2,   0.0);   (403999.6,
3767682.2,   73.9,   73.9,   0.0);
     (403999.6, 3767932.2,   75.1,   75.1,   0.0);   (404249.6,
3767682.2,   74.6,   74.6,   0.0);
     (404249.6, 3767932.2,   76.0,   76.0,   0.0);   (404499.6,
3767682.2,   75.0,   75.0,   0.0);
     (404499.6, 3767932.2,   76.0,   76.0,   0.0);   (404249.6,
3767432.2,   74.0,   74.0,   0.0);
     (404249.6, 3767182.2,   73.0,   73.0,   0.0);   (404249.6,
3766932.2,   73.0,   73.0,   0.0);
     (404249.6, 3766182.2,   71.7,   358.0,   0.0);   (404249.6,
3765932.2,   72.0,   358.0,   0.0);
     (404499.6, 3767432.2,   73.5,   73.5,   0.0);   (404499.6,
3767182.2,   73.0,   73.0,   0.0);
     (404499.6, 3766932.2,   72.0,   72.0,   0.0);   (404499.6,
3766182.2,   73.0,   358.0,   0.0);
     (404499.6, 3765932.2,   73.0,   358.0,   0.0);   (403999.6,
3765932.2,   71.0,   358.0,   0.0);
     (402749.6, 3766182.2,   67.0,   67.0,   0.0);   (402749.6,
3767432.2,   69.0,   69.0,   0.0);
     (402749.6, 3767682.2,   70.0,   70.0,   0.0);   (402749.6,
3767932.2,   72.0,   72.0,   0.0);
     (402499.6, 3767432.2,   69.0,   69.0,   0.0);   (402499.6,
3767682.2,   70.0,   70.0,   0.0);
     (402499.6, 3767932.2,   71.0,   71.0,   0.0);   (404079.4,
3767047.6,   72.0,   72.0,   0.0);
     (404236.5, 3767117.9,   72.3,   72.3,   0.0);

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

                     * SOURCE-RECEPTOR COMBINATIONS FOR WHICH CALCULATIONS MAY NOT
BE PERFORMED *
                       LESS THAN 1.0 METER; WITHIN OPENPIT; OR BEYOND 80KM FOR
FASTAREA/FASTALL

                                SOURCE   - - RECEPTOR LOCATION - -

ID	XR (METERS)	YR (METERS)	DISTANCE (METERS)
L0000003	403999.6	3766832.2	-7.94
L0000004	403999.6	3766832.2	-32.49
L0000005	403899.6	3766832.2	-1.95
L0000006	403899.6	3766832.2	-32.63
L0000008	403799.6	3766832.2	-10.47
L0000011	403699.6	3766932.2	-3.53
L0000012	403599.6	3766932.2	-7.29
L0000013	403599.6	3766932.2	-26.18
L0000014	403499.6	3766932.2	-5.12
L0000015	403499.6	3766932.2	-37.68
L0000017	403399.6	3766932.2	-17.14
L0000021	403199.6	3767032.2	-5.47
L0000022	403199.6	3767032.2	-19.60
L0000023	403099.6	3767032.2	-7.33
L0000024	403099.6	3767032.2	-38.67
L0000026	402999.6	3767032.2	-23.70

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***

(1=YES; 0=NO)

```
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
```

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***

(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: C:\Users\kheck\Desktop\MET Data\PicoRiveraADJU (1)\PICO_V9_ADJU\PICO_v9.SFC Met Version: 16216
Profile file: C:\Users\kheck\Desktop\MET Data\PicoRiveraADJU (1)\PICO_V9_ADJU\PICO_v9.PFL
Surface format: FREE

Profile format: FREE

Surface station no.: 3166 Upper air station no.: 3190
Name: UNKNOWN Name: UNKNOWN

Year: 2010 Year: 2010

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
10	01	01	1	01	-38.6	0.384	-9.000	-9.000	-999.	572.	162.4	0.34	0.73	1.00	3.10	321.	9.1	283.8	5.5
10	01	01	1	02	-33.5	0.333	-9.000	-9.000	-999.	462.	121.8	0.34	0.73	1.00	2.70	217.	9.1	282.5	5.5
10	01	01	1	03	-21.9	0.218	-9.000	-9.000	-999.	251.	52.2	0.34	0.73	1.00	1.80	290.	9.1	282.5	5.5
10	01	01	1	04	-27.1	0.269	-9.000	-9.000	-999.	334.	79.5	0.34	0.73	1.00	2.20	255.	9.1	282.0	5.5
10	01	01	1	05	-21.9	0.218	-9.000	-9.000	-999.	245.	52.2	0.34	0.73	1.00	1.80	234.	9.1	282.0	5.5
10	01	01	1	06	-27.1	0.269	-9.000	-9.000	-999.	334.	79.5	0.34	0.73	1.00	2.20	258.	9.1	282.0	5.5
10	01	01	1	07	-27.2	0.269	-9.000	-9.000	-999.	334.	79.5	0.34	0.73	1.00	2.20	213.	9.1	281.4	5.5
10	01	01	1	08	-22.6	0.335	-9.000	-9.000	-999.	466.	151.7	0.34	0.73	0.54	2.70	215.	9.1	282.0	5.5
10	01	01	1	09	26.9	0.249	0.347	0.008	56.	302.	-51.9	0.34	0.73	0.32	1.80	199.	9.1	284.2	5.5
10	01	01	1	10	65.3	0.365	0.593	0.008	116.	529.	-67.5	0.34	0.73	0.24	2.70	117.	9.1	288.1	5.5
10	01	01	1	11	94.5	0.374	0.933	0.008	311.	550.	-50.3	0.34	0.73	0.21	2.70	243.	9.1	290.4	5.5
10	01	01	1	12	103.9	0.279	1.087	0.008	448.	359.	-19.0	0.34	0.73	0.20	1.80	130.	9.1	293.1	5.5
10	01	01	1	13	83.7	0.273	1.073	0.008	533.	343.	-22.0	0.34	0.73	0.20	1.80	282.	9.1	294.9	5.5
10	01	01	1	14	82.0	0.218	1.112	0.008	606.	245.	-11.4	0.34	0.73	0.21	1.30	290.	9.1	295.9	5.5
10	01	01	1	15	38.9	0.202	0.881	0.008	636.	217.	-19.0	0.34	0.73	0.25	1.30	192.	9.1	294.9	5.5
10	01	01	1	16	11.4	0.181	0.588	0.008	643.	185.	-47.4	0.34	0.73	0.33	1.30	218.	9.1	293.8	5.5
10	01	01	1	17	-10.7	0.155	-9.000	-9.000	-999.	147.	31.4	0.34	0.73	0.60	1.30	255.	9.1	292.0	5.5
10	01	01	1	18	-5.5	0.104	-9.000	-9.000	-999.	81.	18.6	0.34	0.73	1.00	0.90	129.	9.1	289.2	5.5
10	01	01	1	19	-11.8	0.154	-9.000	-9.000	-999.	145.	27.8	0.34	0.73	1.00	1.30	264.	9.1	287.5	5.5
10	01	01	1	20	-11.8	0.154	-9.000	-9.000	-999.	144.	27.8	0.34	0.73	1.00	1.30	25.	9.1	287.0	5.5
10	01	01	1	21	-21.6	0.218	-9.000	-9.000	-999.	244.	52.2	0.34	0.73	1.00	1.80	343.	9.1	285.9	5.5
10	01	01	1	22	-21.7	0.218	-9.000	-9.000	-999.	244.	52.2	0.34	0.73	1.00	1.80	332.	9.1	284.9	5.5

```
 10 01 01   1 23  -21.7  0.218 -9.000 -9.000 -999.  244.     52.2  0.34   0.73
1.00    1.80  178.    9.1  284.2    5.5
 10 01 01   1 24  -11.8  0.154 -9.000 -9.000 -999.  145.     27.6  0.34   0.73
1.00    1.30   28.    9.1  283.1    5.5


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 10 01 01 01    5.5 0 -999.  -99.00   283.8   99.0  -99.00  -99.00
 10 01 01 01    9.1 1  321.    3.10  -999.0   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 6, 10\Segment
6, 10.isc                  ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                         ***       16:09:50

                                   PAGE  10
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                    INCLUDING SOURCE(S):     L0000001    , L0000002
 , L0000003    , L0000004    , L0000005    ,
                   L0000006    , L0000007    , L0000008    , L0000009    , L0000010
 , L0000011    , L0000012    , L0000013    ,
                   L0000014    , L0000015    , L0000016    , L0000017    , L0000018
 , L0000019    , L0000020    , L0000021    ,
                   L0000022    , L0000023    , L0000024    , L0000025    , L0000026
 , L0000027    , L0000028    ,  . . .      ,

                                              *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                         ** CONC OF PM_10    IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                        X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
         402999.59    3766432.25       85.97252                      402999.59
3766532.25      105.41629
         402999.59    3766632.25      133.59945                      402999.59
3766732.25      177.95839
         402999.59    3767032.25      975.15400                      402999.59
3767232.25      376.05952
         402999.59    3767332.25      235.82785                      402999.59
3767432.25      164.82144
         403099.59    3766432.25       91.55353                      403099.59
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3766532.25      113.41785
         403099.59    3766632.25      145.49358                      403099.59
3766732.25      197.13190
         403099.59    3766832.25      294.47462                      403099.59
3767032.25      719.35912
         403099.59    3767132.25      649.79403                      403099.59
3767332.25      227.26111
         403099.59    3767432.25      163.96882                      403199.59
3766432.25       96.78261
         403199.59    3766532.25      121.10138                      403199.59
3766632.25      157.29684
         403199.59    3766732.25      216.87689                      403199.59
3766832.25      335.33114
         403199.59    3766932.25      714.59969                      403199.59
3767032.25      672.02139
         403199.59    3767132.25      546.60833                      403199.59
3767232.25      315.70537
         403199.59    3767432.25      160.40767                      403299.59
3766432.25      101.50906
         403299.59    3766532.25      128.37613                      403299.59
3766632.25      169.06635
         403299.59    3766732.25      238.14293                      403299.59
3766832.25      384.69130
         403299.59    3766932.25      992.34341                      403299.59
3767032.25     1252.16031
         403299.59    3767132.25      471.33385                      403299.59
3767232.25      290.26956
         403299.59    3767332.25      205.37818                      403399.59
3766432.25      105.61371
         403399.59    3766532.25      135.22263                      403399.59
3766632.25      180.94676
         403399.59    3766732.25      261.34928                      403399.59
3766832.25      447.17403
         403399.59    3766932.25      924.26986                      403399.59
3767032.25      894.51107
         403399.59    3767132.25      414.00184                      403399.59
3767232.25      267.40488
         403399.59    3767332.25      193.80706                      403399.59
3767432.25      148.90461
         403499.59    3766432.25      108.88591                      403499.59
3766532.25      141.44100
         403499.59    3766632.25      192.95465                      403499.59
3766732.25      287.75949
         403499.59    3766832.25      532.70103                      403499.59
3766932.25      729.24771
         403499.59    3767032.25      700.54260                      403499.59
3767132.25      367.33562
         403499.59    3767232.25      246.33122                      403499.59
3767332.25      182.10385
         403499.59    3767432.25      141.85838                      403599.59
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3766632.25      204.94712
         403599.59    3766732.25      318.10012                      403599.59
3766832.25      659.35335
         403599.59    3766932.25      691.33945                      403599.59
3767032.25      574.38968
         403599.59    3767132.25      327.85971                      403599.59
3767232.25      226.50730
         403599.59    3767332.25      170.25538                      403599.59
3767432.25      134.21598
         403699.59    3766632.25      216.50897                      403699.59
3766732.25      354.35027
         403699.59    3766832.25      871.79441                      403699.59
3766932.25      937.87158
         403699.59    3767032.25      482.77318                      403699.59
3767132.25      293.01515
         403699.59    3767232.25      207.48739                      403699.59
3767332.25      158.19828
         403699.59    3767432.25      126.05283                      403799.59
3766632.25      226.51196
         403799.59    3766732.25      398.61470                      403799.59
3766832.25      829.93023
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 6, 10\Segment
6, 10.isc                  ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                          ***       16:09:50

                                   PAGE  11
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                    *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                    INCLUDING SOURCE(S):     L0000001    , L0000002
 , L0000003    , L0000004    , L0000005    ,
                   L0000006    , L0000007    , L0000008    , L0000009    , L0000010
 , L0000011    , L0000012    , L0000013    ,
                   L0000014    , L0000015    , L0000016    , L0000017    , L0000018
 , L0000019    , L0000020    , L0000021    ,
                   L0000022    , L0000023    , L0000024    , L0000025    , L0000026
 , L0000027    , L0000028    ,  . . .      ,

                                                *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                             ** CONC OF PM_10    IN MICROGRAMS/M**3
                     **

       X-COORD (M)   Y-COORD (M)        CONC                         X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - -
```

403799.59 3766932.25 938.15694 403799.59
3767032.25 410.85925
403799.59 3767132.25 261.02058 403799.59
3767232.25 188.59591
403799.59 3767332.25 145.75325 403799.59
3767432.25 117.35257
403899.59 3766632.25 231.75257 403899.59
3766732.25 449.64408
403899.59 3766832.25 675.51044 403899.59
3766932.25 705.97036
403899.59 3767032.25 349.81739 403899.59
3767132.25 230.02531
403899.59 3767232.25 169.43777 403899.59
3767332.25 132.76928
403899.59 3767432.25 108.04127 403999.59
3766732.25 512.29287
403999.59 3766832.25 621.09009 403999.59
3766932.25 537.92982
403999.59 3767032.25 290.99817 403999.59
3767132.25 198.30603
403999.59 3767232.25 149.48586 403999.59
3767332.25 118.60545
403999.59 3767432.25 97.78395 402999.59
3767682.25 85.69853
402999.59 3767932.25 54.18931 403249.59
3767682.25 89.20726
403249.59 3767932.25 59.46665 403499.59
3767682.25 85.72924
403499.59 3767932.25 60.04134 403749.59
3767682.25 79.80743
403749.59 3767932.25 59.34112 403999.59
3767682.25 68.68622
403999.59 3767932.25 54.31602 404249.59
3767682.25 55.96075
404249.59 3767932.25 46.62438 404499.59
3767682.25 42.53747
404499.59 3767932.25 37.86804 404249.59
3767432.25 72.11858
404249.59 3767182.25 105.82452 404249.59
3766932.25 173.70564
404249.59 3766182.25 43.40419 404249.59
3765932.25 30.72381
404499.59 3767432.25 50.45239 404499.59
3767182.25 60.30715
404499.59 3766932.25 64.54951 404499.59
3766182.25 32.43516
404499.59 3765932.25 24.76070 403999.59
3765932.25 35.26948
402749.59 3766182.25 49.42968 402749.59
3767432.25 142.34483

```
         402749.59    3767682.25       72.47804                       402749.59
3767932.25       46.95860
         402499.59    3767432.25       83.85282                       402499.59
3767682.25       53.21398
         402499.59    3767932.25       37.81607                       404079.38
3767047.65      228.22449
         404236.48    3767117.92      123.83906

 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 6, 10\Segment
6, 10.isc                  ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                          ***       16:09:50

                                    PAGE  12
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                    *** THE SUMMARY OF MAXIMUM ANNUAL RESULTS
AVERAGED OVER   5 YEARS ***


                                     ** CONC OF PM_10    IN MICROGRAMS/M**3
               **


                         NETWORK
GROUP ID                       AVERAGE CONC                RECEPTOR  (XR, YR,
ZELEV, ZHILL, ZFLAG)  OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -

ALL       1ST HIGHEST VALUE IS    1252.16031 AT (  403299.59,  3767032.25,
69.00,    69.00,    0.00)  DC
          2ND HIGHEST VALUE IS     992.34341 AT (  403299.59,  3766932.25,
69.00,    69.00,    0.00)  DC
          3RD HIGHEST VALUE IS     975.15400 AT (  402999.59,  3767032.25,
67.00,    67.00,    0.00)  DC
          4TH HIGHEST VALUE IS     938.15694 AT (  403799.59,  3766932.25,
70.92,    70.92,    0.00)  DC
          5TH HIGHEST VALUE IS     937.87158 AT (  403699.59,  3766932.25,
70.14,    70.14,    0.00)  DC
          6TH HIGHEST VALUE IS     924.26986 AT (  403399.59,  3766932.25,
69.00,    69.00,    0.00)  DC
          7TH HIGHEST VALUE IS     894.51107 AT (  403399.59,  3767032.25,
69.07,    69.07,    0.00)  DC
          8TH HIGHEST VALUE IS     871.79441 AT (  403699.59,  3766832.25,
70.52,    70.52,    0.00)  DC
          9TH HIGHEST VALUE IS     829.93023 AT (  403799.59,  3766832.25,
72.85,    72.85,    0.00)  DC
         10TH HIGHEST VALUE IS     729.24771 AT (  403499.59,  3766932.25,
70.00,    70.00,    0.00)  DC
```

```
 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
↑ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 6, 10\Segment
6, 10.isc                  ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                       ***        16:09:50

                                   PAGE  13
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

 *** Message Summary : AERMOD Model Execution ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of            5 Warning Message(s)
 A Total of         1277 Informational Message(s)

 A Total of        43848 Hours Were Processed

 A Total of          152 Calm Hours Identified

 A Total of         1125 Missing Hours Identified (  2.57 Percent)


    ******** FATAL ERROR MESSAGES ********
               ***  NONE  ***


    ********   WARNING MESSAGES   ********
 CO W320      22       URBOPT: Input Parameter May Be Out-of-Range for Parameter
   URB-POP
 ME W186     147       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used
      0.50
 ME W187     147       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET

 MX W450   26305       CHKDAT: Record Out of Sequence in Meteorological File at:
  15010101
 MX W450   26305       CHKDAT: Record Out of Sequence in Meteorological File at:
2 year gap

    ***********************************
    *** AERMOD Finishes Successfully ***
    ***********************************
```

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.7.0
** Lakes Environmental Software Inc.
** Date: 10/28/2019
** File: C:\Lakes\AERMOD View\Segment 7, ORA I-5\Segment 7, ORA I-5.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\Segment 7, ORA I-5\Segment 7, ORA I-5.isc
   MODELOPT DFAULT CONC
   AVERTIME ANNUAL
   URBANOPT 140504
   POLLUTID PM_10
   RUNORNOT RUN
   ERRORFIL "Segment 7, ORA I-5.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
** ----------------------------------------------------------------------
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE1
** DESCRSRC
** PREFIX
** Length of Side = 106.00
** Configuration = Adjacent
** Emission Rate = 14.0
** Vertical Dimension = 2.00
** SZINIT = 0.93
** Nodes = 4
** 419404.870, 3737190.300, 35.65, 2.00, 49.30
** 418968.790, 3737867.250, 35.10, 2.00, 49.30
** 418666.200, 3738232.540, 35.50, 2.00, 49.30
** 418466.630, 3738374.120, 35.11, 2.00, 49.30
```

```
** ------------------------------------------------------------------
   LOCATION L0000001     VOLUME   419376.168 3737234.856 35.74
   LOCATION L0000002     VOLUME   419318.764 3737323.967 35.39
   LOCATION L0000003     VOLUME   419261.360 3737413.078 35.33
   LOCATION L0000004     VOLUME   419203.956 3737502.189 34.94
   LOCATION L0000005     VOLUME   419146.552 3737591.300 35.06
   LOCATION L0000006     VOLUME   419089.149 3737680.411 35.15
   LOCATION L0000007     VOLUME   419031.745 3737769.522 35.22
   LOCATION L0000008     VOLUME   418974.341 3737858.633 35.27
   LOCATION L0000009     VOLUME   418907.709 3737940.988 35.19
   LOCATION L0000010     VOLUME   418840.090 3738022.619 35.17
   LOCATION L0000011     VOLUME   418772.470 3738104.250 35.95
   LOCATION L0000012     VOLUME   418704.851 3738185.880 35.88
   LOCATION L0000013     VOLUME   418629.162 3738258.815 35.74
   LOCATION L0000014     VOLUME   418542.708 3738320.148 35.43
** End of LINE VOLUME Source ID = SLINE1
** Source Parameters **
** LINE VOLUME Source ID = SLINE1
   SRCPARAM L0000001          1.0      2.00     49.30      0.93
   SRCPARAM L0000002          1.0      2.00     49.30      0.93
   SRCPARAM L0000003          1.0      2.00     49.30      0.93
   SRCPARAM L0000004          1.0      2.00     49.30      0.93
   SRCPARAM L0000005          1.0      2.00     49.30      0.93
   SRCPARAM L0000006          1.0      2.00     49.30      0.93
   SRCPARAM L0000007          1.0      2.00     49.30      0.93
   SRCPARAM L0000008          1.0      2.00     49.30      0.93
   SRCPARAM L0000009          1.0      2.00     49.30      0.93
   SRCPARAM L0000010          1.0      2.00     49.30      0.93
   SRCPARAM L0000011          1.0      2.00     49.30      0.93
   SRCPARAM L0000012          1.0      2.00     49.30      0.93
   SRCPARAM L0000013          1.0      2.00     49.30      0.93
   SRCPARAM L0000014          1.0      2.00     49.30      0.93
** ------------------------------------------------------------------
   URBANSRC ALL
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED "Segment 7, ORA I-5.rou"
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
```

```
**
ME STARTING
   SURFFILE "C:\Users\kheck\Desktop\MET
Data\FullertonAirportADJU\KFUL_V9_ADJU\KFUL_v9.SFC"
   PROFFILE "C:\Users\kheck\Desktop\MET
Data\FullertonAirportADJU\KFUL_V9_ADJU\KFUL_v9.PFL"
   SURFDATA 3166 2012
   UAIRDATA 3190 2012
   PROFBASE 25.2 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
** Auto-Generated Plotfiles
   PLOTFILE ANNUAL ALL "Segment 7, ORA I-5.AD\AN00GALL.PLT" 31
   SUMMFILE "Segment 7, ORA I-5.sum"
OU FINISHED


  *** Message Summary For AERMOD Model Setup ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of            2 Warning Message(s)
 A Total of            0 Informational Message(s)


    ******** FATAL ERROR MESSAGES ********
              ***  NONE  ***


    ********   WARNING MESSAGES   ********
 ME W186     108       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used
      0.50
 ME W187     108       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET


 ***********************************
 *** SETUP Finishes Successfully ***
 ***********************************

 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 7, ORA
I-5\Segment 7, ORA I-5.isc       ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                       ***        11:23:47
```

```
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                           ***     MODEL SETUP OPTIONS SUMMARY
  ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - -

 **Model Is Setup For Calculation of Average CONCentration Values.

   --  DEPOSITION LOGIC  --
 **NO GAS DEPOSITION Data Provided.
 **NO PARTICLE DEPOSITION Data Provided.
 **Model Uses NO DRY DEPLETION.  DRYDPLT  =  F
 **Model Uses NO WET DEPLETION.  WETDPLT  =  F

 **Model Uses URBAN Dispersion Algorithm for the SBL for    14 Source(s),
   for Total of    1 Urban Area(s):
   Urban Population =    140504.0 ;  Urban Roughness Length =  1.000 m

 **Model Uses Regulatory DEFAULT Options:
         1. Stack-tip Downwash.
         2. Model Accounts for ELEVated Terrain Effects.
         3. Use Calms Processing Routine.
         4. Use Missing Data Processing Routine.
         5. No Exponential Decay.
         6. Urban Roughness Length of 1.0 Meter Assumed.

 **Other Options Specified:
         ADJ_U*   - Use ADJ_U* option for SBL in AERMET
         CCVR_Sub - Meteorological data includes CCVR substitutions
         TEMP_Sub - Meteorological data includes TEMP substitutions

 **Model Assumes No FLAGPOLE Receptor Heights.

 **The User Specified a Pollutant Type of:  PM_10

 **Model Calculates ANNUAL Averages Only

 **This Run Includes:     14 Source(s);       1 Source Group(s); and     148
Receptor(s)

                with:      0 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                 and:     14 VOLUME source(s)
                 and:      0 AREA type source(s)
                 and:      0 LINE source(s)
                 and:      0 OPENPIT source(s)
                 and:      0 BUOYANT LINE source(s) with      0 line(s)
```

```
 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  16216

 **Output Options Selected:
          Model Outputs Tables of ANNUAL Averages by Receptor
          Model Outputs External File(s) of High Values for Plotting (PLOTFILE
Keyword)
          Model Outputs Separate Summary File of High Ranked Values (SUMMFILE
Keyword)

 **NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                 m for Missing
Hours
                                                                 b for Both Calm
and Missing Hours

 **Misc. Inputs:  Base Elev. for Pot. Temp. Profile (m MSL) =    25.20 ;  Decay
Coef. =    0.000     ;  Rot. Angle =     0.0
                  Emission Units = GRAMS/SEC                                ;
Emission Rate Unit Factor =   0.10000E+07
                  Output Units   = MICROGRAMS/M**3

 **Approximate Storage Requirements of Model =      3.5 MB of RAM.

 **Input Runstream File:          aermod.inp

 **Output Print File:             aermod.out


 **Detailed Error/Message File:   Segment 7, ORA I-5.err

 **File for Summary of Results:   Segment 7, ORA I-5.sum

↟ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 7, ORA
I-5\Segment 7, ORA I-5.isc       ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                       ***        11:23:47

                                  PAGE   2
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                                *** VOLUME SOURCE DATA ***

               NUMBER EMISSION RATE                    BASE    RELEASE    INIT.
INIT.   URBAN  EMISSION RATE
   SOURCE       PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY
```

```
SZ     SOURCE  SCALAR VARY
     ID         CATS.               (METERS) (METERS) (METERS) (METERS) (METERS)
(METERS)             BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - -

 L0000001         0   0.10000E+01  419376.2 3737234.9    35.7     2.00    49.30
0.93     YES
 L0000002         0   0.10000E+01  419318.8 3737324.0    35.4     2.00    49.30
0.93     YES
 L0000003         0   0.10000E+01  419261.4 3737413.1    35.3     2.00    49.30
0.93     YES
 L0000004         0   0.10000E+01  419204.0 3737502.2    34.9     2.00    49.30
0.93     YES
 L0000005         0   0.10000E+01  419146.6 3737591.3    35.1     2.00    49.30
0.93     YES
 L0000006         0   0.10000E+01  419089.1 3737680.4    35.1     2.00    49.30
0.93     YES
 L0000007         0   0.10000E+01  419031.7 3737769.5    35.2     2.00    49.30
0.93     YES
 L0000008         0   0.10000E+01  418974.3 3737858.6    35.3     2.00    49.30
0.93     YES
 L0000009         0   0.10000E+01  418907.7 3737941.0    35.2     2.00    49.30
0.93     YES
 L0000010         0   0.10000E+01  418840.1 3738022.6    35.2     2.00    49.30
0.93     YES
 L0000011         0   0.10000E+01  418772.5 3738104.2    35.9     2.00    49.30
0.93     YES
 L0000012         0   0.10000E+01  418704.9 3738185.9    35.9     2.00    49.30
0.93     YES
 L0000013         0   0.10000E+01  418629.2 3738258.8    35.7     2.00    49.30
0.93     YES
 L0000014         0   0.10000E+01  418542.7 3738320.1    35.4     2.00    49.30
0.93     YES
↑ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 7, ORA
I-5\Segment 7, ORA I-5.isc       ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                       ***        11:23:47

                                  PAGE   3
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                          *** SOURCE IDs DEFINING SOURCE GROUPS
***

 SRCGROUP ID                                          SOURCE IDs
 -----------                                          ----------
```

```
  ALL        L0000001    , L0000002    , L0000003    , L0000004    , L0000005    ,
L0000006    , L0000007    , L0000008    ,

             L0000009    , L0000010    , L0000011    , L0000012    , L0000013    ,
L0000014    ,
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 7, ORA
I-5\Segment 7, ORA I-5.isc       ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                         ***        11:23:47

                                    PAGE   4
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                          *** SOURCE IDs DEFINED AS URBAN SOURCES
***

  URBAN ID   URBAN POP                                    SOURCE IDs
  --------   ---------                                    ----------


               140504.   L0000001    , L0000002    , L0000003    , L0000004    ,
L0000005    , L0000006    , L0000007    ,
 L0000008    ,

             L0000009    , L0000010    , L0000011    , L0000012    , L0000013    ,
L0000014    ,
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 7, ORA
I-5\Segment 7, ORA I-5.isc       ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                         ***        11:23:47

                                    PAGE   5
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                       *** DISCRETE CARTESIAN RECEPTORS ***
                                     (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                (METERS)

     ( 418469.5, 3737328.2,      30.7,      30.7,       0.0);         ( 418469.5,
3737428.2,      31.2,      31.2,       0.0);
     ( 418469.5, 3737528.2,      31.8,      31.8,       0.0);         ( 418469.5,
3737628.2,      32.0,      32.0,       0.0);
     ( 418469.5, 3737728.2,      32.3,      32.3,       0.0);         ( 418469.5,
3737828.2,      33.0,      33.0,       0.0);
     ( 418469.5, 3737928.2,      33.3,      33.3,       0.0);         ( 418469.5,
3738028.2,      34.0,      34.0,       0.0);
     ( 418469.5, 3738128.2,      34.4,      34.4,       0.0);         ( 418569.5,
3737328.2,      31.4,      31.4,       0.0);
     ( 418569.5, 3737428.2,      31.9,      31.9,       0.0);         ( 418569.5,
```

```
3737528.2,      32.0,      32.0,       0.0);
     ( 418569.5, 3737628.2,      32.5,      32.5,       0.0);         ( 418569.5,
3737728.2,      32.9,      32.9,       0.0);
     ( 418569.5, 3737828.2,      33.6,      33.6,       0.0);         ( 418569.5,
3737928.2,      34.0,      34.0,       0.0);
     ( 418569.5, 3738028.2,      34.6,      34.6,       0.0);         ( 418669.5,
3737328.2,      32.0,      32.0,       0.0);
     ( 418669.5, 3737428.2,      32.0,      32.0,       0.0);         ( 418669.5,
3737528.2,      32.7,      32.7,       0.0);
     ( 418669.5, 3737628.2,      33.0,      33.0,       0.0);         ( 418669.5,
3737728.2,      33.8,      33.8,       0.0);
     ( 418669.5, 3737828.2,      34.0,      34.0,       0.0);         ( 418669.5,
3737928.2,      34.0,      34.0,       0.0);
     ( 418769.5, 3737328.2,      32.0,      32.0,       0.0);         ( 418769.5,
3737428.2,      32.6,      32.6,       0.0);
     ( 418769.5, 3737528.2,      33.0,      33.0,       0.0);         ( 418769.5,
3737628.2,      33.2,      33.2,       0.0);
     ( 418769.5, 3737728.2,      33.9,      33.9,       0.0);         ( 418769.5,
3737828.2,      34.2,      34.2,       0.0);
     ( 418769.5, 3737928.2,      35.0,      35.0,       0.0);         ( 418769.5,
3738328.2,      37.0,      37.0,       0.0);
     ( 418869.5, 3737328.2,      32.3,      32.3,       0.0);         ( 418869.5,
3737428.2,      32.8,      32.8,       0.0);
     ( 418869.5, 3737528.2,      33.4,      33.4,       0.0);         ( 418869.5,
3737628.2,      33.9,      33.9,       0.0);
     ( 418869.5, 3737728.2,      34.5,      34.5,       0.0);         ( 418869.5,
3737828.2,      35.0,      35.0,       0.0);
     ( 418869.5, 3738128.2,      36.1,      36.1,       0.0);         ( 418869.5,
3738228.2,      36.6,      36.6,       0.0);
     ( 418869.5, 3738328.2,      37.2,      37.2,       0.0);         ( 418969.5,
3737328.2,      32.9,      32.9,       0.0);
     ( 418969.5, 3737428.2,      33.5,      33.5,       0.0);         ( 418969.5,
3737528.2,      34.0,      34.0,       0.0);
     ( 418969.5, 3737628.2,      34.7,      34.7,       0.0);         ( 418969.5,
3738128.2,      36.8,      36.8,       0.0);
     ( 418969.5, 3738228.2,      37.2,      37.2,       0.0);         ( 418969.5,
3738328.2,      37.8,      37.8,       0.0);
     ( 419069.5, 3737328.2,      33.6,      33.6,       0.0);         ( 419069.5,
3737428.2,      34.0,      34.0,       0.0);
     ( 419069.5, 3737528.2,      34.7,      34.7,       0.0);         ( 419069.5,
3738128.2,      37.2,      37.2,       0.0);
     ( 419069.5, 3738228.2,      38.0,      38.0,       0.0);         ( 419069.5,
3738328.2,      38.4,      38.4,       0.0);
     ( 419169.5, 3737328.2,      34.0,      34.0,       0.0);         ( 419169.5,
3737428.2,      34.4,      34.4,       0.0);
     ( 419169.5, 3738028.2,      37.1,      37.1,       0.0);         ( 419169.5,
3738128.2,      37.5,      37.5,       0.0);
     ( 419169.5, 3738228.2,      38.1,      38.1,       0.0);         ( 419169.5,
3738328.2,      38.6,      38.6,       0.0);
     ( 419269.5, 3737728.2,      36.0,      36.0,       0.0);         ( 419269.5,
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3737828.2,      36.7,      36.7,       0.0);
     ( 419269.5, 3737928.2,      37.1,      37.1,       0.0);         ( 419269.5,
3738028.2,      37.7,      37.7,       0.0);
     ( 419269.5, 3738128.2,      38.2,      38.2,       0.0);         ( 419269.5,
3738228.2,      38.8,      38.8,       0.0);
     ( 419269.5, 3738328.2,      39.3,      39.3,       0.0);         ( 419369.5,
3737528.2,      37.0,      37.0,       0.0);
     ( 419369.5, 3737628.2,      37.0,      37.0,       0.0);         ( 419369.5,
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     ( 419369.5, 3737828.2,      37.0,      37.0,       0.0);         ( 419369.5,
3737928.2,      38.0,      38.0,       0.0);
     ( 419369.5, 3738028.2,      38.2,      38.2,       0.0);         ( 419369.5,
3738128.2,      39.0,      39.0,       0.0);
     ( 419369.5, 3738228.2,      39.3,      39.3,       0.0);         ( 419369.5,
3738328.2,      40.0,      40.0,       0.0);
     ( 419469.5, 3737428.2,      37.0,      37.0,       0.0);         ( 419469.5,
3737528.2,      37.0,      37.0,       0.0);
     ( 419469.5, 3737628.2,      37.0,      37.0,       0.0);         ( 419469.5,
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     ( 419469.5, 3737828.2,      38.0,      38.0,       0.0);         ( 419469.5,
3737928.2,      38.1,      38.1,       0.0);
     ( 419469.5, 3738028.2,      39.0,      39.0,       0.0);         ( 419469.5,
3738128.2,      39.1,      39.1,       0.0);
     ( 419469.5, 3738228.2,      39.5,      39.5,       0.0);         ( 419469.5,
3738328.2,      40.1,      40.1,       0.0);
     ( 418469.5, 3738578.2,      36.3,      36.3,       0.0);         ( 418469.5,
3738828.2,      37.8,      37.8,       0.0);
     ( 418719.5, 3738578.2,      38.0,      38.0,       0.0);         ( 418719.5,
3738828.2,      39.0,      39.0,       0.0);
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 7, ORA
I-5\Segment 7, ORA I-5.isc       ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                         ***        11:23:47

                                    PAGE   6
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                              *** DISCRETE CARTESIAN RECEPTORS ***
                                          (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                        (METERS)

     ( 418969.5, 3738578.2,      39.1,      39.1,       0.0);         ( 418969.5,
3738828.2,      40.0,      40.0,       0.0);
     ( 419219.5, 3738578.2,      40.1,      40.1,       0.0);         ( 419219.5,
3738828.2,      41.0,      41.0,       0.0);
     ( 419469.5, 3738578.2,      41.3,      41.3,       0.0);         ( 419469.5,
3738828.2,      42.1,      42.1,       0.0);
     ( 419719.5, 3738578.2,      42.5,      42.5,       0.0);         ( 419719.5,
3738828.2,      43.0,      43.0,       0.0);
     ( 419969.5, 3738578.2,      43.7,      43.7,       0.0);         ( 419969.5,
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3738828.2,      44.6,      44.6,       0.0);
     ( 419719.5, 3738328.2,      41.5,      41.5,       0.0);         ( 419719.5,
3738078.2,      40.0,      40.0,       0.0);
     ( 419719.5, 3737828.2,      39.0,      39.0,       0.0);         ( 419719.5,
3737578.2,      38.5,      38.5,       0.0);
     ( 419719.5, 3737328.2,      38.6,      38.6,       0.0);         ( 419719.5,
3737078.2,      38.5,      38.5,       0.0);
     ( 419719.5, 3736828.2,      36.9,      36.9,       0.0);         ( 419969.5,
3738328.2,      43.7,      43.7,       0.0);
     ( 419969.5, 3738078.2,      42.5,      42.5,       0.0);         ( 419969.5,
3737828.2,      40.8,      40.8,       0.0);
     ( 419969.5, 3737578.2,      39.8,      39.8,       0.0);         ( 419969.5,
3737328.2,      39.8,      39.8,       0.0);
     ( 419969.5, 3737078.2,      39.0,      39.0,       0.0);         ( 419969.5,
3736828.2,      39.0,      39.0,       0.0);
     ( 419469.5, 3737078.2,      35.9,      35.9,       0.0);         ( 419469.5,
3736828.2,      34.5,      34.5,       0.0);
     ( 419219.5, 3737078.2,      33.1,      33.1,       0.0);         ( 419219.5,
3736828.2,      32.0,      32.0,       0.0);
     ( 418969.5, 3737078.2,      32.0,      32.0,       0.0);         ( 418969.5,
3736828.2,      30.9,      30.9,       0.0);
     ( 418719.5, 3737078.2,      30.9,      30.9,       0.0);         ( 418719.5,
3736828.2,      30.0,      30.0,       0.0);
     ( 418469.5, 3737078.2,      30.0,      30.0,       0.0);         ( 418469.5,
3736828.2,      30.0,      30.0,       0.0);
     ( 418219.5, 3737078.2,      30.0,      30.0,       0.0);         ( 418219.5,
3736828.2,      30.0,      30.0,       0.0);
     ( 417969.5, 3737078.2,      30.0,      30.0,       0.0);         ( 417969.5,
3736828.2,      30.0,      30.0,       0.0);
     ( 418219.5, 3737328.2,      30.0,      30.0,       0.0);         ( 418219.5,
3737578.2,      31.0,      31.0,       0.0);
     ( 418219.5, 3737828.2,      32.0,      32.0,       0.0);         ( 418219.5,
3738078.2,      33.0,      33.0,       0.0);
     ( 418219.5, 3738328.2,      34.0,      34.0,       0.0);         ( 418219.5,
3738578.2,      35.0,      35.0,       0.0);
     ( 418219.5, 3738828.2,      36.7,      36.7,       0.0);         ( 417969.5,
3737328.2,      30.0,      30.0,       0.0);
     ( 417969.5, 3737578.2,      30.0,      30.0,       0.0);         ( 417969.5,
3737828.2,      31.0,      31.0,       0.0);
     ( 417969.5, 3738078.2,      32.0,      32.0,       0.0);         ( 417969.5,
3738328.2,      33.0,      33.0,       0.0);
     ( 417969.5, 3738578.2,      34.0,      34.0,       0.0);         ( 417969.5,
3738828.2,      35.5,      35.5,       0.0);
     ( 418450.2, 3738337.4,      35.0,      35.0,       0.0);         ( 418535.4,
3738396.7,      36.0,      36.0,       0.0);
     ( 419120.9, 3737722.2,      35.7,      35.7,       0.0);         ( 419428.5,
3737233.0,      36.4,      36.4,       0.0);
     ( 419347.0, 3737170.0,      35.0,      35.0,       0.0);         ( 418924.5,
3737774.1,      35.0,      35.0,       0.0);
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 7, ORA
```

* SOURCE-RECEPTOR COMBINATIONS FOR WHICH CALCULATIONS MAY NOT BE PERFORMED *
LESS THAN 1.0 METER; WITHIN OPENPIT; OR BEYOND 80KM FOR FASTAREA/FASTALL

SOURCE ID	- - RECEPTOR LOCATION - - XR (METERS)	YR (METERS)	DISTANCE (METERS)
L0000001	419428.5	3737233.0	-53.59
L0000001	419347.0	3737170.0	-34.92
L0000003	419169.5	3737428.2	-12.86
L0000004	419169.5	3737428.2	-24.41
L0000005	419069.5	3737528.2	-6.41
L0000006	419120.9	3737722.2	-53.46
L0000007	419120.9	3737722.2	-5.04
L0000008	418924.5	3737774.1	-7.89
L0000011	418869.5	3738128.2	-6.07
L0000014	418450.2	3738337.4	-11.85
L0000014	418535.4	3738396.7	-29.08

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***

(1=YES; 0=NO)

```
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
```

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***

(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: C:\Users\kheck\Desktop\MET Data\FullertonAirportADJU\KFUL_V9_ADJU\KFUL_v9.SFC Met Version: 16216
Profile file: C:\Users\kheck\Desktop\MET Data\FullertonAirportADJU\KFUL_V9_ADJU\KFUL_v9.PFL
Surface format: FREE

Profile format: FREE

Surface station no.: 3166 Upper air station no.: 3190
Name: UNKNOWN Name: UNKNOWN

Year: 2012 Year: 2012

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
12	01	01	1	01	-4.8	0.098	-9.000	-9.000	-999.	74.	18.0	0.26	2.61	1.00	0.96	322.	10.1	283.8	2.0
12	01	01	1	02	-1.9	0.072	-9.000	-9.000	-999.	47.	18.0	0.26	2.61	1.00	0.52	13.	10.1	283.1	2.0
12	01	01	1	03	-3.1	0.083	-9.000	-9.000	-999.	57.	16.3	0.26	2.61	1.00	0.75	73.	10.1	282.0	2.0
12	01	01	1	04	-4.3	0.094	-9.000	-9.000	-999.	69.	17.3	0.26	2.61	1.00	0.91	98.	10.1	281.4	2.0
12	01	01	1	05	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.26	2.61	1.00	0.00	0.	10.1	280.9	2.0
12	01	01	1	06	-2.1	0.074	-9.000	-9.000	-999.	48.	17.6	0.26	2.61	1.00	0.55	80.	10.1	280.4	2.0
12	01	01	1	07	-2.8	0.080	-9.000	-9.000	-999.	54.	16.3	0.26	2.61	1.00	0.69	201.	10.1	280.4	2.0
12	01	01	1	08	-1.5	0.066	-9.000	-9.000	-999.	41.	17.0	0.26	2.61	0.54	0.52	72.	10.1	280.9	2.0
12	01	01	1	09	37.4	-9.000	-9.000	-9.000	38.	-999.	-99999.0	0.26	2.61	0.31	0.00	0.	10.1	285.9	2.0
12	01	01	1	10	109.1	0.151	0.713	0.008	121.	141.	-2.9	0.26	2.61	0.24	0.79	268.	10.1	289.9	2.0
12	01	01	1	11	160.5	0.148	1.143	0.005	338.	136.	-1.8	0.26	2.61	0.21	0.70	273.	10.1	294.2	2.0
12	01	01	1	12	186.9	0.156	1.483	0.005	634.	148.	-1.8	0.26	2.61	0.20	0.74	230.	10.1	297.5	2.0
12	01	01	1	13	187.4	0.210	1.777	0.005	1088.	231.	-4.5	0.26	2.61	0.20	1.20	227.	10.1	300.4	2.0
12	01	01	1	14	160.3	0.235	1.833	0.005	1395.	274.	-7.4	0.26	2.61	0.21	1.47	233.	10.1	300.9	2.0
12	01	01	1	15	109.1	0.197	1.662	0.005	1527.	210.	-6.3	0.26	2.61	0.25	1.20	233.	10.1	302.0	2.0
12	01	01	1	16	33.3	0.243	1.125	0.005	1548.	288.	-39.2	0.26	2.61	0.33	1.91	229.	10.1	298.1	2.0
12	01	01	1	17	-9.1	0.141	-9.000	-9.000	-999.	132.	28.3	0.26	2.61	0.60	1.37	212.	10.1	294.2	2.0
12	01	01	1	18	-4.3	0.094	-9.000	-9.000	-999.	69.	17.5	0.26	2.61	1.00	0.91	190.	10.1	292.0	2.0
12	01	01	1	19	-2.8	0.079	-9.000	-9.000	-999.	54.	16.3	0.26	2.61	1.00	0.70	302.	10.1	289.2	2.0
12	01	01	1	20	-4.0	0.091	-9.000	-9.000	-999.	65.	17.0	0.26	2.61	1.00	0.87	338.	10.1	288.1	2.0

```
 12 01 01   1 21   -6.3  0.113 -9.000 -9.000 -999.   91.     20.5  0.26   2.61
1.00    1.11  304.   10.1  287.0    2.0
 12 01 01   1 22   -3.1  0.082 -9.000 -9.000 -999.   57.     16.3  0.26   2.61
1.00    0.75   76.   10.1  285.4    2.0
 12 01 01   1 23   -2.4  0.076 -9.000 -9.000 -999.   50.     16.7  0.26   2.61
1.00    0.62  306.   10.1  284.9    2.0
 12 01 01   1 24   -3.6  0.087 -9.000 -9.000 -999.   62.     16.6  0.26   2.61
1.00    0.82  318.   10.1  283.8    2.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 12 01 01 01   10.1 1  322.    0.96   283.8   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 7, ORA
I-5\Segment 7, ORA I-5.isc       ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                       ***        11:23:47

                                  PAGE  10
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                   INCLUDING SOURCE(S):     L0000001    , L0000002
 , L0000003    , L0000004    , L0000005    ,
                 L0000006    , L0000007    , L0000008    , L0000009    , L0000010
 , L0000011    , L0000012    , L0000013    ,
                 L0000014    ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                       ** CONC OF PM_10    IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
         418469.47    3737328.25       29.31750                     418469.47
3737428.25       33.25820
         418469.47    3737528.25       37.63822                     418469.47
3737628.25       42.60510
         418469.47    3737728.25       48.48476                     418469.47
3737828.25       55.80042
         418469.47    3737928.25       65.30844                     418469.47
3738028.25       78.67342
         418469.47    3738128.25      100.03777                     418569.47
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3737328.25 34.09329
418569.47 3737428.25 39.25341 418569.47
3737528.25 45.10246
418569.47 3737628.25 52.02890 418569.47
3737728.25 60.60615
418569.47 3737828.25 71.96091 418569.47
3737928.25 88.13312
418569.47 3738028.25 113.88949 418669.47
3737328.25 40.18735
418669.47 3737428.25 47.06032 418669.47
3737528.25 55.17023
418669.47 3737628.25 65.07487 418669.47
3737728.25 78.08386
418669.47 3737828.25 96.59201 418669.47
3737928.25 126.36829
418769.47 3737328.25 48.22389 418769.47
3737428.25 57.82413
418769.47 3737528.25 69.46864 418769.47
3737628.25 84.44633
418769.47 3737728.25 105.57226 418769.47
3737828.25 139.60645
418769.47 3737928.25 210.33835 418769.47
3738328.25 173.51253
418869.47 3737328.25 59.53327 418869.47
3737428.25 73.63298
418869.47 3737528.25 91.80729 418869.47
3737628.25 117.27441
418869.47 3737728.25 157.85577 418869.47
3737828.25 242.37629
418869.47 3738128.25 212.42625 418869.47
3738228.25 181.31112
418869.47 3738328.25 119.34013 418969.47
3737328.25 76.86114
418969.47 3737428.25 99.79134 418969.47
3737528.25 132.70660
418969.47 3737628.25 188.94785 418969.47
3738128.25 174.37015
418969.47 3738228.25 122.85896 418969.47
3738328.25 90.17877
419069.47 3737328.25 107.25429 419069.47
3737428.25 152.46215
419069.47 3737528.25 159.31215 419069.47
3738128.25 119.86070
419069.47 3738228.25 91.82318 419069.47
3738328.25 71.65017
419169.47 3737328.25 177.49822 419169.47
3737428.25 108.29996
419169.47 3738028.25 112.57872 419169.47
3738128.25 89.46306
419169.47 3738228.25 72.09986 419169.47

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3738328.25       58.60121
         419269.47    3737728.25      163.67776                       419269.47
3737828.25      126.78262
         419269.47    3737928.25      102.18120                       419269.47
3738028.25       83.96658
         419269.47    3738128.25       69.74423                       419269.47
3738228.25       58.20358
         419269.47    3738328.25       48.75886                       419369.47
3737528.25      176.23031
         419369.47    3737628.25      134.18823                       419369.47
3737728.25      108.41134
         419369.47    3737828.25       90.37095                       419369.47
3737928.25       76.48683
         419369.47    3738028.25       65.29788                       419369.47
3738128.25       55.87600
         419369.47    3738228.25       47.87531                       419369.47
3738328.25       41.28922
         419469.47    3737428.25      127.74289                       419469.47
3737528.25      105.80136
         419469.47    3737628.25       89.88438                       419469.47
3737728.25       77.66986
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 7, ORA
I-5\Segment 7, ORA I-5.isc       ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                        ***        11:23:47

                                  PAGE  11
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                  *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                  INCLUDING SOURCE(S):     L0000001    , L0000002
 , L0000003    , L0000004    , L0000005    ,
                L0000006    , L0000007    , L0000008    , L0000009    , L0000010
 , L0000011    , L0000012    , L0000013    ,
                L0000014    ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_10    IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
         419469.47    3737828.25       67.72847                       419469.47
3737928.25       59.38842
         419469.47    3738028.25       52.07123                       419469.47
```

3738128.25 45.64232
419469.47 3738228.25 39.92639 419469.47
3738328.25 35.21577
418469.47 3738578.25 49.93464 418469.47
3738828.25 25.77655
418719.47 3738578.25 61.27455 418719.47
3738828.25 30.47952
418969.47 3738578.25 47.10830 418969.47
3738828.25 28.67400
419219.47 3738578.25 34.85596 419219.47
3738828.25 25.24123
419469.47 3738578.25 26.07033 419469.47
3738828.25 19.87056
419719.47 3738578.25 18.89210 419719.47
3738828.25 15.27595
419969.47 3738578.25 13.88246 419969.47
3738828.25 11.66837
419719.47 3738328.25 24.27469 419719.47
3738078.25 30.43294
419719.47 3737828.25 37.22443 419719.47
3737578.25 42.83750
419719.47 3737328.25 43.83164 419719.47
3737078.25 31.39154
419719.47 3736828.25 19.16061 419969.47
3738328.25 16.87639
419969.47 3738078.25 20.77475 419969.47
3737828.25 23.80666
419969.47 3737578.25 24.91333 419969.47
3737328.25 24.37863
419969.47 3737078.25 19.88965 419969.47
3736828.25 14.39843
419469.47 3737078.25 62.09451 419469.47
3736828.25 24.85815
419219.47 3737078.25 62.08966 419219.47
3736828.25 26.25821
418969.47 3737078.25 40.08747 418969.47
3736828.25 22.82521
418719.47 3737078.25 28.30450 418719.47
3736828.25 18.71136
418469.47 3737078.25 21.06123 418469.47
3736828.25 15.23250
418219.47 3737078.25 16.18950 418219.47
3736828.25 12.44816
417969.47 3737078.25 12.73833 417969.47
3736828.25 10.25449
418219.47 3737328.25 20.97252 418219.47
3737578.25 26.48871
418219.47 3737828.25 32.81817 418219.47
3738078.25 39.89746
418219.47 3738328.25 40.73457 418219.47

*** THE SUMMARY OF MAXIMUM ANNUAL RESULTS
AVERAGED OVER   5 YEARS ***

** CONC OF PM_10   IN MICROGRAMS/M**3
**

GROUP ID	NETWORK	AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	GRID-ID
ALL	1ST HIGHEST VALUE IS	242.37629	AT (418869.47, 3737828.25, 34.99, 34.99, 0.00)	DC	
	2ND HIGHEST VALUE IS	212.42625	AT (418869.47, 3738128.25, 36.10, 36.10, 0.00)	DC	
	3RD HIGHEST VALUE IS	210.33835	AT (418769.47, 3737928.25, 35.00, 35.00, 0.00)	DC	
	4TH HIGHEST VALUE IS	194.54263	AT (418924.52, 3737774.12, 35.00, 35.00, 0.00)	DC	
	5TH HIGHEST VALUE IS	188.94785	AT (418969.47, 3737628.25, 34.68, 34.68, 0.00)	DC	
	6TH HIGHEST VALUE IS	181.31112	AT (418869.47, 3738228.25, 36.63, 36.63, 0.00)	DC	
	7TH HIGHEST VALUE IS	177.49822	AT (419169.47, 3737328.25,		

```
34.04,    34.04,    0.00)  DC
          8TH HIGHEST VALUE IS     176.23031 AT (  419369.47,  3737528.25,
37.00,    37.00,    0.00)  DC
          9TH HIGHEST VALUE IS     174.37015 AT (  418969.47,  3738128.25,
36.83,    36.83,    0.00)  DC
         10TH HIGHEST VALUE IS     173.51253 AT (  418769.47,  3738328.25,
37.00,    37.00,    0.00)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 7, ORA
I-5\Segment 7, ORA I-5.isc       ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                       ***        11:23:47

                                  PAGE  13
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

 *** Message Summary : AERMOD Model Execution ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of            2 Warning Message(s)
 A Total of         2285 Informational Message(s)

 A Total of        43848 Hours Were Processed

 A Total of         1588 Calm Hours Identified

 A Total of          697 Missing Hours Identified (  1.59 Percent)


    ******** FATAL ERROR MESSAGES ********
               ***  NONE  ***


    ********   WARNING MESSAGES   ********
 ME W186     108       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used
      0.50
 ME W187     108       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET


    ***********************************
    *** AERMOD Finishes Successfully ***
    ***********************************
```

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.7.0
** Lakes Environmental Software Inc.
** Date: 10/28/2019
** File: C:\Lakes\AERMOD View\Segment 8, ORA I-405\Segment 8, ORA I-405.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\Segment 8, ORA I-405\Segment 8, ORA I-405.isc
   MODELOPT DFAULT CONC
   AVERTIME ANNUAL
   URBANOPT 24440
   POLLUTID PM_10
   RUNORNOT RUN
   ERRORFIL "Segment 8, ORA I-405.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
** ------------------------------------------------------------------------
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE1
** DESCRSRC
** PREFIX
** Length of Side = 76.00
** Configuration = Adjacent
** Emission Rate = 21.0
** Vertical Dimension = 2.00
** SZINIT = 0.93
** Nodes = 2
** 401174.220, 3737642.470, 0.00, 2.00, 35.35
** 402748.930, 3737617.600, 0.00, 2.00, 35.35
** ------------------------------------------------------------------------
   LOCATION L0000001     VOLUME   401212.215 3737641.870 0.00
```

```
   LOCATION L0000002     VOLUME   401288.206 3737640.670 0.00
   LOCATION L0000003     VOLUME   401364.196 3737639.470 0.00
   LOCATION L0000004     VOLUME   401440.187 3737638.269 0.00
   LOCATION L0000005     VOLUME   401516.177 3737637.069 0.00
   LOCATION L0000006     VOLUME   401592.168 3737635.869 0.00
   LOCATION L0000007     VOLUME   401668.158 3737634.669 0.00
   LOCATION L0000008     VOLUME   401744.149 3737633.469 0.00
   LOCATION L0000009     VOLUME   401820.139 3737632.269 0.00
   LOCATION L0000010     VOLUME   401896.130 3737631.069 0.00
   LOCATION L0000011     VOLUME   401972.120 3737629.868 0.00
   LOCATION L0000012     VOLUME   402048.111 3737628.668 0.00
   LOCATION L0000013     VOLUME   402124.102 3737627.468 0.00
   LOCATION L0000014     VOLUME   402200.092 3737626.268 0.00
   LOCATION L0000015     VOLUME   402276.083 3737625.068 0.00
   LOCATION L0000016     VOLUME   402352.073 3737623.868 0.00
   LOCATION L0000017     VOLUME   402428.064 3737622.668 0.00
   LOCATION L0000018     VOLUME   402504.054 3737621.467 0.00
   LOCATION L0000019     VOLUME   402580.045 3737620.267 0.00
   LOCATION L0000020     VOLUME   402656.035 3737619.067 0.00
   LOCATION L0000021     VOLUME   402732.026 3737617.867 0.00
** End of LINE VOLUME Source ID = SLINE1
** Source Parameters **
** LINE VOLUME Source ID = SLINE1
   SRCPARAM L0000001          1.0      2.00     35.35      0.93
   SRCPARAM L0000002          1.0      2.00     35.35      0.93
   SRCPARAM L0000003          1.0      2.00     35.35      0.93
   SRCPARAM L0000004          1.0      2.00     35.35      0.93
   SRCPARAM L0000005          1.0      2.00     35.35      0.93
   SRCPARAM L0000006          1.0      2.00     35.35      0.93
   SRCPARAM L0000007          1.0      2.00     35.35      0.93
   SRCPARAM L0000008          1.0      2.00     35.35      0.93
   SRCPARAM L0000009          1.0      2.00     35.35      0.93
   SRCPARAM L0000010          1.0      2.00     35.35      0.93
   SRCPARAM L0000011          1.0      2.00     35.35      0.93
   SRCPARAM L0000012          1.0      2.00     35.35      0.93
   SRCPARAM L0000013          1.0      2.00     35.35      0.93
   SRCPARAM L0000014          1.0      2.00     35.35      0.93
   SRCPARAM L0000015          1.0      2.00     35.35      0.93
   SRCPARAM L0000016          1.0      2.00     35.35      0.93
   SRCPARAM L0000017          1.0      2.00     35.35      0.93
   SRCPARAM L0000018          1.0      2.00     35.35      0.93
   SRCPARAM L0000019          1.0      2.00     35.35      0.93
   SRCPARAM L0000020          1.0      2.00     35.35      0.93
   SRCPARAM L0000021          1.0      2.00     35.35      0.93
** ------------------------------------------------------------------
   URBANSRC ALL
   SRCGROUP ALL
SO FINISHED
**
**************************************
```

```
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED "Segment 8, ORA I-405.rou"
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE "C:\Users\kheck\Desktop\MET
Data\LongBeachAirportADJU\KLGB_V9_ADJU\KLGB_v9.SFC"
   PROFFILE "C:\Users\kheck\Desktop\MET
Data\LongBeachAirportADJU\KLGB_V9_ADJU\KLGB_v9.PFL"
   SURFDATA 23129 2012
   UAIRDATA 3190 2012
   PROFBASE 6.7 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
** Auto-Generated Plotfiles
   PLOTFILE ANNUAL ALL "Segment 8, ORA I-405.AD\AN00GALL.PLT" 31
   SUMMFILE "Segment 8, ORA I-405.sum"
OU FINISHED


  *** Message Summary For AERMOD Model Setup ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of            2 Warning Message(s)
 A Total of            0 Informational Message(s)


    ******** FATAL ERROR MESSAGES ********
               ***  NONE  ***


    ********   WARNING MESSAGES   ********
 ME W186     120       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used
```

```
     0.50
 ME W187     120       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET


 **********************************
 *** SETUP Finishes Successfully ***
 **********************************

 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 8, ORA
I-405\Segment 8, ORA I-405.isc   ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                       ***        11:58:53

                                  PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                          ***     MODEL SETUP OPTIONS SUMMARY
  ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - -

 **Model Is Setup For Calculation of Average CONCentration Values.

   --  DEPOSITION LOGIC  --
 **NO GAS DEPOSITION Data Provided.
 **NO PARTICLE DEPOSITION Data Provided.
 **Model Uses NO DRY DEPLETION.  DRYDPLT  =  F
 **Model Uses NO WET DEPLETION.  WETDPLT  =  F

 **Model Uses URBAN Dispersion Algorithm for the SBL for    21 Source(s),
   for Total of    1 Urban Area(s):
   Urban Population =     24440.0 ;  Urban Roughness Length =  1.000 m

 **Model Uses Regulatory DEFAULT Options:
        1. Stack-tip Downwash.
        2. Model Accounts for ELEVated Terrain Effects.
        3. Use Calms Processing Routine.
        4. Use Missing Data Processing Routine.
        5. No Exponential Decay.
        6. Urban Roughness Length of 1.0 Meter Assumed.

 **Other Options Specified:
        ADJ_U*   - Use ADJ_U* option for SBL in AERMET
        CCVR_Sub - Meteorological data includes CCVR substitutions
        TEMP_Sub - Meteorological data includes TEMP substitutions

 **Model Assumes No FLAGPOLE Receptor Heights.

 **The User Specified a Pollutant Type of:  PM_10
```

```
 **Model Calculates ANNUAL Averages Only

 **This Run Includes:     21 Source(s);       1 Source Group(s); and      69
Receptor(s)

                with:      0 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                 and:     21 VOLUME source(s)
                 and:      0 AREA type source(s)
                 and:      0 LINE source(s)
                 and:      0 OPENPIT source(s)
                 and:      0 BUOYANT LINE source(s) with      0 line(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  16216

 **Output Options Selected:
          Model Outputs Tables of ANNUAL Averages by Receptor
          Model Outputs External File(s) of High Values for Plotting (PLOTFILE
Keyword)
          Model Outputs Separate Summary File of High Ranked Values (SUMMFILE
Keyword)

 **NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                 m for Missing
Hours
                                                                 b for Both Calm
and Missing Hours

 **Misc. Inputs:  Base Elev. for Pot. Temp. Profile (m MSL) =     6.70 ;  Decay
Coef. =    0.000     ;  Rot. Angle =     0.0
                  Emission Units = GRAMS/SEC                                 ;
Emission Rate Unit Factor =   0.10000E+07
                  Output Units   = MICROGRAMS/M**3

 **Approximate Storage Requirements of Model =      3.5 MB of RAM.

 **Input Runstream File:          aermod.inp

 **Output Print File:             aermod.out


 **Detailed Error/Message File:   Segment 8, ORA I-405.err

 **File for Summary of Results:   Segment 8, ORA I-405.sum

 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 8, ORA
I-405\Segment 8, ORA I-405.isc   ***        10/28/19
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER EMISSION RATE PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE VARY BY
L0000001	0	0.10000E+01	401212.2	3737641.9	0.0	2.00	35.35	0.93	YES
L0000002	0	0.10000E+01	401288.2	3737640.7	0.0	2.00	35.35	0.93	YES
L0000003	0	0.10000E+01	401364.2	3737639.5	0.0	2.00	35.35	0.93	YES
L0000004	0	0.10000E+01	401440.2	3737638.3	0.0	2.00	35.35	0.93	YES
L0000005	0	0.10000E+01	401516.2	3737637.1	0.0	2.00	35.35	0.93	YES
L0000006	0	0.10000E+01	401592.2	3737635.9	0.0	2.00	35.35	0.93	YES
L0000007	0	0.10000E+01	401668.2	3737634.7	0.0	2.00	35.35	0.93	YES
L0000008	0	0.10000E+01	401744.1	3737633.5	0.0	2.00	35.35	0.93	YES
L0000009	0	0.10000E+01	401820.1	3737632.3	0.0	2.00	35.35	0.93	YES
L0000010	0	0.10000E+01	401896.1	3737631.1	0.0	2.00	35.35	0.93	YES
L0000011	0	0.10000E+01	401972.1	3737629.9	0.0	2.00	35.35	0.93	YES
L0000012	0	0.10000E+01	402048.1	3737628.7	0.0	2.00	35.35	0.93	YES
L0000013	0	0.10000E+01	402124.1	3737627.5	0.0	2.00	35.35	0.93	YES
L0000014	0	0.10000E+01	402200.1	3737626.3	0.0	2.00	35.35	0.93	YES
L0000015	0	0.10000E+01	402276.1	3737625.1	0.0	2.00	35.35	0.93	YES
L0000016	0	0.10000E+01	402352.1	3737623.9	0.0	2.00	35.35	0.93	YES

```
 L0000017         0   0.10000E+01  402428.1 3737622.7     0.0     2.00    35.35
0.93     YES
 L0000018         0   0.10000E+01  402504.1 3737621.5     0.0     2.00    35.35
0.93     YES
 L0000019         0   0.10000E+01  402580.0 3737620.3     0.0     2.00    35.35
0.93     YES
 L0000020         0   0.10000E+01  402656.0 3737619.1     0.0     2.00    35.35
0.93     YES
 L0000021         0   0.10000E+01  402732.0 3737617.9     0.0     2.00    35.35
0.93     YES
↟ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 8, ORA
I-405\Segment 8, ORA I-405.isc   ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                        ***        11:58:53

                                   PAGE   3
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                        *** SOURCE IDs DEFINING SOURCE GROUPS
***

 SRCGROUP ID                                          SOURCE IDs
 -----------                                          ----------


  ALL        L0000001    , L0000002    , L0000003    , L0000004    , L0000005    ,
L0000006    , L0000007    , L0000008    ,

             L0000009    , L0000010    , L0000011    , L0000012    , L0000013    ,
L0000014    , L0000015    , L0000016    ,

             L0000017    , L0000018    , L0000019    , L0000020    , L0000021    ,
↟ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 8, ORA
I-405\Segment 8, ORA I-405.isc   ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                        ***        11:58:53

                                   PAGE   4
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                        *** SOURCE IDs DEFINED AS URBAN SOURCES
***

  URBAN ID   URBAN POP                              SOURCE IDs
  --------   ---------                              ----------


               24440.   L0000001    , L0000002    , L0000003    , L0000004    ,
```

L0000005   , L0000006   , L0000007   ,
 L0000008   ,

             L0000009   , L0000010   , L0000011   , L0000012   , L0000013   ,
L0000014   , L0000015   , L0000016   ,

             L0000017   , L0000018   , L0000019   , L0000020   , L0000021   ,

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                       (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                (METERS)

     (401657.8, 3737731.5,   0.0,   0.0,   0.0);   (401657.8,
3737831.5,   0.0,   0.0,   0.0);
     (401657.8, 3737931.5,   0.0,   0.0,   0.0);   (401757.8,
3737731.5,   0.0,   0.0,   0.0);
     (401757.8, 3737831.5,   0.0,   0.0,   0.0);   (401757.8,
3737931.5,   0.0,   0.0,   0.0);
     (401757.8, 3738031.5,   0.0,   0.0,   0.0);   (401857.8,
3737731.5,   0.0,   0.0,   0.0);
     (401857.8, 3737831.5,   0.0,   0.0,   0.0);   (401857.8,
3737931.5,   0.0,   0.0,   0.0);
     (401857.8, 3738031.5,   0.0,   0.0,   0.0);   (401857.8,
3738131.5,   0.0,   0.0,   0.0);
     (401957.8, 3737731.5,   0.0,   0.0,   0.0);   (401957.8,
3737831.5,   0.0,   0.0,   0.0);
     (401957.8, 3737931.5,   0.0,   0.0,   0.0);   (401957.8,
3738031.5,   0.0,   0.0,   0.0);
     (401957.8, 3738131.5,   0.0,   0.0,   0.0);   (402057.8,
3737731.5,   0.0,   0.0,   0.0);
     (402057.8, 3737831.5,   0.0,   0.0,   0.0);   (402057.8,
3737931.5,   0.0,   0.0,   0.0);
     (402057.8, 3738031.5,   0.0,   0.0,   0.0);   (402057.8,
3738131.5,   0.0,   0.0,   0.0);
     (402157.8, 3737731.5,   0.0,   0.0,   0.0);   (402157.8,
3737831.5,   0.0,   0.0,   0.0);
     (402157.8, 3737931.5,   0.0,   0.0,   0.0);   (402157.8,
3738031.5,   0.0,   0.0,   0.0);
     (402157.8, 3738131.5,   0.0,   0.0,   0.0);   (402257.8,
3737731.5,   0.0,   0.0,   0.0);
     (402257.8, 3737831.5,   0.0,   0.0,   0.0);   (402257.8,
3737931.5,   0.0,   0.0,   0.0);
     (402257.8, 3738031.5,   0.0,   0.0,   0.0);   (402257.8,

```
3738131.5,       0.0,       0.0,       0.0);
     ( 402357.8, 3737731.5,       0.0,       0.0,       0.0);         ( 402357.8,
3737831.5,       0.0,       0.0,       0.0);
     ( 402357.8, 3737931.5,       0.0,       0.0,       0.0);         ( 402357.8,
3738031.5,       0.0,       0.0,       0.0);
     ( 402357.8, 3738131.5,       0.0,       0.0,       0.0);         ( 402457.8,
3737731.5,       0.0,       0.0,       0.0);
     ( 402457.8, 3737831.5,       0.0,       0.0,       0.0);         ( 402457.8,
3737931.5,       0.0,       0.0,       0.0);
     ( 402457.8, 3738031.5,       0.0,       0.0,       0.0);         ( 402457.8,
3738131.5,       0.0,       0.0,       0.0);
     ( 402557.8, 3737731.5,       0.0,       0.0,       0.0);         ( 402557.8,
3737831.5,       0.0,       0.0,       0.0);
     ( 402557.8, 3737931.5,       0.0,       0.0,       0.0);         ( 402557.8,
3738031.5,       0.0,       0.0,       0.0);
     ( 402557.8, 3738131.5,       0.0,       0.0,       0.0);         ( 402657.8,
3737731.5,       0.0,       0.0,       0.0);
     ( 402657.8, 3737831.5,       0.0,       0.0,       0.0);         ( 402657.8,
3737931.5,       0.0,       0.0,       0.0);
     ( 402657.8, 3738031.5,       0.0,       0.0,       0.0);         ( 402657.8,
3738131.5,       0.0,       0.0,       0.0);
     ( 402407.8, 3738381.5,       0.0,       0.0,       0.0);         ( 402657.8,
3738381.5,       0.0,       0.0,       0.0);
     ( 402907.8, 3738381.5,       0.0,       0.0,       0.0);         ( 402907.8,
3738631.5,       1.1,       1.1,       0.0);
     ( 403157.8, 3738381.5,       0.0,       0.0,       0.0);         ( 402907.8,
3738131.5,       0.0,       0.0,       0.0);
     ( 402907.8, 3737881.5,       0.0,       0.0,       0.0);         ( 403157.8,
3738131.5,       0.0,       0.0,       0.0);
     ( 403157.8, 3737881.5,       0.0,       0.0,       0.0);         ( 401157.8,
3738631.5,       0.0,       0.0,       0.0);
     ( 402417.9, 3737048.5,       0.0,       0.0,       0.0);         ( 403047.3,
3737018.3,       0.0,       0.0,       0.0);
     ( 402881.7, 3737181.0,       0.0,       0.0,       0.0);         ( 401170.3,
3737690.9,       0.0,       0.0,       0.0);
     ( 401170.3, 3737609.3,       0.0,       0.0,       0.0);         ( 402771.3,
3737579.7,       0.0,       0.0,       0.0);
     ( 402763.9, 3737664.9,       0.0,       0.0,       0.0);

 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 8, ORA
I-405\Segment 8, ORA I-405.isc   ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                       ***        11:58:53

                                   PAGE   6
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                     * SOURCE-RECEPTOR COMBINATIONS FOR WHICH CALCULATIONS MAY NOT
BE PERFORMED *
                       LESS THAN 1.0 METER; WITHIN OPENPIT; OR BEYOND 80KM FOR
```

FASTAREA/FASTALL

SOURCE ID	- - RECEPTOR LOCATION - - XR (METERS)	YR (METERS)	DISTANCE (METERS)
L0000001	401170.3	3737690.9	-11.56
L0000001	401170.3	3737609.3	-22.98
L0000021	402771.3	3737579.7	-21.20
L0000021	402763.9	3737664.9	-19.16

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

```
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1
```

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: C:\Users\kheck\Desktop\MET Data\LongBeachAirportADJU\KLGB_V9_ADJU\KLGB_v9.SFC Met Version: 16216
Profile file: C:\Users\kheck\Desktop\MET Data\LongBeachAirportADJU\KLGB_V9_ADJU\KLGB_v9.PFL
Surface format: FREE

Profile format: FREE

Surface station no.: 23129 Upper air station no.: 3190
Name: UNKNOWN Name: UNKNOWN

Year: 2012 Year: 2012

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
12	01	01	1	01	-5.3	0.094	-9.000	-9.000	-999.	70.	14.3	0.10	2.68	1.00	1.13	322.	7.9	282.0	2.0
12	01	01	1	02	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.10	2.68	1.00	0.00	0.	7.9	281.4	2.0
12	01	01	1	03	-2.5	0.068	-9.000	-9.000	-999.	43.	11.4	0.10	2.68	1.00	0.74	79.	7.9	280.9	2.0
12	01	01	1	04	-3.2	0.075	-9.000	-9.000	-999.	49.	11.7	0.10	2.68	1.00	0.86	137.	7.9	280.9	2.0
12	01	01	1	05	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.10	2.68	1.00	0.00	0.	7.9	280.4	2.0
12	01	01	1	06	-5.2	0.093	-9.000	-9.000	-999.	68.	14.0	0.10	2.68	1.00	1.11	92.	7.9	279.9	2.0
12	01	01	1	07	-2.3	0.066	-9.000	-9.000	-999.	41.	11.5	0.10	2.68	1.00	0.69	67.	7.9	278.8	2.0

```
 12 01 01   1 08   -1.7  0.060 -9.000 -9.000 -999.   36.     11.4  0.10   2.68
0.54    0.65   91.    7.9  279.9    2.0
 12 01 01   1 09   36.2 -9.000 -9.000 -9.000   37. -999. -99999.0  0.10   2.68
0.31    0.00    0.    7.9  283.8    2.0
 12 01 01   1 10  108.4  0.139  0.707  0.009  119.  124.     -2.3  0.10   2.68
0.24    0.92  319.    7.9  287.5    2.0
 12 01 01   1 11  160.5  0.114  1.137  0.005  334.   93.     -1.0  0.10   2.68
0.21    0.62   23.    7.9  292.5    2.0
 12 01 01   1 12  186.7  0.125  1.473  0.005  623.  105.     -1.0  0.10   2.68
0.20    0.69   18.    7.9  295.4    2.0
 12 01 01   1 13  186.8  0.130  1.761  0.005 1065.  112.     -1.1  0.10   2.68
0.20    0.74  250.    7.9  297.5    2.0
 12 01 01   1 14  161.7  0.150  1.834  0.005 1387.  139.     -1.9  0.10   2.68
0.21    0.96  347.    7.9  300.4    2.0
 12 01 01   1 15  105.5  0.243  1.633  0.005 1499.  288.    -12.4  0.10   2.68
0.24    2.11  194.    7.9  295.9    2.0
 12 01 01   1 16   32.4  0.211  1.109  0.005 1530.  233.    -26.3  0.10   2.68
0.33    1.98  186.    7.9  295.4    2.0
 12 01 01   1 17  -20.5  0.250 -9.000 -9.000 -999.  300.     69.2  0.10   2.68
0.60    2.81  293.    7.9  291.4    2.0
 12 01 01   1 18  -25.4  0.257 -9.000 -9.000 -999.  313.     72.8  0.10   2.68
1.00    2.90  301.    7.9  288.1    2.0
 12 01 01   1 19  -21.0  0.211 -9.000 -9.000 -999.  233.     49.0  0.10   2.68
1.00    2.40  313.    7.9  286.4    2.0
 12 01 01   1 20  -25.7  0.258 -9.000 -9.000 -999.  315.     73.3  0.10   2.68
1.00    2.91  302.    7.9  286.4    2.0
 12 01 01   1 21  -22.5  0.225 -9.000 -9.000 -999.  256.     55.7  0.10   2.68
1.00    2.55  306.    7.9  285.4    2.0
 12 01 01   1 22   -9.3  0.126 -9.000 -9.000 -999.  111.     19.5  0.10   2.68
1.00    1.48  284.    7.9  285.9    2.0
 12 01 01   1 23  -21.4  0.214 -9.000 -9.000 -999.  237.     50.3  0.10   2.68
1.00    2.43  282.    7.9  285.4    2.0
 12 01 01   1 24  -30.1  0.300 -9.000 -9.000 -999.  394.     98.9  0.10   2.68
1.00    3.36  300.    7.9  284.2    2.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 12 01 01 01    7.9 1  322.    1.13   282.1   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 8, ORA
I-405\Segment 8, ORA I-405.isc   ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                       ***        11:58:53

                                   PAGE   9
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
```

YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): L0000001 , L0000002
, L0000003 , L0000004 , L0000005 ,
L0000006 , L0000007 , L0000008 , L0000009 , L0000010
, L0000011 , L0000012 , L0000013 ,
L0000014 , L0000015 , L0000016 , L0000017 , L0000018
, L0000019 , L0000020 , L0000021 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS
***

** CONC OF PM_10 IN MICROGRAMS/M**3
**

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
401657.75	3737731.50	349.87857	401657.75	3737831.50	176.32625
401657.75	3737931.50	117.31285	401757.75	3737731.50	345.94454
401757.75	3737831.50	176.45664	401757.75	3737931.50	117.75383
401757.75	3738031.50	86.95860	401857.75	3737731.50	341.10767
401857.75	3737831.50	175.59789	401857.75	3737931.50	117.36500
401857.75	3738031.50	86.64138	401857.75	3738131.50	67.54090
401957.75	3737731.50	336.02852	401957.75	3737831.50	173.87857
401957.75	3737931.50	116.22237	401957.75	3738031.50	85.67174
401957.75	3738131.50	66.65059	402057.75	3737731.50	329.61511
402057.75	3737831.50	171.30066	402057.75	3737931.50	114.30990
402057.75	3738031.50	84.03100	402057.75	3738131.50	65.20319
402157.75	3737731.50	322.18695	402157.75	3737831.50	167.74499
402157.75	3737931.50	111.52260	402157.75	3738031.50	81.65138
402157.75	3738131.50	63.17169	402257.75	3737731.50	313.95369
402257.75	3737831.50	162.93242	402257.75	3737931.50	107.65501
402257.75	3738031.50	78.42392	402257.75	3738131.50	60.49933

```
         402357.75    3737731.50      303.52316                      402357.75
3737831.50      156.33078
         402357.75    3737931.50      102.38494                      402357.75
3738031.50       74.18680
         402357.75    3738131.50       57.07189                      402457.75
3737731.50      289.50891
         402457.75    3737831.50      146.97363                      402457.75
3737931.50       95.23227
         402457.75    3738031.50       68.65719                      402457.75
3738131.50       52.67976
         402557.75    3737731.50      268.91097                      402557.75
3737831.50      133.11600
         402557.75    3737931.50       85.36745                      402557.75
3738031.50       61.34784
         402557.75    3738131.50       47.09581                      402657.75
3737731.50      231.24215
         402657.75    3737831.50      111.34559                      402657.75
3737931.50       71.60053
         402657.75    3738031.50       52.06314                      402657.75
3738131.50       40.54187
         402407.75    3738381.50       33.13877                      402657.75
3738381.50       25.50723
         402907.75    3738381.50       17.97471                      402907.75
3738631.50       13.84535
         403157.75    3738381.50       12.58602                      402907.75
3738131.50       24.76021
         402907.75    3737881.50       37.64520                      403157.75
3738131.50       15.74415
         403157.75    3737881.50       20.41883                      401157.75
3738631.50       24.33132
         402417.92    3737048.46       76.11879                      403047.33
3737018.35       60.17504
         402881.69    3737180.97       85.25972                      401170.35
3737690.86      136.62590
         401170.35    3737609.33      137.19886                      402771.33
3737579.68      182.37211
         402763.92    3737664.92      111.30810

 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 8, ORA
I-405\Segment 8, ORA I-405.isc   ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                       ***        11:58:53

                                  PAGE  10
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                  *** THE SUMMARY OF MAXIMUM ANNUAL RESULTS
AVERAGED OVER   5 YEARS ***
```

                                    ** CONC OF PM_10   IN MICROGRAMS/M**3
                **

                         NETWORK
GROUP ID   AVERAGE CONC   RECEPTOR (XR, YR,
ZELEV, ZHILL, ZFLAG) OF TYPE GRID-ID
- -
- - - - - - - - - - - - - - - - - -

ALL   1ST HIGHEST VALUE IS   349.87857 AT (401657.75, 3737731.50,
0.00,   0.00,   0.00) DC
          2ND HIGHEST VALUE IS   345.94454 AT (401757.75, 3737731.50,
0.00,   0.00,   0.00) DC
          3RD HIGHEST VALUE IS   341.10767 AT (401857.75, 3737731.50,
0.00,   0.00,   0.00) DC
          4TH HIGHEST VALUE IS   336.02852 AT (401957.75, 3737731.50,
0.00,   0.00,   0.00) DC
          5TH HIGHEST VALUE IS   329.61511 AT (402057.75, 3737731.50,
0.00,   0.00,   0.00) DC
          6TH HIGHEST VALUE IS   322.18695 AT (402157.75, 3737731.50,
0.00,   0.00,   0.00) DC
          7TH HIGHEST VALUE IS   313.95369 AT (402257.75, 3737731.50,
0.00,   0.00,   0.00) DC
          8TH HIGHEST VALUE IS   303.52316 AT (402357.75, 3737731.50,
0.00,   0.00,   0.00) DC
          9TH HIGHEST VALUE IS   289.50891 AT (402457.75, 3737731.50,
0.00,   0.00,   0.00) DC
         10TH HIGHEST VALUE IS   268.91097 AT (402557.75, 3737731.50,
0.00,   0.00,   0.00) DC

 *** RECEPTOR TYPES: GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

 *** Message Summary : AERMOD Model Execution ***

  --------- Summary of Total Messages --------

 A Total of   0 Fatal Error Message(s)
 A Total of   2 Warning Message(s)

```
A Total of         1017 Informational Message(s)

A Total of        43848 Hours Were Processed

A Total of          747 Calm Hours Identified

A Total of          270 Missing Hours Identified (  0.62 Percent)


   ******** FATAL ERROR MESSAGES ********
             ***  NONE  ***


   ********   WARNING MESSAGES   ********
ME W186     120       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used
     0.50
ME W187     120       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET


   ************************************
   *** AERMOD Finishes Successfully ***
   ************************************
```

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.7.0
** Lakes Environmental Software Inc.
** Date: 10/28/2019
** File: C:\Lakes\AERMOD View\Segment 9, RIV I-10\Segment 9, RIV I-10.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\Segment 9, RIV I-10\Segment 9, RIV I-10.isc
   MODELOPT DFAULT CONC
   AVERTIME ANNUAL
   URBANOPT 31026
   POLLUTID PM_10
   RUNORNOT RUN
   ERRORFIL "Segment 9, RIV I-10.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
** ----------------------------------------------------------------------
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE1
** DESCRSRC
** PREFIX
** Length of Side = 53.00
** Configuration = Adjacent
** Emission Rate = 34.0
** Vertical Dimension = 2.00
** SZINIT = 0.93
** Nodes = 3
** 508149.720, 3753800.090, 759.00, 2.00, 24.65
** 508335.580, 3753769.860, 755.00, 2.00, 24.65
** 509942.310, 3753769.270, 733.76, 2.00, 24.65
** ----------------------------------------------------------------------
```

```
   LOCATION L0000001     VOLUME   508175.876 3753795.836 759.00
   LOCATION L0000002     VOLUME   508228.189 3753787.327 757.71
   LOCATION L0000003     VOLUME   508280.501 3753778.818 756.72
   LOCATION L0000004     VOLUME   508332.814 3753770.310 755.15
   LOCATION L0000005     VOLUME   508385.778 3753769.842 754.30
   LOCATION L0000006     VOLUME   508438.778 3753769.822 754.13
   LOCATION L0000007     VOLUME   508491.778 3753769.803 753.77
   LOCATION L0000008     VOLUME   508544.778 3753769.783 753.13
   LOCATION L0000009     VOLUME   508597.778 3753769.764 752.23
   LOCATION L0000010     VOLUME   508650.778 3753769.744 751.55
   LOCATION L0000011     VOLUME   508703.778 3753769.725 750.70
   LOCATION L0000012     VOLUME   508756.778 3753769.705 749.93
   LOCATION L0000013     VOLUME   508809.778 3753769.686 749.00
   LOCATION L0000014     VOLUME   508862.778 3753769.666 748.03
   LOCATION L0000015     VOLUME   508915.778 3753769.647 746.63
   LOCATION L0000016     VOLUME   508968.778 3753769.627 745.86
   LOCATION L0000017     VOLUME   509021.778 3753769.608 744.98
   LOCATION L0000018     VOLUME   509074.778 3753769.589 744.03
   LOCATION L0000019     VOLUME   509127.778 3753769.569 742.56
   LOCATION L0000020     VOLUME   509180.778 3753769.550 741.71
   LOCATION L0000021     VOLUME   509233.778 3753769.530 740.13
   LOCATION L0000022     VOLUME   509286.778 3753769.511 740.14
   LOCATION L0000023     VOLUME   509339.778 3753769.491 738.82
   LOCATION L0000024     VOLUME   509392.778 3753769.472 737.12
   LOCATION L0000025     VOLUME   509445.778 3753769.452 736.38
   LOCATION L0000026     VOLUME   509498.778 3753769.433 736.30
   LOCATION L0000027     VOLUME   509551.778 3753769.413 735.85
   LOCATION L0000028     VOLUME   509604.778 3753769.394 736.12
   LOCATION L0000029     VOLUME   509657.778 3753769.374 735.89
   LOCATION L0000030     VOLUME   509710.778 3753769.355 735.12
   LOCATION L0000031     VOLUME   509763.778 3753769.336 735.11
   LOCATION L0000032     VOLUME   509816.778 3753769.316 735.05
   LOCATION L0000033     VOLUME   509869.778 3753769.297 734.74
   LOCATION L0000034     VOLUME   509922.777 3753769.277 733.17
** End of LINE VOLUME Source ID = SLINE1
** Source Parameters **
** LINE VOLUME Source ID = SLINE1
   SRCPARAM L0000001          1.0      2.00     24.65      0.93
   SRCPARAM L0000002          1.0      2.00     24.65      0.93
   SRCPARAM L0000003          1.0      2.00     24.65      0.93
   SRCPARAM L0000004          1.0      2.00     24.65      0.93
   SRCPARAM L0000005          1.0      2.00     24.65      0.93
   SRCPARAM L0000006          1.0      2.00     24.65      0.93
   SRCPARAM L0000007          1.0      2.00     24.65      0.93
   SRCPARAM L0000008          1.0      2.00     24.65      0.93
   SRCPARAM L0000009          1.0      2.00     24.65      0.93
   SRCPARAM L0000010          1.0      2.00     24.65      0.93
   SRCPARAM L0000011          1.0      2.00     24.65      0.93
   SRCPARAM L0000012          1.0      2.00     24.65      0.93
   SRCPARAM L0000013          1.0      2.00     24.65      0.93
```

```
   SRCPARAM L0000014          1.0      2.00     24.65      0.93
   SRCPARAM L0000015          1.0      2.00     24.65      0.93
   SRCPARAM L0000016          1.0      2.00     24.65      0.93
   SRCPARAM L0000017          1.0      2.00     24.65      0.93
   SRCPARAM L0000018          1.0      2.00     24.65      0.93
   SRCPARAM L0000019          1.0      2.00     24.65      0.93
   SRCPARAM L0000020          1.0      2.00     24.65      0.93
   SRCPARAM L0000021          1.0      2.00     24.65      0.93
   SRCPARAM L0000022          1.0      2.00     24.65      0.93
   SRCPARAM L0000023          1.0      2.00     24.65      0.93
   SRCPARAM L0000024          1.0      2.00     24.65      0.93
   SRCPARAM L0000025          1.0      2.00     24.65      0.93
   SRCPARAM L0000026          1.0      2.00     24.65      0.93
   SRCPARAM L0000027          1.0      2.00     24.65      0.93
   SRCPARAM L0000028          1.0      2.00     24.65      0.93
   SRCPARAM L0000029          1.0      2.00     24.65      0.93
   SRCPARAM L0000030          1.0      2.00     24.65      0.93
   SRCPARAM L0000031          1.0      2.00     24.65      0.93
   SRCPARAM L0000032          1.0      2.00     24.65      0.93
   SRCPARAM L0000033          1.0      2.00     24.65      0.93
   SRCPARAM L0000034          1.0      2.00     24.65      0.93
** ----------------------------------------------------------------------
   URBANSRC ALL
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED "Segment 9, RIV I-10.rou"
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE "C:\Users\kheck\Desktop\MET Data\BanningADJU
(1)\BNAP_V9_ADJU\BNAP_v9.SFC"
   PROFFILE "C:\Users\kheck\Desktop\MET Data\BanningADJU
(1)\BNAP_V9_ADJU\BNAP_v9.PFL"
   SURFDATA 3171 2011
   UAIRDATA 3190 2011
   SITEDATA 99999 2011
   PROFBASE 716.0 METERS
ME FINISHED
```

```
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
** Auto-Generated Plotfiles
   PLOTFILE ANNUAL ALL "Segment 9, RIV I-10.AD\AN00GALL.PLT" 31
   SUMMFILE "Segment 9, RIV I-10.sum"
OU FINISHED


  *** Message Summary For AERMOD Model Setup ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of            2 Warning Message(s)
 A Total of            0 Informational Message(s)


    ******** FATAL ERROR MESSAGES ********
               ***  NONE  ***


    ********   WARNING MESSAGES   ********
 ME W186     148       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used
      0.50
 ME W187     148       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET


 ***********************************
 *** SETUP Finishes Successfully ***
 ***********************************

↟ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 9, RIV
I-10\Segment 9, RIV I-10.isc     ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                        ***        12:20:08

                                   PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                            ***     MODEL SETUP OPTIONS SUMMARY
  ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - -

 **Model Is Setup For Calculation of Average CONCentration Values.
```

```
  --  DEPOSITION LOGIC  --
 **NO GAS DEPOSITION Data Provided.
 **NO PARTICLE DEPOSITION Data Provided.
 **Model Uses NO DRY DEPLETION.  DRYDPLT  =  F
 **Model Uses NO WET DEPLETION.  WETDPLT  =  F

 **Model Uses URBAN Dispersion Algorithm for the SBL for    34 Source(s),
   for Total of    1 Urban Area(s):
   Urban Population =     31026.0 ;  Urban Roughness Length =  1.000 m

 **Model Uses Regulatory DEFAULT Options:
        1. Stack-tip Downwash.
        2. Model Accounts for ELEVated Terrain Effects.
        3. Use Calms Processing Routine.
        4. Use Missing Data Processing Routine.
        5. No Exponential Decay.
        6. Urban Roughness Length of 1.0 Meter Assumed.

 **Other Options Specified:
        ADJ_U*   - Use ADJ_U* option for SBL in AERMET
        TEMP_Sub - Meteorological data includes TEMP substitutions

 **Model Assumes No FLAGPOLE Receptor Heights.

 **The User Specified a Pollutant Type of:  PM_10

 **Model Calculates ANNUAL Averages Only

 **This Run Includes:     34 Source(s);       1 Source Group(s); and     183
Receptor(s)

                with:      0 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                 and:     34 VOLUME source(s)
                 and:      0 AREA type source(s)
                 and:      0 LINE source(s)
                 and:      0 OPENPIT source(s)
                 and:      0 BUOYANT LINE source(s) with      0 line(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  16216

 **Output Options Selected:
         Model Outputs Tables of ANNUAL Averages by Receptor
         Model Outputs External File(s) of High Values for Plotting (PLOTFILE
Keyword)
         Model Outputs Separate Summary File of High Ranked Values (SUMMFILE
```

Keyword)

 **NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
                                                                 m for Missing
Hours
                                                                 b for Both Calm
and Missing Hours

 **Misc. Inputs: Base Elev. for Pot. Temp. Profile (m MSL) =   716.00 ; Decay
Coef. =   0.000   ; Rot. Angle =   0.0
                  Emission Units = GRAMS/SEC   ;
Emission Rate Unit Factor =   0.10000E+07
                  Output Units   = MICROGRAMS/M**3

 **Approximate Storage Requirements of Model =   3.5 MB of RAM.

 **Input Runstream File: aermod.inp

 **Output Print File: aermod.out

 **Detailed Error/Message File: Segment 9, RIV I-10.err

 **File for Summary of Results: Segment 9, RIV I-10.sum

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

                                                *** VOLUME SOURCE DATA ***

               NUMBER EMISSION RATE   BASE   RELEASE   INIT.
INIT.   URBAN EMISSION RATE
   SOURCE   PART. (GRAMS/SEC)   X   Y   ELEV.   HEIGHT   SY
SZ   SOURCE SCALAR VARY
     ID   CATS.   (METERS) (METERS) (METERS) (METERS) (METERS)
(METERS)   BY
 -
- - - - - - - - - - - - - - - - - - - -

 L0000001   0   0.10000E+01 508175.9 3753795.8   759.0   2.00   24.65
0.93   YES
 L0000002   0   0.10000E+01 508228.2 3753787.3   757.7   2.00   24.65
0.93   YES
 L0000003   0   0.10000E+01 508280.5 3753778.8   756.7   2.00   24.65

0.93 YES
L0000004 0 0.10000E+01 508332.8 3753770.3 755.1 2.00 24.65
0.93 YES
L0000005 0 0.10000E+01 508385.8 3753769.8 754.3 2.00 24.65
0.93 YES
L0000006 0 0.10000E+01 508438.8 3753769.8 754.1 2.00 24.65
0.93 YES
L0000007 0 0.10000E+01 508491.8 3753769.8 753.8 2.00 24.65
0.93 YES
L0000008 0 0.10000E+01 508544.8 3753769.8 753.1 2.00 24.65
0.93 YES
L0000009 0 0.10000E+01 508597.8 3753769.8 752.2 2.00 24.65
0.93 YES
L0000010 0 0.10000E+01 508650.8 3753769.7 751.5 2.00 24.65
0.93 YES
L0000011 0 0.10000E+01 508703.8 3753769.7 750.7 2.00 24.65
0.93 YES
L0000012 0 0.10000E+01 508756.8 3753769.7 749.9 2.00 24.65
0.93 YES
L0000013 0 0.10000E+01 508809.8 3753769.7 749.0 2.00 24.65
0.93 YES
L0000014 0 0.10000E+01 508862.8 3753769.7 748.0 2.00 24.65
0.93 YES
L0000015 0 0.10000E+01 508915.8 3753769.6 746.6 2.00 24.65
0.93 YES
L0000016 0 0.10000E+01 508968.8 3753769.6 745.9 2.00 24.65
0.93 YES
L0000017 0 0.10000E+01 509021.8 3753769.6 745.0 2.00 24.65
0.93 YES
L0000018 0 0.10000E+01 509074.8 3753769.6 744.0 2.00 24.65
0.93 YES
L0000019 0 0.10000E+01 509127.8 3753769.6 742.6 2.00 24.65
0.93 YES
L0000020 0 0.10000E+01 509180.8 3753769.5 741.7 2.00 24.65
0.93 YES
L0000021 0 0.10000E+01 509233.8 3753769.5 740.1 2.00 24.65
0.93 YES
L0000022 0 0.10000E+01 509286.8 3753769.5 740.1 2.00 24.65
0.93 YES
L0000023 0 0.10000E+01 509339.8 3753769.5 738.8 2.00 24.65
0.93 YES
L0000024 0 0.10000E+01 509392.8 3753769.5 737.1 2.00 24.65
0.93 YES
L0000025 0 0.10000E+01 509445.8 3753769.5 736.4 2.00 24.65
0.93 YES
L0000026 0 0.10000E+01 509498.8 3753769.4 736.3 2.00 24.65
0.93 YES
L0000027 0 0.10000E+01 509551.8 3753769.4 735.8 2.00 24.65
0.93 YES
L0000028 0 0.10000E+01 509604.8 3753769.4 736.1 2.00 24.65

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs
ALL	L0000001 , L0000002 , L0000003 , L0000004 , L0000005 , L0000006 , L0000007 , L0000008 , L0000009 , L0000010 , L0000011 , L0000012 , L0000013 , L0000014 , L0000015 , L0000016 , L0000017 , L0000018 , L0000019 , L0000020 , L0000021 , L0000022 , L0000023 , L0000024 , L0000025 , L0000026 , L0000027 , L0000028 , L0000029 , L0000030 , L0000031 , L0000032 , L0000033 , L0000034 ,

*** SOURCE IDs DEFINED AS URBAN SOURCES
***

URBAN ID	URBAN POP	SOURCE IDs
	31026.	L0000001 , L0000002 , L0000003 , L0000004 , L0000005 , L0000006 , L0000007 , L0000008 ,
		L0000009 , L0000010 , L0000011 , L0000012 , L0000013 , L0000014 , L0000015 , L0000016 ,
		L0000017 , L0000018 , L0000019 , L0000020 , L0000021 , L0000022 , L0000023 , L0000024 ,
		L0000025 , L0000026 , L0000027 , L0000028 , L0000029 , L0000030 , L0000031 , L0000032 ,
		L0000033 , L0000034 ,

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(508657.4, 3753281.8, 736.7, 1331.0, 0.0); (508657.4, 3753381.8, 739.3, 1331.0, 0.0);
(508657.4, 3753481.8, 742.5, 1331.0, 0.0); (508657.4, 3753581.8, 745.9, 1331.0, 0.0);
(508657.4, 3753681.8, 748.3, 1331.0, 0.0); (508657.4, 3753781.8, 752.1, 1331.0, 0.0);
(508657.4, 3753881.8, 755.1, 1323.0, 0.0); (508657.4, 3753981.8, 757.3, 892.0, 0.0);
(508657.4, 3754081.8, 760.6, 896.0, 0.0); (508657.4, 3754181.8, 764.0, 898.0, 0.0);
(508657.4, 3754281.8, 767.1, 898.0, 0.0); (508757.4, 3753281.8, 734.5, 1331.0, 0.0);
(508757.4, 3753381.8, 738.0, 1331.0, 0.0); (508757.4, 3753481.8, 741.3, 1331.0, 0.0);
(508757.4, 3753581.8, 743.9, 1331.0, 0.0); (508757.4, 3753681.8, 747.2, 1331.0, 0.0);

```
     ( 508757.4, 3753781.8,     750.3,    1331.0,       0.0);         ( 508757.4,
3753881.8,     752.6,    1331.0,       0.0);
     ( 508757.4, 3753981.8,     755.2,    1323.0,       0.0);         ( 508757.4,
3754081.8,     758.5,     897.0,       0.0);
     ( 508757.4, 3754181.8,     761.6,     898.0,       0.0);         ( 508757.4,
3754281.8,     764.1,     898.0,       0.0);
     ( 508857.4, 3753281.8,     733.3,    1331.0,       0.0);         ( 508857.4,
3753381.8,     736.6,    1331.0,       0.0);
     ( 508857.4, 3753481.8,     739.5,    1331.0,       0.0);         ( 508857.4,
3753581.8,     742.9,    1331.0,       0.0);
     ( 508857.4, 3753681.8,     745.6,    1331.0,       0.0);         ( 508857.4,
3753781.8,     748.2,    1331.0,       0.0);
     ( 508857.4, 3753881.8,     750.9,    1331.0,       0.0);         ( 508857.4,
3753981.8,     753.6,    1323.0,       0.0);
     ( 508857.4, 3754081.8,     756.7,     898.0,       0.0);         ( 508857.4,
3754181.8,     758.9,     898.0,       0.0);
     ( 508857.4, 3754281.8,     761.4,     899.0,       0.0);         ( 508957.4,
3753281.8,     732.0,    1331.0,       0.0);
     ( 508957.4, 3753381.8,     735.2,    1331.0,       0.0);         ( 508957.4,
3753481.8,     738.5,    1331.0,       0.0);
     ( 508957.4, 3753581.8,     741.0,    1331.0,       0.0);         ( 508957.4,
3753681.8,     744.0,    1331.0,       0.0);
     ( 508957.4, 3753781.8,     746.5,    1331.0,       0.0);         ( 508957.4,
3753881.8,     749.0,    1331.0,       0.0);
     ( 508957.4, 3753981.8,     751.3,    1331.0,       0.0);         ( 508957.4,
3754081.8,     754.1,    1323.0,       0.0);
     ( 508957.4, 3754181.8,     756.1,     899.0,       0.0);         ( 508957.4,
3754281.8,     758.3,     899.0,       0.0);
     ( 509057.4, 3753281.8,     731.9,    1331.0,       0.0);         ( 509057.4,
3753381.8,     734.2,    1331.0,       0.0);
     ( 509057.4, 3753481.8,     736.9,    1331.0,       0.0);         ( 509057.4,
3753581.8,     739.7,    1331.0,       0.0);
     ( 509057.4, 3753681.8,     742.1,    1331.0,       0.0);         ( 509057.4,
3753781.8,     744.4,    1331.0,       0.0);
     ( 509057.4, 3753881.8,     746.7,    1331.0,       0.0);         ( 509057.4,
3753981.8,     748.8,    1331.0,       0.0);
     ( 509057.4, 3754081.8,     752.3,    1323.0,       0.0);         ( 509057.4,
3754181.8,     753.7,     899.0,       0.0);
     ( 509057.4, 3754281.8,     755.1,     899.0,       0.0);         ( 509157.4,
3753281.8,     731.0,    1331.0,       0.0);
     ( 509157.4, 3753381.8,     733.6,    1331.0,       0.0);         ( 509157.4,
3753481.8,     735.7,    1331.0,       0.0);
     ( 509157.4, 3753581.8,     737.4,    1331.0,       0.0);         ( 509157.4,
3753681.8,     740.6,    1331.0,       0.0);
     ( 509157.4, 3753781.8,     742.2,    1331.0,       0.0);         ( 509157.4,
3753881.8,     744.9,    1331.0,       0.0);
     ( 509157.4, 3753981.8,     746.4,    1331.0,       0.0);         ( 509157.4,
3754081.8,     749.4,    1331.0,       0.0);
     ( 509157.4, 3754181.8,     751.9,     899.0,       0.0);         ( 509157.4,
3754281.8,     754.2,     899.0,       0.0);
```

```
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     ( 509257.4, 3753481.8,     734.1,    1331.0,       0.0);         ( 509257.4,
3753581.8,     735.1,    1331.0,       0.0);
     ( 509257.4, 3753681.8,     737.3,    1331.0,       0.0);         ( 509257.4,
3753781.8,     741.0,    1331.0,       0.0);
     ( 509257.4, 3753881.8,     743.9,    1331.0,       0.0);         ( 509257.4,
3753981.8,     744.1,    1331.0,       0.0);
     ( 509257.4, 3754081.8,     746.7,    1331.0,       0.0);         ( 509257.4,
3754181.8,     751.0,    1323.0,       0.0);
     ( 509257.4, 3754281.8,     754.2,     899.0,       0.0);         ( 509357.4,
3753281.8,     728.8,    1331.0,       0.0);
     ( 509357.4, 3753381.8,     731.1,    1331.0,       0.0);         ( 509357.4,
3753481.8,     731.8,    1331.0,       0.0);
     ( 509357.4, 3753581.8,     732.1,    1331.0,       0.0);         ( 509357.4,
3753681.8,     733.0,    1331.0,       0.0);
     ( 509357.4, 3753781.8,     738.3,    1331.0,       0.0);         ( 509357.4,
3753881.8,     741.0,    1331.0,       0.0);
     ( 509357.4, 3753981.8,     744.2,    1331.0,       0.0);         ( 509357.4,
3754081.8,     747.5,    1331.0,       0.0);
     ( 509357.4, 3754181.8,     750.9,    1331.0,       0.0);         ( 509357.4,
3754281.8,     754.2,     899.0,       0.0);
     ( 509457.4, 3753281.8,     725.5,    1331.0,       0.0);         ( 509457.4,
3753381.8,     729.6,    1331.0,       0.0);
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 9, RIV
I-10\Segment 9, RIV I-10.isc     ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                         ***        12:20:08

                                    PAGE   6
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                              *** DISCRETE CARTESIAN RECEPTORS ***
                                            (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                        (METERS)

     ( 509457.4, 3753481.8,     730.3,    1331.0,       0.0);         ( 509457.4,
3753581.8,     732.4,    1331.0,       0.0);
     ( 509457.4, 3753681.8,     733.6,    1331.0,       0.0);         ( 509457.4,
3753781.8,     737.3,    1331.0,       0.0);
     ( 509457.4, 3753881.8,     740.9,    1331.0,       0.0);         ( 509457.4,
3753981.8,     744.2,    1331.0,       0.0);
     ( 509457.4, 3754081.8,     747.2,    1331.0,       0.0);         ( 509457.4,
3754181.8,     750.3,    1331.0,       0.0);
     ( 509457.4, 3754281.8,     753.8,     899.0,       0.0);         ( 509557.4,
3753281.8,     721.3,    1331.0,       0.0);
     ( 509557.4, 3753381.8,     724.4,    1331.0,       0.0);         ( 509557.4,
3753481.8,     729.2,    1331.0,       0.0);
     ( 509557.4, 3753581.8,     731.1,    1331.0,       0.0);         ( 509557.4,
3753681.8,     732.4,    1331.0,       0.0);
```

```
     ( 509557.4, 3753781.8,     736.5,    1331.0,       0.0);         ( 509557.4,
3753881.8,     739.9,    1331.0,       0.0);
     ( 509557.4, 3753981.8,     743.2,    1331.0,       0.0);         ( 509557.4,
3754081.8,     746.5,    1331.0,       0.0);
     ( 509557.4, 3754181.8,     749.9,    1331.0,       0.0);         ( 509557.4,
3754281.8,     753.2,    1323.0,       0.0);
     ( 509657.4, 3753281.8,     719.1,    1331.0,       0.0);         ( 509657.4,
3753381.8,     722.6,    1331.0,       0.0);
     ( 509657.4, 3753481.8,     727.5,    1331.0,       0.0);         ( 509657.4,
3753581.8,     730.9,    1331.0,       0.0);
     ( 509657.4, 3753681.8,     733.4,    1331.0,       0.0);         ( 509657.4,
3753781.8,     736.3,    1331.0,       0.0);
     ( 509657.4, 3753881.8,     739.7,    1331.0,       0.0);         ( 509657.4,
3753981.8,     742.2,    1331.0,       0.0);
     ( 509657.4, 3754081.8,     745.4,    1331.0,       0.0);         ( 509657.4,
3754181.8,     748.6,    1331.0,       0.0);
     ( 509657.4, 3754281.8,     752.2,    1323.0,       0.0);         ( 508657.4,
3754531.8,     773.6,     899.0,       0.0);
     ( 508657.4, 3754781.8,     783.8,     916.0,       0.0);         ( 508907.4,
3754531.8,     766.4,     899.0,       0.0);
     ( 508907.4, 3754781.8,     779.5,     906.0,       0.0);         ( 509157.4,
3754531.8,     765.5,     899.0,       0.0);
     ( 509157.4, 3754781.8,     776.9,     963.0,       0.0);         ( 509407.4,
3754531.8,     765.5,     963.0,       0.0);
     ( 509657.4, 3754531.8,     763.9,     963.0,       0.0);         ( 509907.4,
3754531.8,     759.2,     963.0,       0.0);
     ( 509907.4, 3754781.8,     769.3,     963.0,       0.0);         ( 510157.4,
3754531.8,     751.6,     963.0,       0.0);
     ( 510157.4, 3754781.8,     760.7,     963.0,       0.0);         ( 509907.4,
3754281.8,     749.3,    1331.0,       0.0);
     ( 509907.4, 3754031.8,     739.9,    1331.0,       0.0);         ( 509907.4,
3753781.8,     734.0,    1331.0,       0.0);
     ( 509907.4, 3753531.8,     728.2,    1331.0,       0.0);         ( 509907.4,
3753281.8,     722.0,    1331.0,       0.0);
     ( 509907.4, 3753031.8,     715.5,    1331.0,       0.0);         ( 509907.4,
3752781.8,     707.4,    1331.0,       0.0);
     ( 510157.4, 3754281.8,     743.4,    1331.0,       0.0);         ( 510157.4,
3754031.8,     736.0,    1331.0,       0.0);
     ( 510157.4, 3753781.8,     729.6,    1331.0,       0.0);         ( 510157.4,
3753531.8,     723.3,    1331.0,       0.0);
     ( 510157.4, 3753281.8,     718.1,    1331.0,       0.0);         ( 510157.4,
3753031.8,     711.1,    1331.0,       0.0);
     ( 510157.4, 3752781.8,     707.9,    1331.0,       0.0);         ( 509657.4,
3753031.8,     718.9,    1331.0,       0.0);
     ( 509657.4, 3752781.8,     716.0,    1331.0,       0.0);         ( 509407.4,
3753031.8,     723.1,    1331.0,       0.0);
     ( 509407.4, 3752781.8,     719.0,    1331.0,       0.0);         ( 509157.4,
3753031.8,     726.0,    1331.0,       0.0);
     ( 509157.4, 3752781.8,     722.1,    1331.0,       0.0);         ( 508907.4,
3753031.8,     727.4,    1331.0,       0.0);
```

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     ( 508907.4, 3752781.8,     723.2,    1331.0,       0.0);         ( 508657.4,
3753031.8,     731.1,    1331.0,       0.0);
     ( 508657.4, 3752781.8,     729.3,    1331.0,       0.0);         ( 508407.4,
3753031.8,     736.5,    1331.0,       0.0);
     ( 508407.4, 3752781.8,     731.2,    1331.0,       0.0);         ( 508157.4,
3753031.8,     736.5,    1331.0,       0.0);
     ( 508157.4, 3752781.8,     732.2,    1331.0,       0.0);         ( 508407.4,
3753281.8,     741.9,    1331.0,       0.0);
     ( 508407.4, 3753531.8,     747.6,    1331.0,       0.0);         ( 508407.4,
3753781.8,     754.5,    1323.0,       0.0);
     ( 508407.4, 3754031.8,     763.9,     892.0,       0.0);         ( 508407.4,
3754281.8,     773.6,     894.0,       0.0);
     ( 508407.4, 3754531.8,     782.0,     898.0,       0.0);         ( 508407.4,
3754781.8,     792.2,     901.0,       0.0);
     ( 508157.4, 3753281.8,     744.0,    1331.0,       0.0);         ( 508157.4,
3753531.8,     751.2,    1331.0,       0.0);
     ( 508157.4, 3753781.8,     758.5,     758.5,       0.0);         ( 508157.4,
3754031.8,     768.9,     768.9,       0.0);
     ( 508157.4, 3754281.8,     778.2,     892.0,       0.0);         ( 508157.4,
3754531.8,     788.9,     896.0,       0.0);
     ( 508157.4, 3754781.8,     798.8,     897.0,       0.0);         ( 510618.1,
3754115.1,     728.5,    1331.0,       0.0);
     ( 510554.0, 3754655.3,     743.5,    1042.0,       0.0);         ( 508146.1,
3753841.5,     760.5,     760.5,       0.0);
     ( 508125.3, 3753752.7,     758.5,     758.5,       0.0);         ( 508266.2,
3753737.0,     755.2,    1323.0,       0.0);
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 9, RIV
I-10\Segment 9, RIV I-10.isc     ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                          ***        12:20:08

                                    PAGE   7
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                       *** DISCRETE CARTESIAN RECEPTORS ***
                                     (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                (METERS)

     ( 509937.1, 3753742.3,     733.1,    1331.0,       0.0);         ( 509942.3,
3753810.1,     734.1,    1331.0,       0.0);
     ( 508313.2, 3753815.4,     757.2,     757.2,       0.0);

 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 9, RIV
I-10\Segment 9, RIV I-10.isc     ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                          ***        12:20:08

                                    PAGE   8
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*
```

* SOURCE-RECEPTOR COMBINATIONS FOR WHICH CALCULATIONS MAY NOT BE PERFORMED *

LESS THAN 1.0 METER; WITHIN OPENPIT; OR BEYOND 80KM FOR FASTAREA/FASTALL

SOURCE ID	- - RECEPTOR LOCATION - - XR (METERS)	YR (METERS)	DISTANCE (METERS)
L0000001	508157.4	3753781.8	-29.75
L0000003	508266.2	3753737.0	-8.85
L0000003	508313.2	3753815.4	-3.93
L0000004	508313.2	3753815.4	-3.87
L0000005	508407.4	3753781.8	-28.33
L0000006	508407.4	3753781.8	-19.41
L0000010	508657.4	3753781.8	-39.30
L0000011	508657.4	3753781.8	-5.07
L0000012	508757.4	3753781.8	-40.94
L0000013	508757.4	3753781.8	0.77
L0000013	508857.4	3753781.8	-3.89
L0000014	508857.4	3753781.8	-39.76
L0000015	508957.4	3753781.8	-9.67
L0000016	508957.4	3753781.8	-36.36
L0000017	509057.4	3753781.8	-15.38
L0000018	509057.4	3753781.8	-31.77
L0000019	509157.4	3753781.8	-20.99
L0000020	509157.4	3753781.8	-26.61
L0000021	509257.4	3753781.8	

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-26.42
                              L0000022            509257.4     3753781.8
-21.15
                              L0000023            509357.4     3753781.8
-31.55
                              L0000024            509357.4     3753781.8
-15.53
                              L0000025            509457.4     3753781.8
-36.09
                              L0000026            509457.4     3753781.8
-9.81
                              L0000027            509557.4     3753781.8
-39.45
                              L0000028            509557.4     3753781.8
-4.02
                              L0000029            509657.4     3753781.8
-40.62
                              L0000033            509907.4     3753781.8
-13.39
                              L0000034            509907.4     3753781.8
-33.18
                              L0000034            509937.1     3753742.3
-22.43
                              L0000034            509942.3     3753810.1
-7.70
↑ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 9, RIV
I-10\Segment 9, RIV I-10.isc     ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                        ***        12:20:08

                                   PAGE   9
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                            *** METEOROLOGICAL DAYS SELECTED FOR
PROCESSING ***
                                                               (1=YES; 0=NO)

            1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1
1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1
1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1
1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1
1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1
1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1
1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1
```

```
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1

               NOTE:  METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON
WHAT IS INCLUDED IN THE DATA FILE.


                                  *** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED
CATEGORIES ***
                                                            (METERS/SEC)

                                                 1.54,   3.09,   5.14,   8.23,
10.80,
↑ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 9, RIV
I-10\Segment 9, RIV I-10.isc     ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                        ***        12:20:08

                                   PAGE  10
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                    *** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL
DATA ***

   Surface file:   C:\Users\kheck\Desktop\MET Data\BanningADJU
(1)\BNAP_V9_ADJU\BNAP_v9.SFC           Met Version:  16216
   Profile file:   C:\Users\kheck\Desktop\MET Data\BanningADJU
(1)\BNAP_V9_ADJU\BNAP_v9.PFL
   Surface format: FREE

   Profile format: FREE

   Surface station no.:     3171                  Upper air station no.:     3190
                  Name: UNKNOWN                                   Name: UNKNOWN

                  Year:   2011                                    Year:   2011

 First 24 hours of scalar data
 YR MO DY JDY HR     H0     U*     W*  DT/DZ ZICNV ZIMCH  M-O LEN    Z0  BOWEN
ALBEDO  REF WS   WD     HT  REF TA     HT
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 11 01 01   1 01  -50.0  0.519 -9.000 -9.000 -999.  897.    296.2  0.15   4.23
1.00    5.40  108.    9.1  274.2    5.5
 11 01 01   1 02  -54.0  0.559 -9.000 -9.000 -999. 1002.    343.7  0.15   4.23
1.00    5.80  113.    9.1  273.8    5.5
 11 01 01   1 03  -50.2  0.519 -9.000 -9.000 -999.  899.    296.1  0.15   4.23
1.00    5.40  112.    9.1  273.1    5.5
 11 01 01   1 04  -45.5  0.469 -9.000 -9.000 -999.  773.    241.8  0.15   4.23
```

```
1.00    4.90  111.    9.1  272.5    5.5
 11 01 01   1 05  -13.5  0.164 -9.000 -9.000 -999.  293.     29.5  0.15   4.23
1.00    1.80   78.    9.1  270.9    5.5
 11 01 01   1 06  -19.9  0.203 -9.000 -9.000 -999.  220.     45.4  0.15   4.23
1.00    2.20   58.    9.1  270.4    5.5
 11 01 01   1 07  -19.9  0.203 -9.000 -9.000 -999.  220.     45.4  0.15   4.23
1.00    2.20   54.    9.1  270.4    5.5
 11 01 01   1 08  -12.2  0.206 -9.000 -9.000 -999.  224.     60.4  0.15   4.23
0.55    2.20   60.    9.1  270.9    5.5
 11 01 01   1 09   45.6  0.455  0.587  0.005  150.  738.   -174.7  0.15   4.23
0.34    4.50   96.    9.1  273.8    5.5
 11 01 01   1 10  126.7  0.592  0.981  0.005  252. 1092.   -138.5  0.15   4.23
0.27    5.80  102.    9.1  274.9    5.5
 11 01 01   1 11  195.5  0.684  1.823  0.009 1048. 1355.   -138.3  0.15   4.23
0.25    6.70  100.    9.1  275.9    5.5
 11 01 01   1 12  229.2  0.688  2.066  0.009 1302. 1370.   -120.1  0.15   4.23
0.24    6.70   96.    9.1  276.4    5.5
 11 01 01   1 13  190.6  0.647  1.999  0.009 1417. 1254.   -120.0  0.15   4.23
0.24    6.30   95.    9.1  277.0    5.5
 11 01 01   1 14  115.4  0.590  1.708  0.009 1459. 1094.   -150.2  0.15   4.23
0.26    5.80   98.    9.1  277.0    5.5
 11 01 01   1 15  101.2  0.588  1.649  0.009 1496. 1081.   -169.0  0.15   4.23
0.29    5.80   99.    9.1  276.4    5.5
 11 01 01   1 16   27.7  0.534  1.074  0.009 1507.  940.   -462.4  0.15   4.23
0.38    5.40  103.    9.1  276.4    5.5
 11 01 01   1 17  -42.8  0.469 -9.000 -9.000 -999.  777.    242.4  0.15   4.23
0.67    4.90  106.    9.1  275.9    5.5
 11 01 01   1 18  -32.7  0.340 -9.000 -9.000 -999.  489.    127.2  0.15   4.23
1.00    3.60  100.    9.1  274.9    5.5
 11 01 01   1 19  -24.4  0.252 -9.000 -9.000 -999.  308.     69.8  0.15   4.23
1.00    2.70   70.    9.1  273.1    5.5
 11 01 01   1 20  -28.2  0.291 -9.000 -9.000 -999.  377.     93.1  0.15   4.23
1.00    3.10   85.    9.1  273.1    5.5
 11 01 01   1 21  -28.2  0.291 -9.000 -9.000 -999.  377.     93.1  0.15   4.23
1.00    3.10   82.    9.1  273.1    5.5
 11 01 01   1 22  -24.5  0.252 -9.000 -9.000 -999.  304.     69.8  0.15   4.23
1.00    2.70   64.    9.1  272.5    5.5
 11 01 01   1 23  -24.5  0.252 -9.000 -9.000 -999.  304.     69.8  0.15   4.23
1.00    2.70   61.    9.1  272.5    5.5
 11 01 01   1 24  -24.5  0.252 -9.000 -9.000 -999.  304.     69.8  0.15   4.23
1.00    2.70   76.    9.1  272.5    5.5


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 11 01 01 01    5.5 0 -999.  -99.00   274.3   99.0  -99.00  -99.00
 11 01 01 01    9.1 1  108.    5.40  -999.0   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
↟ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 9, RIV
```

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

                  *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL   ***
                                   INCLUDING SOURCE(S):   L0000001   , L0000002
 , L0000003   , L0000004   , L0000005   ,
                   L0000006   , L0000007   , L0000008   , L0000009   , L0000010
 , L0000011   , L0000012   , L0000013   ,
                   L0000014   , L0000015   , L0000016   , L0000017   , L0000018
 , L0000019   , L0000020   , L0000021   ,
                   L0000022   , L0000023   , L0000024   , L0000025   , L0000026
 , L0000027   , L0000028   , . . .   ,

                                                *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                             ** CONC OF PM_10   IN MICROGRAMS/M**3
                   **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)
Y-COORD (M)   CONC
 -
- -
         508657.38   3753281.75   35.01604   508657.38
3753381.75   46.35701
         508657.38   3753481.75   66.95990   508657.38
3753581.75   116.66087
         508657.38   3753681.75   311.00699   508657.38
3753781.75   840.31994
         508657.38   3753881.75   273.73286   508657.38
3753981.75   100.21565
         508657.38   3754081.75   44.86452   508657.38
3754181.75   23.52386
         508657.38   3754281.75   13.88316   508757.38
3753281.75   35.71358
         508757.38   3753381.75   48.23289   508757.38
3753481.75   71.18692
         508757.38   3753581.75   124.82172   508757.38
3753681.75   328.53572
         508757.38   3753781.75   915.26859   508757.38
3753881.75   293.57854
         508757.38   3753981.75   113.12397   508757.38
3754081.75   52.82899
         508757.38   3754181.75   27.52153   508757.38
3754281.75   16.07992

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         508857.38    3753281.75       36.54344                    508857.38
3753381.75       50.07141
         508857.38    3753481.75       75.07006                    508857.38
3753581.75      132.96246
         508857.38    3753681.75      340.95750                    508857.38
3753781.75      670.79339
         508857.38    3753881.75      306.43860                    508857.38
3753981.75      122.49198
         508857.38    3754081.75       59.25831                    508857.38
3754181.75       32.30834
         508857.38    3754281.75       18.80603                    508957.38
3753281.75       37.25049
         508957.38    3753381.75       51.75795                    508957.38
3753481.75       78.86163
         508957.38    3753581.75      139.04320                    508957.38
3753681.75      350.92318
         508957.38    3753781.75      688.36111                    508957.38
3753881.75      316.22886
         508957.38    3753981.75      131.45977                    508957.38
3754081.75       66.26139
         508957.38    3754181.75       37.19695                    508957.38
3754281.75       22.20600
         509057.38    3753281.75       38.13639                    509057.38
3753381.75       53.40899
         509057.38    3753481.75       81.83603                    509057.38
3753581.75      144.82488
         509057.38    3753681.75      357.72545                    509057.38
3753781.75      709.17497
         509057.38    3753881.75      324.41069                    509057.38
3753981.75      139.79944
         509057.38    3754081.75       71.36578                    509057.38
3754181.75       41.40563
         509057.38    3754281.75       25.59201                    509157.38
3753281.75       38.63516
         509157.38    3753381.75       54.89852                    509157.38
3753481.75       84.51235
         509157.38    3753581.75      148.00222                    509157.38
3753681.75      365.68632
         509157.38    3753781.75      730.33956                    509157.38
3753881.75      330.40339
         509157.38    3753981.75      145.74127                    509157.38
3754081.75       77.10831
         509157.38    3754181.75       44.54365                    509157.38
3754281.75       27.56390
         509257.38    3753281.75       38.85374                    509257.38
3753381.75       55.71333
         509257.38    3753481.75       86.17708                    509257.38
3753581.75      150.03509
         509257.38    3753681.75      362.39931                    509257.38
3753781.75      773.31809
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         509257.38    3753881.75      330.56254                      509257.38
3753981.75      150.51389
         509257.38    3754081.75       82.04549                      509257.38
3754181.75       47.04865
         509257.38    3754281.75       29.04188                      509357.38
3753281.75       38.61076
         509357.38    3753381.75       56.00900                      509357.38
3753481.75       86.39542
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 9, RIV
I-10\Segment 9, RIV I-10.isc     ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                       ***        12:20:08

                                  PAGE  12
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                 INCLUDING SOURCE(S):     L0000001    , L0000002
 , L0000003    , L0000004    , L0000005    ,
                 L0000006    , L0000007    , L0000008    , L0000009    , L0000010
 , L0000011    , L0000012    , L0000013    ,
                 L0000014    , L0000015    , L0000016    , L0000017    , L0000018
 , L0000019    , L0000020    , L0000021    ,
                 L0000022    , L0000023    , L0000024    , L0000025    , L0000026
 , L0000027    , L0000028    ,  . . .      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                       ** CONC OF PM_10    IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
         509357.38    3753581.75      149.34202                      509357.38
3753681.75      349.38111
         509357.38    3753781.75      797.32591                      509357.38
3753881.75      339.34170
         509357.38    3753981.75      150.46796                      509357.38
3754081.75       82.12060
         509357.38    3754181.75       48.93471                      509357.38
3754281.75       30.58197
         509457.38    3753281.75       37.37250                      509457.38
3753381.75       55.43549
         509457.38    3753481.75       86.14193                      509457.38
3753581.75      152.68491
         509457.38    3753681.75      364.78091                      509457.38
```

3753781.75 861.08059
509457.38 3753881.75 338.55216 509457.38
3753981.75 149.28486
509457.38 3754081.75 83.15300 509457.38
3754181.75 50.80337
509457.38 3754281.75 32.41450 509557.38
3753281.75 35.43145
509557.38 3753381.75 52.37845 509557.38
3753481.75 84.93549
509557.38 3753581.75 151.25956 509557.38
3753681.75 362.37195
509557.38 3753781.75 919.10905 509557.38
3753881.75 340.46881
509557.38 3753981.75 149.66726 509557.38
3754081.75 84.75042
509557.38 3754181.75 52.68630 509557.38
3754281.75 34.18423
509657.38 3753281.75 33.84889 509657.38
3753381.75 50.16719
509657.38 3753481.75 81.75961 509657.38
3753581.75 149.08043
509657.38 3753681.75 370.28032 509657.38
3753781.75 1102.82333
509657.38 3753881.75 336.04518 509657.38
3753981.75 149.55773
509657.38 3754081.75 86.46809 509657.38
3754181.75 54.81369
509657.38 3754281.75 36.09271 508657.38
3754531.75 5.57753
508657.38 3754781.75 2.76787 508907.38
3754531.75 7.29864
508907.38 3754781.75 3.23841 509157.38
3754531.75 8.65376
509157.38 3754781.75 3.72597 509407.38
3754531.75 10.72565
509657.38 3754531.75 13.63633 509907.38
3754531.75 16.88604
509907.38 3754781.75 7.51828 510157.38
3754531.75 20.15983
510157.38 3754781.75 9.84344 509907.38
3754281.75 40.16242
509907.38 3754031.75 116.68625 509907.38
3753781.75 585.11846
509907.38 3753531.75 92.41852 509907.38
3753281.75 32.16538
509907.38 3753031.75 15.77022 509907.38
3752781.75 9.38796
510157.38 3754281.75 43.83440 510157.38
3754031.75 109.24288
510157.38 3753781.75 251.32052 510157.38

```
3753531.75       77.58353
         510157.38    3753281.75       30.05164                      510157.38
3753031.75       15.05668
         510157.38    3752781.75        9.16634                      509657.38
3753031.75       16.92882
         509657.38    3752781.75       10.32451                      509407.38
3753031.75       18.78333
         509407.38    3752781.75       11.36989                      509157.38
3753031.75       20.15366
         509157.38    3752781.75       12.54504                      508907.38
3753031.75       20.58932
         508907.38    3752781.75       13.27351                      508657.38
3753031.75       20.60674
         508657.38    3752781.75       13.86630                      508407.38
3753031.75       20.10135
         508407.38    3752781.75       13.72541                      508157.38
3753031.75       18.44421
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 9, RIV
I-10\Segment 9, RIV I-10.isc     ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                       ***        12:20:08

                                  PAGE  13
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                  INCLUDING SOURCE(S):     L0000001    , L0000002
 , L0000003    , L0000004    , L0000005    ,
                 L0000006    , L0000007    , L0000008    , L0000009    , L0000010
 , L0000011    , L0000012    , L0000013    ,
                 L0000014    , L0000015    , L0000016    , L0000017    , L0000018
 , L0000019    , L0000020    , L0000021    ,
                 L0000022    , L0000023    , L0000024    , L0000025    , L0000026
 , L0000027    , L0000028    ,  . . .      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_10    IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
         508157.38    3752781.75       13.14447                      508407.38
3753281.75       32.48552
         508407.38    3753531.75       70.47222                      508407.38
3753781.75      622.52954
```

```
         508407.38    3754031.75       41.26713                       508407.38
3754281.75       10.80394
         508407.38    3754531.75        4.43955                       508407.38
3754781.75        2.21938
         508157.38    3753281.75       28.32239                       508157.38
3753531.75       54.21254
         508157.38    3753781.75      182.08110                       508157.38
3754031.75       27.62090
         508157.38    3754281.75        9.36819                       508157.38
3754531.75        3.94770
         508157.38    3754781.75        2.01440                       510618.10
3754115.08       63.68469
         510554.04    3754655.27       17.77312                       508146.14
3753841.47      203.40326
         508125.26    3753752.71      195.77089                       508266.24
3753737.04      355.17924
         509937.09    3753742.27      595.97906                       509942.32
3753810.14      581.36560
         508313.23    3753815.37      420.01184

 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 9, RIV
I-10\Segment 9, RIV I-10.isc     ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                       ***        12:20:08

                                  PAGE  14
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                  *** THE SUMMARY OF MAXIMUM ANNUAL RESULTS
AVERAGED OVER   5 YEARS ***


                                   ** CONC OF PM_10    IN MICROGRAMS/M**3
              **


                       NETWORK
GROUP ID                      AVERAGE CONC                RECEPTOR  (XR, YR,
ZELEV, ZHILL, ZFLAG)  OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -

ALL       1ST HIGHEST VALUE IS    1102.82333 AT (  509657.38,  3753781.75,
736.32,  1331.00,    0.00)  DC
          2ND HIGHEST VALUE IS     919.10905 AT (  509557.38,  3753781.75,
736.47,  1331.00,    0.00)  DC
          3RD HIGHEST VALUE IS     915.26859 AT (  508757.38,  3753781.75,
750.31,  1331.00,    0.00)  DC
          4TH HIGHEST VALUE IS     861.08059 AT (  509457.38,  3753781.75,
737.31,  1331.00,    0.00)  DC
```

```
          5TH HIGHEST VALUE IS     840.31994 AT (  508657.38,  3753781.75,
752.11,  1331.00,    0.00)  DC
          6TH HIGHEST VALUE IS     797.32591 AT (  509357.38,  3753781.75,
738.31,  1331.00,    0.00)  DC
          7TH HIGHEST VALUE IS     773.31809 AT (  509257.38,  3753781.75,
740.99,  1331.00,    0.00)  DC
          8TH HIGHEST VALUE IS     730.33956 AT (  509157.38,  3753781.75,
742.24,  1331.00,    0.00)  DC
          9TH HIGHEST VALUE IS     709.17497 AT (  509057.38,  3753781.75,
744.42,  1331.00,    0.00)  DC
         10TH HIGHEST VALUE IS     688.36111 AT (  508957.38,  3753781.75,
746.53,  1331.00,    0.00)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
↑ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 9, RIV
I-10\Segment 9, RIV I-10.isc     ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                       ***        12:20:08

                                  PAGE  15
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

 *** Message Summary : AERMOD Model Execution ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of            2 Warning Message(s)
 A Total of         1311 Informational Message(s)

 A Total of        43824 Hours Were Processed

 A Total of           64 Calm Hours Identified

 A Total of         1247 Missing Hours Identified (  2.85 Percent)


    ******** FATAL ERROR MESSAGES ********
              ***  NONE  ***


    ********   WARNING MESSAGES   ********
 ME W186     148       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used
      0.50
 ME W187     148       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET
```

```
**********************************
*** AERMOD Finishes Successfully ***
**********************************
```

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.7.0
** Lakes Environmental Software Inc.
** Date: 10/28/2019
** File: C:\Lakes\AERMOD View\Segment 10, RIV SR-15\Segment 10, RIV SR-15.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\Segment 10, RIV SR-15\Segment 10, RIV SR-15.isc
   MODELOPT DFAULT CONC
   AVERTIME ANNUAL
   URBANOPT 113054
   POLLUTID PM_10
   RUNORNOT RUN
   ERRORFIL "Segment 10, RIV SR-15.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
** ----------------------------------------------------------------------
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE1
** DESCRSRC
** PREFIX
** Length of Side = 66.00
** Configuration = Adjacent
** Emission Rate = 23.0
** Vertical Dimension = 2.00
** SZINIT = 0.93
** Nodes = 5
** 486037.100, 3706625.480, 308.44, 2.00, 30.70
** 486230.930, 3706246.910, 310.08, 2.00, 30.70
** 486444.860, 3706080.360, 312.96, 2.00, 30.70
** 486495.190, 3705986.040, 312.86, 2.00, 30.70
```

```
** 486721.760, 3705275.850, 307.22, 2.00, 30.70
** ----------------------------------------------------------------
   LOCATION L0000001     VOLUME   486052.139 3706596.106 308.26
   LOCATION L0000002     VOLUME   486082.218 3706537.359 308.58
   LOCATION L0000003     VOLUME   486112.297 3706478.612 309.34
   LOCATION L0000004     VOLUME   486142.376 3706419.864 309.61
   LOCATION L0000005     VOLUME   486172.455 3706361.117 310.12
   LOCATION L0000006     VOLUME   486202.534 3706302.369 310.18
   LOCATION L0000007     VOLUME   486233.845 3706244.641 310.04
   LOCATION L0000008     VOLUME   486285.923 3706204.096 310.42
   LOCATION L0000009     VOLUME   486338.001 3706163.552 310.78
   LOCATION L0000010     VOLUME   486390.080 3706123.008 311.43
   LOCATION L0000011     VOLUME   486442.158 3706082.463 312.58
   LOCATION L0000012     VOLUME   486474.319 3706025.152 312.59
   LOCATION L0000013     VOLUME   486501.776 3705965.397 312.36
   LOCATION L0000014     VOLUME   486521.835 3705902.520 311.78
   LOCATION L0000015     VOLUME   486541.895 3705839.642 310.43
   LOCATION L0000016     VOLUME   486561.955 3705776.764 309.39
   LOCATION L0000017     VOLUME   486582.014 3705713.886 308.70
   LOCATION L0000018     VOLUME   486602.074 3705651.009 308.22
   LOCATION L0000019     VOLUME   486622.134 3705588.131 307.97
   LOCATION L0000020     VOLUME   486642.194 3705525.253 307.43
   LOCATION L0000021     VOLUME   486662.253 3705462.376 307.01
   LOCATION L0000022     VOLUME   486682.313 3705399.498 306.96
   LOCATION L0000023     VOLUME   486702.373 3705336.620 307.40
** End of LINE VOLUME Source ID = SLINE1
** Source Parameters **
** LINE VOLUME Source ID = SLINE1
   SRCPARAM L0000001          1.0      2.00     30.70      0.93
   SRCPARAM L0000002          1.0      2.00     30.70      0.93
   SRCPARAM L0000003          1.0      2.00     30.70      0.93
   SRCPARAM L0000004          1.0      2.00     30.70      0.93
   SRCPARAM L0000005          1.0      2.00     30.70      0.93
   SRCPARAM L0000006          1.0      2.00     30.70      0.93
   SRCPARAM L0000007          1.0      2.00     30.70      0.93
   SRCPARAM L0000008          1.0      2.00     30.70      0.93
   SRCPARAM L0000009          1.0      2.00     30.70      0.93
   SRCPARAM L0000010          1.0      2.00     30.70      0.93
   SRCPARAM L0000011          1.0      2.00     30.70      0.93
   SRCPARAM L0000012          1.0      2.00     30.70      0.93
   SRCPARAM L0000013          1.0      2.00     30.70      0.93
   SRCPARAM L0000014          1.0      2.00     30.70      0.93
   SRCPARAM L0000015          1.0      2.00     30.70      0.93
   SRCPARAM L0000016          1.0      2.00     30.70      0.93
   SRCPARAM L0000017          1.0      2.00     30.70      0.93
   SRCPARAM L0000018          1.0      2.00     30.70      0.93
   SRCPARAM L0000019          1.0      2.00     30.70      0.93
   SRCPARAM L0000020          1.0      2.00     30.70      0.93
   SRCPARAM L0000021          1.0      2.00     30.70      0.93
   SRCPARAM L0000022          1.0      2.00     30.70      0.93
```

```
   SRCPARAM L0000023           1.0      2.00     30.70      0.93
** ---------------------------------------------------------------------
   URBANSRC ALL
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED "Segment 10, RIV SR-15.rou"
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE "C:\Users\kheck\Desktop\MET
Data\LakeElsinoreADJU\ELSI_V9_ADJU\ELSI_v9.SFC"
   PROFFILE "C:\Users\kheck\Desktop\MET
Data\LakeElsinoreADJU\ELSI_V9_ADJU\ELSI_v9.PFL"
   SURFDATA 3171 2012
   UAIRDATA 3190 2012
   SITEDATA 99999 2012
   PROFBASE 420.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
** Auto-Generated Plotfiles
   PLOTFILE ANNUAL ALL "Segment 10, RIV SR-15.AD\AN00GALL.PLT" 31
   SUMMFILE "Segment 10, RIV SR-15.sum"
OU FINISHED


  *** Message Summary For AERMOD Model Setup ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of            2 Warning Message(s)
 A Total of            0 Informational Message(s)
```

```
   ******** FATAL ERROR MESSAGES ********
              ***  NONE  ***


   ********   WARNING MESSAGES   ********
 ME W186     128       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used
      0.50
 ME W187     128       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET


 ***********************************
 *** SETUP Finishes Successfully ***
 ***********************************

 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 10, RIV
SR-15\Segment 10, RIV SR-15.isc ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                         ***       12:46:34

                                   PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                             ***     MODEL SETUP OPTIONS SUMMARY
  ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - -

 **Model Is Setup For Calculation of Average CONCentration Values.

   --  DEPOSITION LOGIC  --
 **NO GAS DEPOSITION Data Provided.
 **NO PARTICLE DEPOSITION Data Provided.
 **Model Uses NO DRY DEPLETION.  DRYDPLT  =  F
 **Model Uses NO WET DEPLETION.  WETDPLT  =  F

 **Model Uses URBAN Dispersion Algorithm for the SBL for    23 Source(s),
   for Total of    1 Urban Area(s):
   Urban Population =    113054.0 ;  Urban Roughness Length =  1.000 m

 **Model Uses Regulatory DEFAULT Options:
        1. Stack-tip Downwash.
        2. Model Accounts for ELEVated Terrain Effects.
        3. Use Calms Processing Routine.
        4. Use Missing Data Processing Routine.
        5. No Exponential Decay.
        6. Urban Roughness Length of 1.0 Meter Assumed.

 **Other Options Specified:
```

```
         ADJ_U*   - Use ADJ_U* option for SBL in AERMET
         CCVR_Sub - Meteorological data includes CCVR substitutions
         TEMP_Sub - Meteorological data includes TEMP substitutions

 **Model Assumes No FLAGPOLE Receptor Heights.

 **The User Specified a Pollutant Type of:  PM_10

 **Model Calculates ANNUAL Averages Only

 **This Run Includes:     23 Source(s);       1 Source Group(s); and     166
Receptor(s)

                with:      0 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                 and:     23 VOLUME source(s)
                 and:      0 AREA type source(s)
                 and:      0 LINE source(s)
                 and:      0 OPENPIT source(s)
                 and:      0 BUOYANT LINE source(s) with      0 line(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  16216

 **Output Options Selected:
         Model Outputs Tables of ANNUAL Averages by Receptor
         Model Outputs External File(s) of High Values for Plotting (PLOTFILE
Keyword)
         Model Outputs Separate Summary File of High Ranked Values (SUMMFILE
Keyword)

 **NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                 m for Missing
Hours
                                                                 b for Both Calm
and Missing Hours

 **Misc. Inputs:  Base Elev. for Pot. Temp. Profile (m MSL) =   420.00 ;  Decay
Coef. =    0.000     ;  Rot. Angle =     0.0
                 Emission Units = GRAMS/SEC                                 ;
Emission Rate Unit Factor =   0.10000E+07
                 Output Units   = MICROGRAMS/M**3

 **Approximate Storage Requirements of Model =      3.5 MB of RAM.

 **Input Runstream File:          aermod.inp

 **Output Print File:             aermod.out
```

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE BY	EMISSION RATE SCALAR VARY
L0000001	0	0.10000E+01	486052.1	3706596.1	308.3	2.00	30.70	0.93	YES	
L0000002	0	0.10000E+01	486082.2	3706537.4	308.6	2.00	30.70	0.93	YES	
L0000003	0	0.10000E+01	486112.3	3706478.6	309.3	2.00	30.70	0.93	YES	
L0000004	0	0.10000E+01	486142.4	3706419.9	309.6	2.00	30.70	0.93	YES	
L0000005	0	0.10000E+01	486172.5	3706361.1	310.1	2.00	30.70	0.93	YES	
L0000006	0	0.10000E+01	486202.5	3706302.4	310.2	2.00	30.70	0.93	YES	
L0000007	0	0.10000E+01	486233.8	3706244.6	310.0	2.00	30.70	0.93	YES	
L0000008	0	0.10000E+01	486285.9	3706204.1	310.4	2.00	30.70	0.93	YES	
L0000009	0	0.10000E+01	486338.0	3706163.6	310.8	2.00	30.70	0.93	YES	
L0000010	0	0.10000E+01	486390.1	3706123.0	311.4	2.00	30.70	0.93	YES	
L0000011	0	0.10000E+01	486442.2	3706082.5	312.6	2.00	30.70	0.93	YES	
L0000012	0	0.10000E+01	486474.3	3706025.2	312.6	2.00	30.70	0.93	YES	

```
 L0000013         0   0.10000E+01  486501.8 3705965.4   312.4     2.00    30.70
0.93     YES
 L0000014         0   0.10000E+01  486521.8 3705902.5   311.8     2.00    30.70
0.93     YES
 L0000015         0   0.10000E+01  486541.9 3705839.6   310.4     2.00    30.70
0.93     YES
 L0000016         0   0.10000E+01  486562.0 3705776.8   309.4     2.00    30.70
0.93     YES
 L0000017         0   0.10000E+01  486582.0 3705713.9   308.7     2.00    30.70
0.93     YES
 L0000018         0   0.10000E+01  486602.1 3705651.0   308.2     2.00    30.70
0.93     YES
 L0000019         0   0.10000E+01  486622.1 3705588.1   308.0     2.00    30.70
0.93     YES
 L0000020         0   0.10000E+01  486642.2 3705525.3   307.4     2.00    30.70
0.93     YES
 L0000021         0   0.10000E+01  486662.3 3705462.4   307.0     2.00    30.70
0.93     YES
 L0000022         0   0.10000E+01  486682.3 3705399.5   307.0     2.00    30.70
0.93     YES
 L0000023         0   0.10000E+01  486702.4 3705336.6   307.4     2.00    30.70
0.93     YES
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 10, RIV
SR-15\Segment 10, RIV SR-15.isc ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                       ***        12:46:34

                                  PAGE   3
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                          *** SOURCE IDs DEFINING SOURCE GROUPS
***

 SRCGROUP ID                                              SOURCE IDs
 -----------                                              ----------


  ALL        L0000001    , L0000002    , L0000003    , L0000004    , L0000005    ,
L0000006    , L0000007    , L0000008    ,

             L0000009    , L0000010    , L0000011    , L0000012    , L0000013    ,
L0000014    , L0000015    , L0000016    ,

             L0000017    , L0000018    , L0000019    , L0000020    , L0000021    ,
L0000022    , L0000023    ,
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 10, RIV
SR-15\Segment 10, RIV SR-15.isc ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                       ***        12:46:34
```

*** SOURCE IDs DEFINED AS URBAN SOURCES ***

URBAN ID	URBAN POP	SOURCE IDs
	113054.	L0000001 , L0000002 , L0000003 , L0000004 , L0000005 , L0000006 , L0000007 , L0000008 ,
		L0000009 , L0000010 , L0000011 , L0000012 , L0000013 , L0000014 , L0000015 , L0000016 ,
		L0000017 , L0000018 , L0000019 , L0000020 , L0000021 , L0000022 , L0000023 ,

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(485942.6, 3705763.2, 309.9, 548.0, 0.0); (485942.6, 3705863.2, 305.6, 548.0, 0.0);
(485942.6, 3705963.2, 304.2, 548.0, 0.0); (485942.6, 3706063.2, 304.0, 548.0, 0.0);
(485942.6, 3706163.2, 304.0, 548.0, 0.0); (485942.6, 3706263.2, 304.0, 548.0, 0.0);
(485942.6, 3706363.2, 304.4, 548.0, 0.0); (485942.6, 3706463.2, 305.5, 548.0, 0.0);
(485942.6, 3706563.2, 306.4, 548.0, 0.0); (486042.6, 3705663.2, 309.5, 548.0, 0.0);
(486042.6, 3705763.2, 305.6, 548.0, 0.0); (486042.6, 3705863.2, 304.1, 548.0, 0.0);
(486042.6, 3705963.2, 304.0, 548.0, 0.0); (486042.6, 3706063.2, 304.0, 548.0, 0.0);
(486042.6, 3706163.2, 304.0, 548.0, 0.0); (486042.6, 3706263.2, 304.7, 548.0, 0.0);
(486042.6, 3706363.2, 306.4, 548.0, 0.0); (486042.6,

```
3706463.2,     307.4,     548.0,       0.0);
     ( 486042.6, 3706563.2,     307.8,     548.0,       0.0);         ( 486142.6,
3705563.2,     306.9,     548.0,       0.0);
     ( 486142.6, 3705663.2,     304.6,     548.0,       0.0);         ( 486142.6,
3705763.2,     304.0,     548.0,       0.0);
     ( 486142.6, 3705863.2,     304.0,     548.0,       0.0);         ( 486142.6,
3705963.2,     304.0,     548.0,       0.0);
     ( 486142.6, 3706063.2,     304.8,     548.0,       0.0);         ( 486142.6,
3706163.2,     305.9,     548.0,       0.0);
     ( 486142.6, 3706263.2,     307.9,     548.0,       0.0);         ( 486142.6,
3706363.2,     309.0,     548.0,       0.0);
     ( 486142.6, 3706463.2,     310.1,     548.0,       0.0);         ( 486142.6,
3706563.2,     310.9,     548.0,       0.0);
     ( 486242.6, 3705563.2,     304.4,     548.0,       0.0);         ( 486242.6,
3705663.2,     304.0,     548.0,       0.0);
     ( 486242.6, 3705763.2,     304.0,     548.0,       0.0);         ( 486242.6,
3705863.2,     304.2,     548.0,       0.0);
     ( 486242.6, 3705963.2,     305.2,     548.0,       0.0);         ( 486242.6,
3706063.2,     306.9,     548.0,       0.0);
     ( 486242.6, 3706163.2,     309.0,     548.0,       0.0);         ( 486242.6,
3706263.2,     310.5,     548.0,       0.0);
     ( 486242.6, 3706363.2,     312.3,     548.0,       0.0);         ( 486242.6,
3706463.2,     313.3,     548.0,       0.0);
     ( 486242.6, 3706563.2,     313.5,     548.0,       0.0);         ( 486342.6,
3705563.2,     304.0,     548.0,       0.0);
     ( 486342.6, 3705663.2,     304.0,     548.0,       0.0);         ( 486342.6,
3705763.2,     304.3,     548.0,       0.0);
     ( 486342.6, 3705863.2,     305.6,     548.0,       0.0);         ( 486342.6,
3705963.2,     307.6,     548.0,       0.0);
     ( 486342.6, 3706063.2,     308.9,     548.0,       0.0);         ( 486342.6,
3706163.2,     310.9,     548.0,       0.0);
     ( 486342.6, 3706263.2,     313.1,     548.0,       0.0);         ( 486342.6,
3706363.2,     314.2,     548.0,       0.0);
     ( 486342.6, 3706463.2,     315.2,     548.0,       0.0);         ( 486342.6,
3706563.2,     315.7,     548.0,       0.0);
     ( 486442.6, 3705563.2,     304.0,     548.0,       0.0);         ( 486442.6,
3705663.2,     304.4,     548.0,       0.0);
     ( 486442.6, 3705763.2,     305.9,     548.0,       0.0);         ( 486442.6,
3705863.2,     308.0,     548.0,       0.0);
     ( 486442.6, 3705963.2,     310.2,     548.0,       0.0);         ( 486442.6,
3706063.2,     312.2,     548.0,       0.0);
     ( 486442.6, 3706163.2,     314.3,     548.0,       0.0);         ( 486442.6,
3706263.2,     316.5,     548.0,       0.0);
     ( 486442.6, 3706363.2,     317.6,     548.0,       0.0);         ( 486442.6,
3706463.2,     318.6,     548.0,       0.0);
     ( 486442.6, 3706563.2,     318.8,     548.0,       0.0);         ( 486542.6,
3705563.2,     305.7,     548.0,       0.0);
     ( 486542.6, 3705663.2,     307.2,     548.0,       0.0);         ( 486542.6,
3705763.2,     308.8,     548.0,       0.0);
     ( 486542.6, 3705863.2,     311.2,     548.0,       0.0);         ( 486542.6,
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3705963.2,   313.7,   548.0,   0.0);
     (486542.6, 3706063.2,   315.8,   548.0,   0.0);   (486542.6,
3706163.2,   318.1,   548.0,   0.0);
     (486542.6, 3706263.2,   320.1,   548.0,   0.0);   (486542.6,
3706363.2,   321.3,   548.0,   0.0);
     (486542.6, 3706463.2,   321.4,   548.0,   0.0);   (486542.6,
3706563.2,   322.3,   548.0,   0.0);
     (486642.6, 3705563.2,   308.0,   548.0,   0.0);   (486642.6,
3705663.2,   309.4,   548.0,   0.0);
     (486642.6, 3705763.2,   311.0,   548.0,   0.0);   (486642.6,
3705863.2,   313.5,   548.0,   0.0);
     (486642.6, 3705963.2,   316.2,   548.0,   0.0);   (486642.6,
3706063.2,   317.7,   548.0,   0.0);
     (486642.6, 3706163.2,   320.1,   548.0,   0.0);   (486642.6,
3706263.2,   321.8,   548.0,   0.0);
     (486642.6, 3706363.2,   323.5,   548.0,   0.0);   (486642.6,
3706463.2,   323.9,   548.0,   0.0);
     (486642.6, 3706563.2,   324.5,   545.0,   0.0);   (486742.6,
3705563.2,   310.3,   548.0,   0.0);
     (486742.6, 3705663.2,   312.0,   548.0,   0.0);   (486742.6,
3705763.2,   313.6,   548.0,   0.0);
     (486742.6, 3705863.2,   315.8,   548.0,   0.0);   (486742.6,
3705963.2,   318.6,   548.0,   0.0);

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                  (METERS)

     (486742.6, 3706063.2,   320.3,   548.0,   0.0);   (486742.6,
3706163.2,   322.2,   548.0,   0.0);
     (486742.6, 3706263.2,   324.4,   548.0,   0.0);   (486742.6,
3706363.2,   325.5,   548.0,   0.0);
     (486742.6, 3706463.2,   326.5,   543.0,   0.0);   (486842.6,
3705563.2,   313.5,   548.0,   0.0);
     (486842.6, 3705663.2,   315.1,   548.0,   0.0);   (486842.6,
3705763.2,   317.2,   548.0,   0.0);
     (486842.6, 3705863.2,   319.4,   548.0,   0.0);   (486842.6,
3705963.2,   321.5,   548.0,   0.0);
     (486842.6, 3706063.2,   323.7,   548.0,   0.0);   (486842.6,
3706163.2,   325.9,   548.0,   0.0);
     (486842.6, 3706263.2,   328.0,   543.0,   0.0);   (486842.6,
3706363.2,   329.1,   329.1,   0.0);
     (486842.6, 3706463.2,   330.1,   330.1,   0.0);   (486842.6,

```
3706563.2,     330.3,     369.0,       0.0);
     ( 486942.6, 3705563.2,     317.1,     548.0,       0.0);         ( 486942.6,
3705663.2,     318.4,     548.0,       0.0);
     ( 486942.6, 3705763.2,     320.1,     548.0,       0.0);         ( 486942.6,
3705863.2,     322.6,     548.0,       0.0);
     ( 486942.6, 3705963.2,     325.1,     543.0,       0.0);         ( 486942.6,
3706063.2,     327.2,     327.2,       0.0);
     ( 486942.6, 3706163.2,     329.4,     329.4,       0.0);         ( 486942.6,
3706263.2,     331.3,     331.3,       0.0);
     ( 486942.6, 3706363.2,     332.6,     332.6,       0.0);         ( 486942.6,
3706463.2,     332.8,     332.8,       0.0);
     ( 486942.6, 3706563.2,     333.6,     369.0,       0.0);         ( 485942.6,
3706813.2,     310.0,     548.0,       0.0);
     ( 485942.6, 3707063.2,     309.0,     548.0,       0.0);         ( 486192.6,
3706813.2,     316.4,     548.0,       0.0);
     ( 487192.6, 3706813.2,     348.2,     365.0,       0.0);         ( 487192.6,
3707063.2,     330.0,     369.0,       0.0);
     ( 487442.6, 3706813.2,     333.0,     374.0,       0.0);         ( 487442.6,
3707063.2,     343.2,     378.0,       0.0);
     ( 487192.6, 3706563.2,     340.3,     365.0,       0.0);         ( 487192.6,
3706313.2,     339.2,     339.2,       0.0);
     ( 487192.6, 3706063.2,     334.3,     334.3,       0.0);         ( 487192.6,
3705813.2,     328.9,     328.9,       0.0);
     ( 487192.6, 3705563.2,     323.5,     323.5,       0.0);         ( 487192.6,
3705313.2,     320.2,     666.0,       0.0);
     ( 487192.6, 3705063.2,     315.7,     670.0,       0.0);         ( 487442.6,
3706563.2,     347.5,     347.5,       0.0);
     ( 487442.6, 3706313.2,     348.0,     348.0,       0.0);         ( 487442.6,
3706063.2,     343.0,     343.0,       0.0);
     ( 487442.6, 3705813.2,     336.9,     336.9,       0.0);         ( 487442.6,
3705563.2,     331.4,     331.4,       0.0);
     ( 487442.6, 3705313.2,     327.3,     327.3,       0.0);         ( 487442.6,
3705063.2,     323.6,     669.0,       0.0);
     ( 486942.6, 3705313.2,     314.2,     669.0,       0.0);         ( 486942.6,
3705063.2,     307.6,     670.0,       0.0);
     ( 486692.6, 3705313.2,     306.9,     669.0,       0.0);         ( 486692.6,
3705063.2,     305.1,     670.0,       0.0);
     ( 486442.6, 3705313.2,     304.0,     669.0,       0.0);         ( 486442.6,
3705063.2,     304.1,     670.0,       0.0);
     ( 486192.6, 3705313.2,     312.7,     669.0,       0.0);         ( 485692.6,
3706063.2,     312.1,     548.0,       0.0);
     ( 485692.6, 3706313.2,     305.2,     548.0,       0.0);         ( 485692.6,
3706563.2,     304.0,     548.0,       0.0);
     ( 485692.6, 3706813.2,     305.4,     548.0,       0.0);         ( 485692.6,
3707063.2,     307.0,     548.0,       0.0);
     ( 485442.6, 3706313.2,     317.9,     548.0,       0.0);         ( 485442.6,
3706563.2,     308.1,     548.0,       0.0);
     ( 485442.6, 3706813.2,     305.0,     548.0,       0.0);         ( 485442.6,
3707063.2,     305.0,     548.0,       0.0);
     ( 486819.3, 3705387.4,     310.8,     669.0,       0.0);         ( 486939.2,
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3705392.7,   315.0,   666.0,   0.0);
     (487038.0, 3705367.5,   316.7,   666.0,   0.0);   (487117.0,
3705376.2,   318.5,   543.0,   0.0);
     (486001.2, 3706614.0,   307.3,   548.0,   0.0);   (486065.4,
3706633.3,   308.9,   548.0,   0.0);
     (486296.2, 3706267.7,   311.9,   548.0,   0.0);   (486453.4,
3706129.8,   314.0,   548.0,   0.0);
     (486738.8, 3705305.7,   308.0,   669.0,   0.0);   (486681.0,
3705305.7,   306.5,   669.0,   0.0);
     (486405.3, 3706072.1,   311.0,   548.0,   0.0);   (486164.8,
3706296.6,   308.9,   548.0,   0.0);

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

                    * SOURCE-RECEPTOR COMBINATIONS FOR WHICH CALCULATIONS MAY NOT
BE PERFORMED *
                      LESS THAN 1.0 METER; WITHIN OPENPIT; OR BEYOND 80KM FOR
FASTAREA/FASTALL

                            SOURCE   - - RECEPTOR LOCATION - -
DISTANCE
                              ID   XR (METERS)   YR (METERS)
(METERS)
                           -
- - -

                            L0000001   486042.6   3706563.2
-31.79
                            L0000001   486001.2   3706614.0
-12.02
                            L0000001   486065.4   3706633.3
-26.56
                            L0000002   486042.6   3706563.2
-18.67
                            L0000002   486142.6   3706563.2
-0.32
                            L0000003   486142.6   3706463.2
-32.04
                            L0000004   486142.6   3706363.2
-9.39
                            L0000004   486142.6   3706463.2
-22.62
                            L0000005   486142.6   3706363.2
-36.06

	L0000005	486164.8	3706296.6
-1.00			
	L0000006	486242.6	3706263.2
-10.02			
	L0000006	486164.8	3706296.6
-27.79			
	L0000007	486242.6	3706263.2
-45.44			
	L0000007	486296.2	3706267.7
0.52			
	L0000008	486242.6	3706163.2
-6.46			
	L0000008	486296.2	3706267.7
-1.56			
	L0000009	486342.6	3706163.2
-61.41			
	L0000010	486342.6	3706163.2
-3.76			
	L0000010	486442.6	3706163.2
0.15			
	L0000010	486453.4	3706129.8
-2.36			
	L0000010	486405.3	3706072.1
-12.89			
	L0000011	486442.6	3706063.2
-46.79			
	L0000011	486453.4	3706129.8
-17.33			
	L0000011	486405.3	3706072.1
-27.68			
	L0000012	486442.6	3706063.2
-16.42			
	L0000013	486442.6	3705963.2
-6.78			
	L0000013	486542.6	3705963.2
-25.13			
	L0000014	486542.6	3705863.2
-21.59			
	L0000014	486542.6	3705963.2
-1.83			
	L0000015	486542.6	3705863.2
-42.39			
	L0000016	486542.6	3705763.2
-42.39			
	L0000017	486542.6	3705663.2
-1.83			
	L0000017	486542.6	3705763.2
-2.83			
	L0000018	486542.6	3705663.2
-5.27			

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***

(1=YES; 0=NO)

```
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
```

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***

(METERS/SEC)

1.54,   3.09,   5.14,   8.23,

```
10.80,
↑ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 10, RIV
SR-15\Segment 10, RIV SR-15.isc ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                        ***        12:46:34

                                   PAGE   9
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                    *** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL
DATA ***

   Surface file:   C:\Users\kheck\Desktop\MET
Data\LakeElsinoreADJU\ELSI_V9_ADJU\ELSI_v9.SFC          Met Version:  16216
   Profile file:   C:\Users\kheck\Desktop\MET
Data\LakeElsinoreADJU\ELSI_V9_ADJU\ELSI_v9.PFL
   Surface format: FREE

   Profile format: FREE

   Surface station no.:     3171                  Upper air station no.:     3190
                  Name: UNKNOWN                                   Name: UNKNOWN

                  Year:   2012                                    Year:   2012

 First 24 hours of scalar data
 YR MO DY JDY HR     H0     U*     W*  DT/DZ ZICNV ZIMCH  M-O LEN    Z0  BOWEN
ALBEDO  REF WS   WD     HT  REF TA     HT
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - -
 12 01 01   1 01   -1.3  0.065 -9.000 -9.000 -999.   40.     18.2  0.23   2.69
1.00    0.40   78.    9.1  284.2    5.5
 12 01 01   1 02   -4.2  0.092 -9.000 -9.000 -999.   67.     16.0  0.23   2.69
1.00    0.90   69.    9.1  283.8    5.5
 12 01 01   1 03   -4.2  0.092 -9.000 -9.000 -999.   67.     16.0  0.23   2.69
1.00    0.90  286.    9.1  282.5    5.5
 12 01 01   1 04   -4.2  0.092 -9.000 -9.000 -999.   67.     16.0  0.23   2.69
1.00    0.90  348.    9.1  282.5    5.5
 12 01 01   1 05   -1.3  0.066 -9.000 -9.000 -999.   40.     18.2  0.23   2.69
1.00    0.40   17.    9.1  282.0    5.5
 12 01 01   1 06   -4.2  0.092 -9.000 -9.000 -999.   67.     16.0  0.23   2.69
1.00    0.90  161.    9.1  282.0    5.5
 12 01 01   1 07   -1.3  0.066 -9.000 -9.000 -999.   40.     18.2  0.23   2.69
1.00    0.40  273.    9.1  282.0    5.5
 12 01 01   1 08   -3.6  0.091 -9.000 -9.000 -999.   66.     18.3  0.23   2.69
0.54    0.90  113.    9.1  283.8    5.5
 12 01 01   1 09   39.6  0.087  0.358  0.016   40.   61.     -1.4  0.23   2.69
0.33    0.40  336.    9.1  285.9    5.5
 12 01 01   1 10  110.7  0.206  0.740  0.007  127.  225.     -6.9  0.23   2.69
0.25    1.30  158.    9.1  291.4    5.5
```

```
 12 01 01   1 11  161.7  0.105  1.203  0.005  374.   87.     -1.0  0.23   2.69
0.23    0.40   33.    9.1  297.0    5.5
 12 01 01   1 12  185.5  0.271  1.535  0.005  676.  339.     -9.3  0.23   2.69
0.22    1.80  313.    9.1  298.8    5.5
 12 01 01   1 13  183.9  0.219  1.828  0.005 1154.  247.     -4.9  0.23   2.69
0.22    1.30  250.    9.1  300.4    5.5
 12 01 01   1 14  156.6  0.266  1.869  0.005 1446.  330.    -10.4  0.23   2.69
0.23    1.80  217.    9.1  301.4    5.5
 12 01 01   1 15  104.7  0.256  1.677  0.005 1562.  311.    -13.8  0.23   2.69
0.27    1.80  248.    9.1  302.0    5.5
 12 01 01   1 16   32.7  0.319  1.147  0.005 1596.  433.    -85.9  0.23   2.69
0.36    2.70  235.    9.1  302.0    5.5
 12 01 01   1 17  -15.5  0.190 -9.000 -9.000 -999.  208.     39.6  0.23   2.69
0.63    1.80   46.    9.1  299.2    5.5
 12 01 01   1 18   -4.1  0.092 -9.000 -9.000 -999.   73.     16.2  0.23   2.69
1.00    0.90  107.    9.1  294.9    5.5
 12 01 01   1 19 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.23   2.69
1.00  999.00  999.   -9.0  292.5    5.5
 12 01 01   1 20   -4.2  0.092 -9.000 -9.000 -999.   67.     16.1  0.23   2.69
1.00    0.90  323.    9.1  290.4    5.5
 12 01 01   1 21   -8.8  0.133 -9.000 -9.000 -999.  116.     23.2  0.23   2.69
1.00    1.30   34.    9.1  287.5    5.5
 12 01 01   1 22   -1.3  0.065 -9.000 -9.000 -999.   41.     18.1  0.23   2.69
1.00    0.40  359.    9.1  286.4    5.5
 12 01 01   1 23   -1.3  0.065 -9.000 -9.000 -999.   40.     18.1  0.23   2.69
1.00    0.40  351.    9.1  285.4    5.5
 12 01 01   1 24   -4.2  0.092 -9.000 -9.000 -999.   67.     16.0  0.23   2.69
1.00    0.90   11.    9.1  284.9    5.5


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 12 01 01 01    5.5 0 -999.  -99.00   284.3   99.0  -99.00  -99.00
 12 01 01 01    9.1 1   78.    0.40  -999.0   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
↑ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 10, RIV
SR-15\Segment 10, RIV SR-15.isc ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                       ***        12:46:34

                                  PAGE  10
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                  INCLUDING SOURCE(S):     L0000001    , L0000002
 , L0000003    , L0000004    , L0000005    ,
                 L0000006    , L0000007    , L0000008    , L0000009    , L0000010
 , L0000011    , L0000012    , L0000013    ,
```

L0000014 , L0000015 , L0000016 , L0000017 , L0000018
, L0000019 , L0000020 , L0000021 ,
L0000022 , L0000023 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
485942.59	3705763.25	81.27569	485942.59	3705863.25	90.95438
485942.59	3705963.25	102.93225	485942.59	3706063.25	118.30673
485942.59	3706163.25	137.65147	485942.59	3706263.25	161.06050
485942.59	3706363.25	188.88127	485942.59	3706463.25	220.72149
485942.59	3706563.25	239.76902	486042.59	3705663.25	88.38107
486042.59	3705763.25	99.68760	486042.59	3705863.25	113.76881
486042.59	3705963.25	132.95856	486042.59	3706063.25	160.50939
486042.59	3706163.25	201.46743	486042.59	3706263.25	262.79470
486042.59	3706363.25	362.60659	486042.59	3706463.25	571.82691
486042.59	3706563.25	213.89177	486142.59	3705563.25	96.00513
486142.59	3705663.25	109.24581	486142.59	3705763.25	125.21845
486142.59	3705863.25	146.08585	486142.59	3705963.25	176.60659
486142.59	3706063.25	229.18798	486142.59	3706163.25	336.53331
486142.59	3706263.25	595.66766	486142.59	3706363.25	408.27565
486142.59	3706463.25	381.48684	486142.59	3706563.25	394.15276
486242.59	3705563.25	121.56821	486242.59	3705663.25	140.88853
486242.59	3705763.25	164.14358	486242.59	3705863.25	195.10483
486242.59	3705963.25	245.17286	486242.59	3706063.25	352.44908

```
         486242.59    3706163.25      511.19561                      486242.59
3706263.25      487.23374
         486242.59    3706363.25      746.91327                      486242.59
3706463.25      427.89554
         486242.59    3706563.25      272.17526                      486342.59
3705563.25      164.20977
         486342.59    3705663.25      195.15419                      486342.59
3705763.25      232.74778
         486342.59    3705863.25      284.58808                      486342.59
3705963.25      374.37497
         486342.59    3706063.25      631.62865                      486342.59
3706163.25      522.62420
         486342.59    3706263.25      616.74043                      486342.59
3706363.25      357.50186
         486342.59    3706463.25      245.94293                      486342.59
3706563.25      176.43367
         486442.59    3705563.25      250.13650                      486442.59
3705663.25      313.07191
         486442.59    3705763.25      399.88964                      486442.59
3705863.25      538.07220
         486442.59    3705963.25      601.74760                      486442.59
3706063.25      491.71537
         486442.59    3706163.25      514.74547                      486442.59
3706263.25      349.49074
         486442.59    3706363.25      228.31122                      486442.59
3706463.25      165.67773
         486442.59    3706563.25      127.24301                      486542.59
3705563.25      521.63147
         486542.59    3705663.25      369.58005                      486542.59
3705763.25      465.49897
         486542.59    3705863.25      451.73403                      486542.59
3705963.25      426.20058
         486542.59    3706063.25      597.13496                      486542.59
3706163.25      335.52762
         486542.59    3706263.25      214.42250                      486542.59
3706363.25      154.06278
         486542.59    3706463.25      119.66448                      486542.59
3706563.25       95.12726
         486642.59    3705563.25      407.77441                      486642.59
3705663.25      601.33851
         486642.59    3705763.25      661.73981                      486642.59
3705863.25      478.84793
         486642.59    3705963.25      363.09870                      486642.59
3706063.25      270.83761
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 10, RIV
SR-15\Segment 10, RIV SR-15.isc ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                       ***       12:46:34

                                  PAGE  11
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): L0000001 , L0000002 , L0000003 , L0000004 , L0000005 ,
L0000006 , L0000007 , L0000008 , L0000009 , L0000010 , L0000011 , L0000012 , L0000013 ,
L0000014 , L0000015 , L0000016 , L0000017 , L0000018 , L0000019 , L0000020 , L0000021 ,
L0000022 , L0000023 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
486642.59	3706163.25	195.16081	486642.59	3706263.25	146.18211
486642.59	3706363.25	112.80558	486642.59	3706463.25	91.27702
486642.59	3706563.25	75.42923	486742.59	3705563.25	432.95344
486742.59	3705663.25	353.64055	486742.59	3705763.25	292.35818
486742.59	3705863.25	245.18583	486742.59	3705963.25	200.80745
486742.59	3706063.25	162.91246	486742.59	3706163.25	130.95765
486742.59	3706263.25	105.34007	486742.59	3706363.25	86.71639
486742.59	3706463.25	72.33106	486842.59	3705563.25	214.87871
486842.59	3705663.25	194.79584	486842.59	3705763.25	174.95206
486842.59	3705863.25	153.27269	486842.59	3705963.25	130.63301
486842.59	3706063.25	110.38635	486842.59	3706163.25	93.13087
486842.59	3706263.25	78.53188	486842.59	3706363.25	67.28733
486842.59	3706463.25	57.91153	486842.59	3706563.25	50.62126
486942.59	3705563.25	135.97391	486942.59	3705663.25	130.03069

```
         486942.59    3705763.25      119.08457                      486942.59
3705863.25      105.40221
         486942.59    3705963.25       91.98152                      486942.59
3706063.25       80.25095
         486942.59    3706163.25       69.85086                      486942.59
3706263.25       60.83672
         486942.59    3706363.25       53.18484                      486942.59
3706463.25       47.48280
         486942.59    3706563.25       41.79220                      485942.59
3706813.25       96.18330
         485942.59    3707063.25       47.73210                      486192.59
3706813.25       98.15370
         487192.59    3706813.25       19.99837                      487192.59
3707063.25       21.16047
         487442.59    3706813.25       20.72819                      487442.59
3707063.25       15.04976
         487192.59    3706563.25       27.56184                      487192.59
3706313.25       33.46650
         487192.59    3706063.25       42.96711                      487192.59
3705813.25       53.91505
         487192.59    3705563.25       60.93092                      487192.59
3705313.25       60.26121
         487192.59    3705063.25       50.71571                      487442.59
3706563.25       19.06716
         487442.59    3706313.25       21.11876                      487442.59
3706063.25       25.06623
         487442.59    3705813.25       29.65653                      487442.59
3705563.25       33.05320
         487442.59    3705313.25       35.25696                      487442.59
3705063.25       36.23035
         486942.59    3705313.25      119.14713                      486942.59
3705063.25       68.58196
         486692.59    3705313.25      284.52269                      486692.59
3705063.25       84.39291
         486442.59    3705313.25      135.10890                      486442.59
3705063.25       67.99281
         486192.59    3705313.25       72.08802                      485692.59
3706063.25       64.13180
         485692.59    3706313.25       72.78617                      485692.59
3706563.25       70.45167
         485692.59    3706813.25       55.01344                      485692.59
3707063.25       39.25784
         485442.59    3706313.25       34.95825                      485442.59
3706563.25       39.92779
         485442.59    3706813.25       34.59257                      485442.59
3707063.25       28.82146
         486819.26    3705387.37      271.95333                      486939.24
3705392.71      131.53276
         487038.01    3705367.50       90.76064                      487117.02
3705376.22       73.76901
```

                  *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   L0000001   , L0000002
 , L0000003   , L0000004   , L0000005   ,
                  L0000006   , L0000007   , L0000008   , L0000009   , L0000010
 , L0000011   , L0000012   , L0000013   ,
                  L0000014   , L0000015   , L0000016   , L0000017   , L0000018
 , L0000019   , L0000020   , L0000021   ,
                  L0000022   , L0000023   ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                         ** CONC OF PM_10   IN MICROGRAMS/M**3
                   **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)
Y-COORD (M)   CONC
 -
- -
         486296.24   3706267.71   423.04625   486453.36
3706129.83   386.69233
         486738.75   3705305.72   226.14276   486681.03
3705305.72   259.16082
         486405.26   3706072.11   472.10113   486164.76
3706296.57   400.64929

                                  *** THE SUMMARY OF MAXIMUM ANNUAL RESULTS
AVERAGED OVER   5 YEARS ***

                                   ** CONC OF PM_10   IN MICROGRAMS/M**3
               **

```
                         NETWORK
GROUP ID                       AVERAGE CONC                RECEPTOR  (XR, YR,
ZELEV, ZHILL, ZFLAG)  OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -

ALL       1ST HIGHEST VALUE IS     746.91327 AT (  486242.59,  3706363.25,
312.31,   548.00,    0.00)  DC
          2ND HIGHEST VALUE IS     661.73981 AT (  486642.59,  3705763.25,
311.01,   548.00,    0.00)  DC
          3RD HIGHEST VALUE IS     631.62865 AT (  486342.59,  3706063.25,
308.94,   548.00,    0.00)  DC
          4TH HIGHEST VALUE IS     616.74043 AT (  486342.59,  3706263.25,
313.05,   548.00,    0.00)  DC
          5TH HIGHEST VALUE IS     601.74760 AT (  486442.59,  3705963.25,
310.16,   548.00,    0.00)  DC
          6TH HIGHEST VALUE IS     601.33851 AT (  486642.59,  3705663.25,
309.38,   548.00,    0.00)  DC
          7TH HIGHEST VALUE IS     597.13496 AT (  486542.59,  3706063.25,
315.78,   548.00,    0.00)  DC
          8TH HIGHEST VALUE IS     595.66766 AT (  486142.59,  3706263.25,
307.86,   548.00,    0.00)  DC
          9TH HIGHEST VALUE IS     571.82691 AT (  486042.59,  3706463.25,
307.41,   548.00,    0.00)  DC
         10TH HIGHEST VALUE IS     538.07220 AT (  486442.59,  3705863.25,
308.00,   548.00,    0.00)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
↑ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 10, RIV
SR-15\Segment 10, RIV SR-15.isc ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                       ***        12:46:34

                                   PAGE  14
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

 *** Message Summary : AERMOD Model Execution ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of            2 Warning Message(s)
 A Total of         1763 Informational Message(s)
```

```
A Total of        43848 Hours Were Processed

A Total of          884 Calm Hours Identified

A Total of          879 Missing Hours Identified (  2.00 Percent)


   ******** FATAL ERROR MESSAGES ********
              ***  NONE  ***


   ********   WARNING MESSAGES   ********
ME W186     128       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used
     0.50
ME W187     128       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET


   ***********************************
   *** AERMOD Finishes Successfully ***
   ***********************************
```

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.7.0
** Lakes Environmental Software Inc.
** Date: 10/28/2019
** File: C:\Lakes\AERMOD View\Segment 11, RIV SR-91\Segment 11, RIV SR-91.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\Segment 11, RIV SR-91\Segment 11, RIV SR-91.isc
   MODELOPT DFAULT CONC
   AVERTIME ANNUAL
   URBANOPT 167836
   POLLUTID PM_10
   RUNORNOT RUN
   ERRORFIL "Segment 11, RIV SR-91.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
** ----------------------------------------------------------------------
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE1
** DESCRSRC
** PREFIX
** Length of Side = 88.00
** Configuration = Adjacent
** Emission Rate = 17.0
** Vertical Dimension = 2.00
** SZINIT = 0.93
** Nodes = 4
** 439605.860, 3749087.510, 145.98, 2.00, 40.93
** 439319.940, 3748990.740, 152.21, 2.00, 40.93
** 439157.810, 3748873.960, 162.15, 2.00, 40.93
** 438455.860, 3748176.300, 148.34, 2.00, 40.93
```

```
** ----------------------------------------------------------------
   LOCATION L0000001     VOLUME   439564.182 3749073.404 146.43
   LOCATION L0000002     VOLUME   439480.827 3749045.192 147.37
   LOCATION L0000003     VOLUME   439397.472 3749016.981 148.76
   LOCATION L0000004     VOLUME   439314.951 3748987.147 152.62
   LOCATION L0000005     VOLUME   439243.546 3748935.715 157.07
   LOCATION L0000006     VOLUME   439172.141 3748884.282 161.21
   LOCATION L0000007     VOLUME   439107.921 3748824.376 166.13
   LOCATION L0000008     VOLUME   439045.505 3748762.341 169.05
   LOCATION L0000009     VOLUME   438983.089 3748700.307 165.11
   LOCATION L0000010     VOLUME   438920.673 3748638.273 165.86
   LOCATION L0000011     VOLUME   438858.257 3748576.238 155.79
   LOCATION L0000012     VOLUME   438795.842 3748514.204 150.51
   LOCATION L0000013     VOLUME   438733.426 3748452.169 146.92
   LOCATION L0000014     VOLUME   438671.010 3748390.135 144.94
   LOCATION L0000015     VOLUME   438608.594 3748328.101 143.49
   LOCATION L0000016     VOLUME   438546.178 3748266.066 144.53
   LOCATION L0000017     VOLUME   438483.762 3748204.032 147.91
** End of LINE VOLUME Source ID = SLINE1
** Source Parameters **
** LINE VOLUME Source ID = SLINE1
   SRCPARAM L0000001          1.0      2.00     40.93      0.93
   SRCPARAM L0000002          1.0      2.00     40.93      0.93
   SRCPARAM L0000003          1.0      2.00     40.93      0.93
   SRCPARAM L0000004          1.0      2.00     40.93      0.93
   SRCPARAM L0000005          1.0      2.00     40.93      0.93
   SRCPARAM L0000006          1.0      2.00     40.93      0.93
   SRCPARAM L0000007          1.0      2.00     40.93      0.93
   SRCPARAM L0000008          1.0      2.00     40.93      0.93
   SRCPARAM L0000009          1.0      2.00     40.93      0.93
   SRCPARAM L0000010          1.0      2.00     40.93      0.93
   SRCPARAM L0000011          1.0      2.00     40.93      0.93
   SRCPARAM L0000012          1.0      2.00     40.93      0.93
   SRCPARAM L0000013          1.0      2.00     40.93      0.93
   SRCPARAM L0000014          1.0      2.00     40.93      0.93
   SRCPARAM L0000015          1.0      2.00     40.93      0.93
   SRCPARAM L0000016          1.0      2.00     40.93      0.93
   SRCPARAM L0000017          1.0      2.00     40.93      0.93
** ----------------------------------------------------------------
   URBANSRC ALL
   SRCGROUP ALL
SO FINISHED
**
************************************
** AERMOD Receptor Pathway
************************************
**
**
RE STARTING
   INCLUDED "Segment 11, RIV SR-91.rou"
```

```
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE "C:\Users\kheck\Desktop\MET
Data\FullertonAirportADJU\KFUL_V9_ADJU\KFUL_v9.SFC"
   PROFFILE "C:\Users\kheck\Desktop\MET
Data\FullertonAirportADJU\KFUL_V9_ADJU\KFUL_v9.PFL"
   SURFDATA 3166 2012
   UAIRDATA 3190 2012
   PROFBASE 27.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
** Auto-Generated Plotfiles
   PLOTFILE ANNUAL ALL "Segment 11, RIV SR-91.AD\AN00GALL.PLT" 31
   SUMMFILE "Segment 11, RIV SR-91.sum"
OU FINISHED


  *** Message Summary For AERMOD Model Setup ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of            2 Warning Message(s)
 A Total of            0 Informational Message(s)


    ******** FATAL ERROR MESSAGES ********
               ***  NONE  ***


    ********   WARNING MESSAGES   ********
 ME W186     114       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used
      0.50
 ME W187     114       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET


 **********************************
 *** SETUP Finishes Successfully ***
```

```
 **********************************

↑ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 11, RIV
SR-91\Segment 11, RIV SR-91.isc ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                        ***        13:06:10

                                   PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                          ***     MODEL SETUP OPTIONS SUMMARY
  ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - -

 **Model Is Setup For Calculation of Average CONCentration Values.

   --  DEPOSITION LOGIC  --
 **NO GAS DEPOSITION Data Provided.
 **NO PARTICLE DEPOSITION Data Provided.
 **Model Uses NO DRY DEPLETION.  DRYDPLT  =  F
 **Model Uses NO WET DEPLETION.  WETDPLT  =  F

 **Model Uses URBAN Dispersion Algorithm for the SBL for    17 Source(s),
   for Total of    1 Urban Area(s):
   Urban Population =    167836.0 ;  Urban Roughness Length =  1.000 m

 **Model Uses Regulatory DEFAULT Options:
         1. Stack-tip Downwash.
         2. Model Accounts for ELEVated Terrain Effects.
         3. Use Calms Processing Routine.
         4. Use Missing Data Processing Routine.
         5. No Exponential Decay.
         6. Urban Roughness Length of 1.0 Meter Assumed.

 **Other Options Specified:
         ADJ_U*   - Use ADJ_U* option for SBL in AERMET
         CCVR_Sub - Meteorological data includes CCVR substitutions
         TEMP_Sub - Meteorological data includes TEMP substitutions

 **Model Assumes No FLAGPOLE Receptor Heights.

 **The User Specified a Pollutant Type of:  PM_10

 **Model Calculates ANNUAL Averages Only

 **This Run Includes:     17 Source(s);       1 Source Group(s); and      79
Receptor(s)

                with:      0 POINT(s), including
```

```
                          0 POINTCAP(s) and      0 POINTHOR(s)
                and:     17 VOLUME source(s)
                and:      0 AREA type source(s)
                and:      0 LINE source(s)
                and:      0 OPENPIT source(s)
                and:      0 BUOYANT LINE source(s) with      0 line(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  16216

 **Output Options Selected:
         Model Outputs Tables of ANNUAL Averages by Receptor
         Model Outputs External File(s) of High Values for Plotting (PLOTFILE
Keyword)
         Model Outputs Separate Summary File of High Ranked Values (SUMMFILE
Keyword)

 **NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                 m for Missing
Hours
                                                                 b for Both Calm
and Missing Hours

 **Misc. Inputs:  Base Elev. for Pot. Temp. Profile (m MSL) =    27.00 ;  Decay
Coef. =    0.000     ;  Rot. Angle =     0.0
                 Emission Units = GRAMS/SEC                                ;
Emission Rate Unit Factor =   0.10000E+07
                 Output Units   = MICROGRAMS/M**3

 **Approximate Storage Requirements of Model =      3.5 MB of RAM.

 **Input Runstream File:          aermod.inp

 **Output Print File:             aermod.out


 **Detailed Error/Message File:   Segment 11, RIV SR-91.err

 **File for Summary of Results:   Segment 11, RIV SR-91.sum

↟ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 11, RIV
SR-91\Segment 11, RIV SR-91.isc ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                        ***        13:06:10

                                   PAGE   2
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*
```

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE VARY BY	EMISSION RATE SCALAR
L0000001	0	0.10000E+01	439564.2	3749073.4	146.4	2.00	40.93	0.93	YES	
L0000002	0	0.10000E+01	439480.8	3749045.2	147.4	2.00	40.93	0.93	YES	
L0000003	0	0.10000E+01	439397.5	3749017.0	148.8	2.00	40.93	0.93	YES	
L0000004	0	0.10000E+01	439315.0	3748987.1	152.6	2.00	40.93	0.93	YES	
L0000005	0	0.10000E+01	439243.5	3748935.7	157.1	2.00	40.93	0.93	YES	
L0000006	0	0.10000E+01	439172.1	3748884.3	161.2	2.00	40.93	0.93	YES	
L0000007	0	0.10000E+01	439107.9	3748824.4	166.1	2.00	40.93	0.93	YES	
L0000008	0	0.10000E+01	439045.5	3748762.3	169.1	2.00	40.93	0.93	YES	
L0000009	0	0.10000E+01	438983.1	3748700.3	165.1	2.00	40.93	0.93	YES	
L0000010	0	0.10000E+01	438920.7	3748638.3	165.9	2.00	40.93	0.93	YES	
L0000011	0	0.10000E+01	438858.3	3748576.2	155.8	2.00	40.93	0.93	YES	
L0000012	0	0.10000E+01	438795.8	3748514.2	150.5	2.00	40.93	0.93	YES	
L0000013	0	0.10000E+01	438733.4	3748452.2	146.9	2.00	40.93	0.93	YES	
L0000014	0	0.10000E+01	438671.0	3748390.1	144.9	2.00	40.93	0.93	YES	
L0000015	0	0.10000E+01	438608.6	3748328.1	143.5	2.00	40.93	0.93	YES	
L0000016	0	0.10000E+01	438546.2	3748266.1	144.5	2.00	40.93	0.93	YES	
L0000017	0	0.10000E+01	438483.8	3748204.0	147.9	2.00	40.93	0.93	YES	

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs
ALL	L0000001 , L0000002 , L0000003 , L0000004 , L0000005 , L0000006 , L0000007 , L0000008 , L0000009 , L0000010 , L0000011 , L0000012 , L0000013 , L0000014 , L0000015 , L0000016 , L0000017 ,

*** SOURCE IDs DEFINED AS URBAN SOURCES ***

URBAN ID	URBAN POP	SOURCE IDs
1	167836.	L0000001 , L0000002 , L0000003 , L0000004 , L0000005 , L0000006 , L0000007 , L0000008 , L0000009 , L0000010 , L0000011 , L0000012 , L0000013 , L0000014 , L0000015 , L0000016 , L0000017 ,

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(438647.9, 3748465.2, 132.2, 1142.1, 0.0); (438647.9, 3748565.2, 131.6, 1142.1, 0.0);
(438647.9, 3748665.2, 133.0, 1142.1, 0.0); (438647.9, 3748765.2, 134.3, 1142.1, 0.0);
(438647.9, 3748865.2, 136.5, 1142.1, 0.0); (438647.9, 3748965.2, 140.7, 1142.1, 0.0);
(438647.9, 3749065.2, 173.6, 1142.1, 0.0); (438647.9, 3749165.2, 177.8, 1142.1, 0.0);
(438647.9, 3749265.2, 171.6, 1142.1, 0.0); (438647.9, 3749365.2, 145.2, 1142.1, 0.0);
(438747.9, 3748565.2, 135.7, 1142.1, 0.0); (438747.9, 3748665.2, 135.6, 1142.1, 0.0);
(438747.9, 3748765.2, 135.2, 1142.1, 0.0); (438747.9, 3748865.2, 139.1, 1142.1, 0.0);
(438747.9, 3748965.2, 145.5, 1142.1, 0.0); (438747.9, 3749065.2, 157.3, 1142.1, 0.0);
(438747.9, 3749165.2, 152.5, 1142.1, 0.0); (438747.9, 3749265.2, 152.9, 1142.1, 0.0);
(438747.9, 3749365.2, 143.7, 1142.1, 0.0); (438847.9, 3748665.2, 153.6, 1142.1, 0.0);
(438847.9, 3748765.2, 146.9, 1142.1, 0.0); (438847.9, 3748865.2, 163.9, 1142.1, 0.0);
(438847.9, 3748965.2, 154.9, 1142.1, 0.0); (438847.9, 3749065.2, 153.0, 1142.1, 0.0);
(438847.9, 3749165.2, 148.4, 1142.1, 0.0); (438847.9, 3749265.2, 144.1, 1142.1, 0.0);
(438847.9, 3749365.2, 140.8, 1142.1, 0.0); (438947.9, 3748765.2, 172.4, 1142.1, 0.0);
(438947.9, 3748865.2, 165.7, 1142.1, 0.0); (438947.9, 3748965.2, 160.5, 1142.1, 0.0);
(438947.9, 3749065.2, 153.7, 1142.1, 0.0); (438947.9, 3749165.2, 145.7, 1142.1, 0.0);
(438947.9, 3749265.2, 142.0, 1142.1, 0.0); (438947.9, 3749365.2, 140.9, 1142.1, 0.0);
(439047.9, 3748765.2, 169.1, 1142.1, 0.0); (439047.9, 3748865.2, 163.5, 1142.1, 0.0);
(439047.9, 3748965.2, 155.5, 1142.1, 0.0); (439047.9, 3749065.2, 152.2, 1142.1, 0.0);
(439047.9, 3749165.2, 144.7, 1142.1, 0.0); (439047.9, 3749265.2, 140.4, 1142.1, 0.0);
(439047.9, 3749365.2, 137.2, 1142.1, 0.0); (439147.9, 3748765.2, 170.4, 1142.1, 0.0);
(439147.9, 3748865.2, 162.7, 1142.1, 0.0); (439147.9, 3748965.2, 155.1, 1142.1, 0.0);
(439147.9, 3749065.2, 151.1, 1142.1, 0.0); (439147.9,

3749165.2,   143.7,   1142.1,   0.0);
     (439147.9, 3749265.2,   138.1,   1142.1,   0.0);   (439247.9,
3748765.2,   167.2,   1142.1,   0.0);
     (439247.9, 3748865.2,   162.6,   1142.1,   0.0);   (439247.9,
3748965.2,   154.1,   1142.1,   0.0);
     (439247.9, 3749065.2,   150.3,   1142.1,   0.0);   (439247.9,
3749165.2,   143.7,   1142.1,   0.0);
     (439347.9, 3748765.2,   165.5,   1142.1,   0.0);   (439347.9,
3748865.2,   160.0,   1142.1,   0.0);
     (439347.9, 3748965.2,   154.1,   1142.1,   0.0);   (439347.9,
3749165.2,   141.3,   1142.1,   0.0);
     (439447.9, 3748765.2,   162.9,   1142.1,   0.0);   (439547.9,
3748765.2,   164.4,   1142.1,   0.0);
     (439547.9, 3748865.2,   158.2,   1142.1,   0.0);   (439647.9,
3748765.2,   162.1,   1142.1,   0.0);
     (439647.9, 3748865.2,   157.4,   1142.1,   0.0);   (439897.9,
3749115.2,   144.0,   1142.1,   0.0);
     (439897.9, 3748865.2,   157.7,   1142.1,   0.0);   (440147.9,
3749115.2,   144.3,   1142.1,   0.0);
     (440147.9, 3748865.2,   164.4,   1142.1,   0.0);   (440147.9,
3748615.2,   180.5,   1142.1,   0.0);
     (440147.9, 3748365.2,   248.4,   1142.1,   0.0);   (438397.9,
3748115.2,   146.1,   1142.1,   0.0);
     (438397.9, 3748365.2,   130.2,   1142.1,   0.0);   (438397.9,
3748615.2,   131.0,   1142.1,   0.0);
     (438397.9, 3748865.2,   133.3,   1142.1,   0.0);   (440139.1,
3748683.9,   179.3,   1142.1,   0.0);
     (440002.2, 3748591.4,   218.4,   1142.1,   0.0);   (440259.3,
3748774.5,   213.0,   1142.1,   0.0);
     (440224.2, 3748719.1,   219.6,   1142.1,   0.0);   (440054.0,
3748543.3,   228.3,   1142.1,   0.0);
     (440109.5, 3748565.5,   215.8,   1142.1,   0.0);   (440187.2,
3748672.8,   202.0,   1142.1,   0.0);
     (439987.4, 3748878.1,   158.8,   1142.1,   0.0);

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

                     * SOURCE-RECEPTOR COMBINATIONS FOR WHICH CALCULATIONS MAY NOT
BE PERFORMED *
                       LESS THAN 1.0 METER; WITHIN OPENPIT; OR BEYOND 80KM FOR
FASTAREA/FASTALL

                                SOURCE   - - RECEPTOR LOCATION - -

ID	XR (METERS)	YR (METERS)	DISTANCE (METERS)
L0000003	439347.9	3748965.2	-16.36
L0000004	439247.9	3748965.2	-17.47
L0000004	439347.9	3748965.2	-48.43
L0000005	439247.9	3748865.2	-17.40
L0000005	439247.9	3748965.2	-58.14
L0000006	439147.9	3748865.2	-57.19
L0000006	439147.9	3748965.2	-3.48
L0000006	439247.9	3748865.2	-9.88
L0000007	439047.9	3748765.2	-3.75
L0000007	439047.9	3748865.2	-15.39
L0000007	439147.9	3748765.2	-16.62
L0000007	439147.9	3748865.2	-30.82
L0000008	439047.9	3748765.2	-84.23
L0000009	438947.9	3748765.2	-14.14
L0000010	438847.9	3748665.2	-10.40
L0000012	438747.9	3748565.2	-17.98
L0000013	438647.9	3748465.2	-1.49
L0000014	438647.9	3748465.2	-9.41

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***

(1=YES; 0=NO)

```
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
```

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***

(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: C:\Users\kheck\Desktop\MET Data\FullertonAirportADJU\KFUL_V9_ADJU\KFUL_v9.SFC Met Version: 16216
Profile file: C:\Users\kheck\Desktop\MET Data\FullertonAirportADJU\KFUL_V9_ADJU\KFUL_v9.PFL
Surface format: FREE

Profile format: FREE

Surface station no.: 3166 Upper air station no.: 3190
Name: UNKNOWN Name: UNKNOWN

Year: 2012 Year: 2012

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
12	01	01	1	01	-4.8	0.098	-9.000	-9.000	-999.	74.	18.0	0.26	2.61	1.00	0.96	322.	10.1	283.8	2.0
12	01	01	1	02	-1.9	0.072	-9.000	-9.000	-999.	47.	18.0	0.26	2.61	1.00	0.52	13.	10.1	283.1	2.0
12	01	01	1	03	-3.1	0.083	-9.000	-9.000	-999.	57.	16.3	0.26	2.61	1.00	0.75	73.	10.1	282.0	2.0
12	01	01	1	04	-4.3	0.094	-9.000	-9.000	-999.	69.	17.3	0.26	2.61	1.00	0.91	98.	10.1	281.4	2.0
12	01	01	1	05	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.26	2.61	1.00	0.00	0.	10.1	280.9	2.0
12	01	01	1	06	-2.1	0.074	-9.000	-9.000	-999.	48.	17.6	0.26	2.61	1.00	0.55	80.	10.1	280.4	2.0
12	01	01	1	07	-2.8	0.080	-9.000	-9.000	-999.	54.	16.3	0.26	2.61	1.00	0.69	201.	10.1	280.4	2.0
12	01	01	1	08	-1.5	0.066	-9.000	-9.000	-999.	41.	17.0	0.26	2.61	0.54	0.52	72.	10.1	280.9	2.0
12	01	01	1	09	37.4	-9.000	-9.000	-9.000	38.	-999.	-99999.0	0.26	2.61	0.31	0.00	0.	10.1	285.9	2.0
12	01	01	1	10	109.1	0.151	0.713	0.008	121.	141.	-2.9	0.26	2.61	0.24	0.79	268.	10.1	289.9	2.0
12	01	01	1	11	160.5	0.148	1.143	0.005	338.	136.	-1.8	0.26	2.61	0.21	0.70	273.	10.1	294.2	2.0
12	01	01	1	12	186.9	0.156	1.483	0.005	634.	148.	-1.8	0.26	2.61	0.20	0.74	230.	10.1	297.5	2.0
12	01	01	1	13	187.4	0.210	1.777	0.005	1088.	231.	-4.5	0.26	2.61	0.20	1.20	227.	10.1	300.4	2.0
12	01	01	1	14	160.3	0.235	1.833	0.005	1395.	274.	-7.4	0.26	2.61	0.21	1.47	233.	10.1	300.9	2.0
12	01	01	1	15	109.1	0.197	1.662	0.005	1527.	210.	-6.3	0.26	2.61	0.25	1.20	233.	10.1	302.0	2.0
12	01	01	1	16	33.3	0.243	1.125	0.005	1548.	288.	-39.2	0.26	2.61	0.33	1.91	229.	10.1	298.1	2.0
12	01	01	1	17	-9.1	0.141	-9.000	-9.000	-999.	132.	28.3	0.26	2.61	0.60	1.37	212.	10.1	294.2	2.0
12	01	01	1	18	-4.3	0.094	-9.000	-9.000	-999.	69.	17.5	0.26	2.61	1.00	0.91	190.	10.1	292.0	2.0
12	01	01	1	19	-2.8	0.079	-9.000	-9.000	-999.	54.	16.3	0.26	2.61	1.00	0.70	302.	10.1	289.2	2.0
12	01	01	1	20	-4.0	0.091	-9.000	-9.000	-999.	65.	17.0	0.26	2.61	1.00	0.87	338.	10.1	288.1	2.0

```
 12 01 01   1 21   -6.3  0.113 -9.000 -9.000 -999.   91.     20.5  0.26   2.61
1.00    1.11  304.   10.1  287.0    2.0
 12 01 01   1 22   -3.1  0.082 -9.000 -9.000 -999.   57.     16.3  0.26   2.61
1.00    0.75   76.   10.1  285.4    2.0
 12 01 01   1 23   -2.4  0.076 -9.000 -9.000 -999.   50.     16.7  0.26   2.61
1.00    0.62  306.   10.1  284.9    2.0
 12 01 01   1 24   -3.6  0.087 -9.000 -9.000 -999.   62.     16.6  0.26   2.61
1.00    0.82  318.   10.1  283.8    2.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 12 01 01 01   10.1 1  322.    0.96   283.8   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 11, RIV
SR-91\Segment 11, RIV SR-91.isc ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                       ***        13:06:10

                                  PAGE   9
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                    INCLUDING SOURCE(S):     L0000001    , L0000002
 , L0000003    , L0000004    , L0000005    ,
                 L0000006    , L0000007    , L0000008    , L0000009    , L0000010
 , L0000011    , L0000012    , L0000013    ,
                 L0000014    , L0000015    , L0000016    , L0000017    ,

                                           *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_10    IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                        X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
         438647.91    3748465.25      156.22891                      438647.91
3748565.25      197.03076
         438647.91    3748665.25      136.84189                      438647.91
3748765.25      104.58437
         438647.91    3748865.25       84.35576                      438647.91
3748965.25       70.43250
         438647.91    3749065.25       57.61610                      438647.91
3749165.25       41.77211
         438647.91    3749265.25       38.88883                      438647.91
```

3749365.25 35.54001
438747.91 3748565.25 241.54372 438747.91
3748665.25 203.50226
438747.91 3748765.25 139.76965 438747.91
3748865.25 108.16616
438747.91 3748965.25 88.11954 438747.91
3749065.25 78.09347
438747.91 3749165.25 60.79355 438747.91
3749265.25 49.89833
438747.91 3749365.25 39.73579 438847.91
3748665.25 303.43142
438847.91 3748765.25 214.41965 438847.91
3748865.25 166.12881
438847.91 3748965.25 119.32177 438847.91
3749065.25 90.77217
438847.91 3749165.25 68.37342 438847.91
3749265.25 54.23213
438847.91 3749365.25 44.09533 438947.91
3748765.25 274.87751
438947.91 3748865.25 241.96118 438947.91
3748965.25 162.92136
438947.91 3749065.25 112.34302 438947.91
3749165.25 80.20508
438947.91 3749265.25 61.68378 438947.91
3749365.25 49.42282
439047.91 3748765.25 240.23473 439047.91
3748865.25 286.93200
439047.91 3748965.25 223.14270 439047.91
3749065.25 141.88325
439047.91 3749165.25 96.01759 439047.91
3749265.25 70.44786
439047.91 3749365.25 54.28674 439147.91
3748765.25 235.45161
439147.91 3748865.25 201.36829 439147.91
3748965.25 266.36165
439147.91 3749065.25 191.77324 439147.91
3749165.25 116.99286
439147.91 3749265.25 80.11910 439247.91
3748765.25 191.82372
439247.91 3748865.25 164.73633 439247.91
3748965.25 211.69247
439247.91 3749065.25 292.00602 439247.91
3749165.25 145.77668
439347.91 3748765.25 131.56544 439347.91
3748865.25 224.70675
439347.91 3748965.25 203.43455 439347.91
3749165.25 176.07646
439447.91 3748765.25 100.73479 439547.91
3748765.25 77.35654
439547.91 3748865.25 112.65100 439647.91

```
3748765.25       62.80538
         439647.91    3748865.25       83.52595                       439897.91
3749115.25       43.47831
         439897.91    3748865.25       43.32446                       440147.91
3749115.25       24.25265
         440147.91    3748865.25       26.90939                       440147.91
3748615.25       20.87373
         440147.91    3748365.25       10.91984                       438397.91
3748115.25      111.36419
         438397.91    3748365.25      117.13998                       438397.91
3748615.25       71.10834
         438397.91    3748865.25       49.48683                       440139.09
3748683.91       22.12741
         440002.21    3748591.42       15.63233                       440259.32
3748774.55       13.47791
         440224.18    3748719.06       13.11138                       440054.00
3748543.33       13.84124
         440109.49    3748565.53       13.78903                       440187.18
3748672.81       15.38727
         439987.41    3748878.13       36.45170

 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 11, RIV
SR-91\Segment 11, RIV SR-91.isc ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                        ***        13:06:10

                                   PAGE  10
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                   *** THE SUMMARY OF MAXIMUM ANNUAL RESULTS
AVERAGED OVER   5 YEARS ***


                                    ** CONC OF PM_10    IN MICROGRAMS/M**3
              **


                        NETWORK
GROUP ID                      AVERAGE CONC                RECEPTOR  (XR, YR,
ZELEV, ZHILL, ZFLAG)  OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -

ALL       1ST HIGHEST VALUE IS     303.43142 AT (  438847.91,  3748665.25,
153.56,  1142.09,    0.00)  DC
          2ND HIGHEST VALUE IS     292.00602 AT (  439247.91,  3749065.25,
150.33,  1142.09,    0.00)  DC
          3RD HIGHEST VALUE IS     286.93200 AT (  439047.91,  3748865.25,
163.50,  1142.09,    0.00)  DC
          4TH HIGHEST VALUE IS     274.87751 AT (  438947.91,  3748765.25,
```

```
172.40,  1142.09,    0.00)  DC
          5TH HIGHEST VALUE IS     266.36165 AT (  439147.91,  3748965.25,
155.08,  1142.09,    0.00)  DC
          6TH HIGHEST VALUE IS     241.96118 AT (  438947.91,  3748865.25,
165.74,  1142.09,    0.00)  DC
          7TH HIGHEST VALUE IS     241.54372 AT (  438747.91,  3748565.25,
135.71,  1142.09,    0.00)  DC
          8TH HIGHEST VALUE IS     240.23473 AT (  439047.91,  3748765.25,
169.10,  1142.09,    0.00)  DC
          9TH HIGHEST VALUE IS     235.45161 AT (  439147.91,  3748765.25,
170.38,  1142.09,    0.00)  DC
         10TH HIGHEST VALUE IS     224.70675 AT (  439347.91,  3748865.25,
159.98,  1142.09,    0.00)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
↟ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 11, RIV
SR-91\Segment 11, RIV SR-91.isc ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                       ***        13:06:10

                                  PAGE  11
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

 *** Message Summary : AERMOD Model Execution ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of            2 Warning Message(s)
 A Total of         2285 Informational Message(s)

 A Total of        43848 Hours Were Processed

 A Total of         1588 Calm Hours Identified

 A Total of          697 Missing Hours Identified (  1.59 Percent)


    ******** FATAL ERROR MESSAGES ********
               ***  NONE  ***


    ********   WARNING MESSAGES   ********
 ME W186     114       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used
      0.50
 ME W187     114       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET
```

```
**********************************
*** AERMOD Finishes Successfully ***
**********************************
```

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.7.0
** Lakes Environmental Software Inc.
** Date: 10/28/2019
** File: C:\Lakes\AERMOD View\Segment 12, SB I-15 ONT\Segment 12, SB I-15 ONT.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\Segment 12, SB I-15 ONT\Segment 12, SB I-15 ONT
   MODELOPT DFAULT CONC
   AVERTIME ANNUAL
   URBANOPT 173212
   POLLUTID PM_10
   RUNORNOT RUN
   ERRORFIL "Segment 12, SB I-15 ONT.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
** ----------------------------------------------------------------------
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE1
** DESCRSRC
** PREFIX
** Length of Side = 61.00
** Configuration = Adjacent
** Emission Rate = 26.0
** Vertical Dimension = 2.00
** SZINIT = 0.93
** Nodes = 2
** 449719.320, 3771523.760, 326.41, 2.00, 28.37
** 449723.770, 3769911.980, 305.08, 2.00, 28.37
** ----------------------------------------------------------------------
   LOCATION L0000001     VOLUME   449719.404 3771493.260 326.01
```

```
   LOCATION L0000002     VOLUME   449719.573 3771432.260 325.20
   LOCATION L0000003     VOLUME   449719.741 3771371.261 324.39
   LOCATION L0000004     VOLUME   449719.909 3771310.261 323.58
   LOCATION L0000005     VOLUME   449720.078 3771249.261 322.78
   LOCATION L0000006     VOLUME   449720.246 3771188.261 321.97
   LOCATION L0000007     VOLUME   449720.415 3771127.262 321.16
   LOCATION L0000008     VOLUME   449720.583 3771066.262 320.36
   LOCATION L0000009     VOLUME   449720.752 3771005.262 319.55
   LOCATION L0000010     VOLUME   449720.920 3770944.262 318.74
   LOCATION L0000011     VOLUME   449721.088 3770883.262 317.93
   LOCATION L0000012     VOLUME   449721.257 3770822.263 317.13
   LOCATION L0000013     VOLUME   449721.425 3770761.263 316.32
   LOCATION L0000014     VOLUME   449721.594 3770700.263 315.51
   LOCATION L0000015     VOLUME   449721.762 3770639.263 314.70
   LOCATION L0000016     VOLUME   449721.930 3770578.264 313.90
   LOCATION L0000017     VOLUME   449722.099 3770517.264 313.09
   LOCATION L0000018     VOLUME   449722.267 3770456.264 312.28
   LOCATION L0000019     VOLUME   449722.436 3770395.264 311.48
   LOCATION L0000020     VOLUME   449722.604 3770334.265 310.67
   LOCATION L0000021     VOLUME   449722.773 3770273.265 309.86
   LOCATION L0000022     VOLUME   449722.941 3770212.265 309.05
   LOCATION L0000023     VOLUME   449723.109 3770151.265 308.25
   LOCATION L0000024     VOLUME   449723.278 3770090.265 307.44
   LOCATION L0000025     VOLUME   449723.446 3770029.266 306.63
   LOCATION L0000026     VOLUME   449723.615 3769968.266 305.82
** End of LINE VOLUME Source ID = SLINE1
** Source Parameters **
** LINE VOLUME Source ID = SLINE1
   SRCPARAM L0000001          1.0      2.00     28.37      0.93
   SRCPARAM L0000002          1.0      2.00     28.37      0.93
   SRCPARAM L0000003          1.0      2.00     28.37      0.93
   SRCPARAM L0000004          1.0      2.00     28.37      0.93
   SRCPARAM L0000005          1.0      2.00     28.37      0.93
   SRCPARAM L0000006          1.0      2.00     28.37      0.93
   SRCPARAM L0000007          1.0      2.00     28.37      0.93
   SRCPARAM L0000008          1.0      2.00     28.37      0.93
   SRCPARAM L0000009          1.0      2.00     28.37      0.93
   SRCPARAM L0000010          1.0      2.00     28.37      0.93
   SRCPARAM L0000011          1.0      2.00     28.37      0.93
   SRCPARAM L0000012          1.0      2.00     28.37      0.93
   SRCPARAM L0000013          1.0      2.00     28.37      0.93
   SRCPARAM L0000014          1.0      2.00     28.37      0.93
   SRCPARAM L0000015          1.0      2.00     28.37      0.93
   SRCPARAM L0000016          1.0      2.00     28.37      0.93
   SRCPARAM L0000017          1.0      2.00     28.37      0.93
   SRCPARAM L0000018          1.0      2.00     28.37      0.93
   SRCPARAM L0000019          1.0      2.00     28.37      0.93
   SRCPARAM L0000020          1.0      2.00     28.37      0.93
   SRCPARAM L0000021          1.0      2.00     28.37      0.93
   SRCPARAM L0000022          1.0      2.00     28.37      0.93
```

```
   SRCPARAM L0000023          1.0      2.00     28.37      0.93
   SRCPARAM L0000024          1.0      2.00     28.37      0.93
   SRCPARAM L0000025          1.0      2.00     28.37      0.93
   SRCPARAM L0000026          1.0      2.00     28.37      0.93
** ----------------------------------------------------------------
   URBANSRC ALL
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED "Segment 12, SB I-15 ONT.rou"
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE "C:\Users\kheck\Desktop\MET Data\FontanaADJU\FONT_V9_ADJU\FONT_v9.SFC"
   PROFFILE "C:\Users\kheck\Desktop\MET Data\FontanaADJU\FONT_V9_ADJU\FONT_v9.PFL"
   SURFDATA 3102 2011
   UAIRDATA 3190 2011
   SITEDATA 99999 2011
   PROFBASE 853.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
** Auto-Generated Plotfiles
   PLOTFILE ANNUAL ALL "Segment 12, SB I-15 ONT.AD\AN00GALL.PLT" 31
   SUMMFILE "Segment 12, SB I-15 ONT.sum"
OU FINISHED


  *** Message Summary For AERMOD Model Setup ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of            2 Warning Message(s)
```

```
 A Total of            0 Informational Message(s)


    ******** FATAL ERROR MESSAGES ********
               ***  NONE  ***


    ********   WARNING MESSAGES   ********
 ME W186     131       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used
      0.50
 ME W187     131       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET


 *********************************
 *** SETUP Finishes Successfully ***
 *********************************

 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 12, SB I-15
ONT\Segment 12, SB I-15 ONT ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                         ***        13:21:58

                                    PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                             ***     MODEL SETUP OPTIONS SUMMARY
  ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - -

 **Model Is Setup For Calculation of Average CONCentration Values.

   --  DEPOSITION LOGIC  --
 **NO GAS DEPOSITION Data Provided.
 **NO PARTICLE DEPOSITION Data Provided.
 **Model Uses NO DRY DEPLETION.  DRYDPLT  =  F
 **Model Uses NO WET DEPLETION.  WETDPLT  =  F

 **Model Uses URBAN Dispersion Algorithm for the SBL for    26 Source(s),
   for Total of    1 Urban Area(s):
   Urban Population =    173212.0 ;  Urban Roughness Length =  1.000 m

 **Model Uses Regulatory DEFAULT Options:
        1. Stack-tip Downwash.
        2. Model Accounts for ELEVated Terrain Effects.
        3. Use Calms Processing Routine.
        4. Use Missing Data Processing Routine.
        5. No Exponential Decay.
        6. Urban Roughness Length of 1.0 Meter Assumed.
```

```
 **Other Options Specified:
        ADJ_U*   - Use ADJ_U* option for SBL in AERMET
        TEMP_Sub - Meteorological data includes TEMP substitutions

 **Model Assumes No FLAGPOLE Receptor Heights.

 **The User Specified a Pollutant Type of:  PM_10

 **Model Calculates ANNUAL Averages Only

 **This Run Includes:     26 Source(s);       1 Source Group(s); and     205
Receptor(s)

               with:      0 POINT(s), including
                          0 POINTCAP(s) and      0 POINTHOR(s)
                and:     26 VOLUME source(s)
                and:      0 AREA type source(s)
                and:      0 LINE source(s)
                and:      0 OPENPIT source(s)
                and:      0 BUOYANT LINE source(s) with      0 line(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  16216

 **Output Options Selected:
         Model Outputs Tables of ANNUAL Averages by Receptor
         Model Outputs External File(s) of High Values for Plotting (PLOTFILE
Keyword)
         Model Outputs Separate Summary File of High Ranked Values (SUMMFILE
Keyword)

 **NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                 m for Missing
Hours
                                                                 b for Both Calm
and Missing Hours

 **Misc. Inputs:  Base Elev. for Pot. Temp. Profile (m MSL) =   853.00 ;  Decay
Coef. =    0.000     ;  Rot. Angle =     0.0
                 Emission Units = GRAMS/SEC                                ;
Emission Rate Unit Factor =   0.10000E+07
                 Output Units   = MICROGRAMS/M**3

 **Approximate Storage Requirements of Model =      3.5 MB of RAM.

 **Input Runstream File:          aermod.inp

 **Output Print File:             aermod.out
```

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0000001	0	0.10000E+01	449719.4	3771493.3	326.0	2.00	28.37	0.93	YES	
L0000002	0	0.10000E+01	449719.6	3771432.3	325.2	2.00	28.37	0.93	YES	
L0000003	0	0.10000E+01	449719.7	3771371.3	324.4	2.00	28.37	0.93	YES	
L0000004	0	0.10000E+01	449719.9	3771310.3	323.6	2.00	28.37	0.93	YES	
L0000005	0	0.10000E+01	449720.1	3771249.3	322.8	2.00	28.37	0.93	YES	
L0000006	0	0.10000E+01	449720.2	3771188.3	322.0	2.00	28.37	0.93	YES	
L0000007	0	0.10000E+01	449720.4	3771127.3	321.2	2.00	28.37	0.93	YES	
L0000008	0	0.10000E+01	449720.6	3771066.3	320.4	2.00	28.37	0.93	YES	
L0000009	0	0.10000E+01	449720.8	3771005.3	319.6	2.00	28.37	0.93	YES	
L0000010	0	0.10000E+01	449720.9	3770944.3	318.7	2.00	28.37	0.93	YES	
L0000011	0	0.10000E+01	449721.1	3770883.3	317.9	2.00	28.37	0.93	YES	
L0000012	0	0.10000E+01	449721.3	3770822.3	317.1	2.00	28.37	0.93	YES	

```
 L0000013         0   0.10000E+01  449721.4 3770761.3   316.3     2.00    28.37
0.93     YES
 L0000014         0   0.10000E+01  449721.6 3770700.3   315.5     2.00    28.37
0.93     YES
 L0000015         0   0.10000E+01  449721.8 3770639.3   314.7     2.00    28.37
0.93     YES
 L0000016         0   0.10000E+01  449721.9 3770578.3   313.9     2.00    28.37
0.93     YES
 L0000017         0   0.10000E+01  449722.1 3770517.3   313.1     2.00    28.37
0.93     YES
 L0000018         0   0.10000E+01  449722.3 3770456.3   312.3     2.00    28.37
0.93     YES
 L0000019         0   0.10000E+01  449722.4 3770395.3   311.5     2.00    28.37
0.93     YES
 L0000020         0   0.10000E+01  449722.6 3770334.3   310.7     2.00    28.37
0.93     YES
 L0000021         0   0.10000E+01  449722.8 3770273.3   309.9     2.00    28.37
0.93     YES
 L0000022         0   0.10000E+01  449722.9 3770212.3   309.1     2.00    28.37
0.93     YES
 L0000023         0   0.10000E+01  449723.1 3770151.3   308.2     2.00    28.37
0.93     YES
 L0000024         0   0.10000E+01  449723.3 3770090.3   307.4     2.00    28.37
0.93     YES
 L0000025         0   0.10000E+01  449723.4 3770029.3   306.6     2.00    28.37
0.93     YES
 L0000026         0   0.10000E+01  449723.6 3769968.3   305.8     2.00    28.37
0.93     YES
```


 *** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** SOURCE IDs DEFINING SOURCE GROUPS
***

 SRCGROUP ID   SOURCE IDs
 -----------   ----------

  ALL   L0000001   , L0000002   , L0000003   , L0000004   , L0000005   ,
L0000006   , L0000007   , L0000008   ,

             L0000009   , L0000010   , L0000011   , L0000012   , L0000013   ,
L0000014   , L0000015   , L0000016   ,

                                          *** SOURCE IDs DEFINED AS URBAN SOURCES
***

  URBAN ID   URBAN POP   SOURCE IDs
  --------   ---------   ----------

               173212.   L0000001   , L0000002   , L0000003   , L0000004   ,
L0000005   , L0000006   , L0000007   ,
 L0000008   ,

             L0000009   , L0000010   , L0000011   , L0000012   , L0000013   ,
L0000014   , L0000015   , L0000016   ,

             L0000017   , L0000018   , L0000019   , L0000020   , L0000021   ,
L0000022   , L0000023   , L0000024   ,

             L0000025   , L0000026   ,

                                            *** DISCRETE CARTESIAN RECEPTORS ***
                                          (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                       (METERS)

     (448451.0, 3771081.4,   319.5,   319.5,   0.0);   (448429.2,
3771103.1,   319.7,   319.7,   0.0);
     (448398.7, 3771075.8,   319.2,   319.2,   0.0);   (448450.2,
3771159.0,   320.6,   320.6,   0.0);
     (448401.4, 3771157.2,   320.5,   320.5,   0.0);   (448450.7,
3771207.8,   321.4,   321.4,   0.0);
     (448396.5, 3771215.5,   321.2,   321.2,   0.0);   (448424.5,

```
3771242.8,     321.9,     321.9,       0.0);
     ( 448378.0, 3771022.0,     318.3,     318.3,       0.0);         ( 448347.3,
3771019.3,     318.1,     318.1,       0.0);
     ( 448343.9, 3771051.1,     318.6,     318.6,       0.0);         ( 448353.3,
3771120.2,     319.7,     319.7,       0.0);
     ( 448333.4, 3771144.9,     319.9,     319.9,       0.0);         ( 448296.9,
3771133.9,     319.4,     319.4,       0.0);
     ( 448307.2, 3771056.4,     318.4,     318.4,       0.0);         ( 448267.0,
3771046.1,     317.9,     317.9,       0.0);
     ( 448265.1, 3771083.3,     318.6,     318.6,       0.0);         ( 448258.1,
3770988.3,     317.0,     317.0,       0.0);
     ( 448246.3, 3771025.6,     317.5,     317.5,       0.0);         ( 448211.9,
3771012.5,     317.2,     317.2,       0.0);
     ( 448288.7, 3770935.7,     316.5,     316.5,       0.0);         ( 448265.8,
3770903.7,     315.9,     315.9,       0.0);
     ( 448239.8, 3770936.2,     316.2,     316.2,       0.0);         ( 448189.1,
3770940.1,     316.1,     316.1,       0.0);
     ( 448162.4, 3770903.8,     315.6,     315.6,       0.0);         ( 448139.6,
3770939.1,     316.2,     316.2,       0.0);
     ( 448208.9, 3771064.0,     318.0,     318.0,       0.0);         ( 448240.2,
3771136.4,     319.4,     319.4,       0.0);
     ( 448276.1, 3771198.1,     320.1,     320.1,       0.0);         ( 448132.8,
3771030.3,     317.4,     317.4,       0.0);
     ( 448094.0, 3771023.7,     317.9,     317.9,       0.0);         ( 448084.6,
3771061.3,     319.4,     319.4,       0.0);
     ( 448158.4, 3771086.8,     318.6,     318.6,       0.0);         ( 448187.8,
3771121.3,     319.1,     319.1,       0.0);
     ( 448200.7, 3771159.8,     319.9,     319.9,       0.0);         ( 448190.9,
3771193.7,     320.3,     320.3,       0.0);
     ( 448234.1, 3771256.0,     321.2,     321.2,       0.0);         ( 448219.6,
3771296.6,     321.8,     321.8,       0.0);
     ( 448173.4, 3771231.0,     320.7,     320.7,       0.0);         ( 448136.2,
3771188.3,     320.1,     320.1,       0.0);
     ( 448096.1, 3771124.4,     319.4,     319.4,       0.0);         ( 448063.5,
3771089.2,     319.6,     319.6,       0.0);
     ( 447996.7, 3771051.8,     319.8,     319.8,       0.0);         ( 447928.9,
3771027.6,     318.1,     318.1,       0.0);
     ( 447897.0, 3770974.8,     316.8,     316.8,       0.0);         ( 447855.1,
3770923.5,     314.9,     314.9,       0.0);
     ( 448441.5, 3771735.4,     328.9,     328.9,       0.0);         ( 448395.8,
3771736.4,     328.9,     328.9,       0.0);
     ( 448445.1, 3771787.1,     329.6,     329.6,       0.0);         ( 448423.5,
3771810.3,     330.1,     330.1,       0.0);
     ( 448398.2, 3771788.8,     329.6,     329.6,       0.0);         ( 448359.6,
3771742.5,     329.0,     329.0,       0.0);
     ( 448333.2, 3771731.4,     329.1,     329.1,       0.0);         ( 448307.0,
3771746.6,     329.3,     329.3,       0.0);
     ( 448322.5, 3771795.3,     330.1,     330.1,       0.0);         ( 448355.5,
3771807.7,     330.1,     330.1,       0.0);
     ( 448329.2, 3771836.8,     330.6,     330.6,       0.0);         ( 448430.2,
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3771870.3,   331.0,   331.0,   0.0);
     (448448.4, 3771945.9,   332.2,   332.2,   0.0);   (448423.7,
3771931.3,   331.8,   331.8,   0.0);
     (448398.7, 3771938.2,   331.8,   331.8,   0.0);   (448428.0,
3771992.3,   332.9,   332.9,   0.0);
     (448357.8, 3771741.6,   329.0,   329.0,   0.0);   (448330.8,
3771731.8,   329.1,   329.1,   0.0);
     (448305.7, 3771744.6,   329.3,   329.3,   0.0);   (448323.2,
3771795.7,   330.1,   330.1,   0.0);
     (448351.9, 3771810.7,   330.1,   330.1,   0.0);   (448328.3,
3771839.2,   330.7,   330.7,   0.0);
     (448366.2, 3771895.9,   331.4,   331.4,   0.0);   (449218.4,
3770240.8,   307.9,   307.9,   0.0);
     (449218.4, 3770340.8,   309.3,   309.3,   0.0);   (449218.4,
3770440.8,   310.5,   310.5,   0.0);
     (449218.4, 3770940.8,   317.2,   317.2,   0.0);   (449218.4,
3771040.8,   318.7,   318.7,   0.0);
     (449218.4, 3771140.8,   320.4,   320.4,   0.0);   (449218.4,
3771240.8,   322.2,   322.2,   0.0);
     (449318.4, 3770240.8,   308.2,   308.2,   0.0);   (449318.4,
3770340.8,   309.5,   309.5,   0.0);
     (449318.4, 3770440.8,   310.8,   310.8,   0.0);   (449318.4,
3770940.8,   317.3,   317.3,   0.0);
     (449318.4, 3771040.8,   318.8,   318.8,   0.0);   (449318.4,
3771140.8,   320.4,   320.4,   0.0);
     (449318.4, 3771240.8,   322.0,   322.0,   0.0);   (449418.4,
3770340.8,   309.8,   309.8,   0.0);
     (449418.4, 3770640.8,   313.5,   313.5,   0.0);   (449418.4,
3770940.8,   317.2,   317.2,   0.0);
     (449418.4, 3771040.8,   318.8,   318.8,   0.0);   (449418.4,
3771140.8,   320.4,   320.4,   0.0);
     (449418.4, 3771240.8,   322.2,   322.2,   0.0);   (449518.4,
3770540.8,   313.6,   313.6,   0.0);

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                  (METERS)

     (449518.4, 3770940.8,   317.6,   317.6,   0.0);   (449518.4,
3771040.8,   319.2,   319.2,   0.0);
     (449518.4, 3771140.8,   320.7,   320.7,   0.0);   (449518.4,
3771240.8,   322.4,   322.4,   0.0);
     (449618.4, 3770540.8,   313.4,   313.4,   0.0);   (449618.4,

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3770640.8,     314.4,     314.4,       0.0);
     ( 449618.4, 3770740.8,     315.7,     315.7,       0.0);         ( 449718.4,
3770240.8,     310.0,     310.0,       0.0);
     ( 449718.4, 3770340.8,     311.4,     311.4,       0.0);         ( 449718.4,
3770440.8,     312.6,     312.6,       0.0);
     ( 449718.4, 3770540.8,     314.0,     314.0,       0.0);         ( 449718.4,
3770640.8,     315.2,     315.2,       0.0);
     ( 449718.4, 3770740.8,     316.6,     316.6,       0.0);         ( 449818.4,
3770240.8,     310.0,     310.0,       0.0);
     ( 449818.4, 3770340.8,     311.4,     311.4,       0.0);         ( 449818.4,
3770440.8,     312.9,     312.9,       0.0);
     ( 449818.4, 3770540.8,     314.3,     314.3,       0.0);         ( 449818.4,
3770640.8,     316.1,     316.1,       0.0);
     ( 449818.4, 3770740.8,     317.1,     317.1,       0.0);         ( 449918.4,
3770240.8,     310.4,     310.4,       0.0);
     ( 449918.4, 3770340.8,     311.7,     311.7,       0.0);         ( 449918.4,
3770440.8,     313.2,     313.2,       0.0);
     ( 449918.4, 3770540.8,     314.6,     314.6,       0.0);         ( 449918.4,
3770640.8,     317.0,     317.0,       0.0);
     ( 449918.4, 3770740.8,     317.8,     317.8,       0.0);         ( 449918.4,
3770940.8,     320.2,     320.2,       0.0);
     ( 449918.4, 3771040.8,     321.7,     321.7,       0.0);         ( 449918.4,
3771140.8,     323.4,     323.4,       0.0);
     ( 449918.4, 3771240.8,     323.8,     323.8,       0.0);         ( 450018.4,
3770240.8,     310.2,     310.2,       0.0);
     ( 450018.4, 3770340.8,     311.5,     311.5,       0.0);         ( 450018.4,
3770440.8,     312.9,     312.9,       0.0);
     ( 450018.4, 3770540.8,     314.5,     314.5,       0.0);         ( 450018.4,
3770640.8,     315.8,     315.8,       0.0);
     ( 450018.4, 3770740.8,     317.2,     317.2,       0.0);         ( 450018.4,
3770940.8,     320.6,     320.6,       0.0);
     ( 450018.4, 3771040.8,     320.8,     320.8,       0.0);         ( 450018.4,
3771140.8,     323.2,     323.2,       0.0);
     ( 450018.4, 3771240.8,     323.7,     323.7,       0.0);         ( 450118.4,
3770240.8,     310.3,     310.3,       0.0);
     ( 450118.4, 3770340.8,     311.5,     311.5,       0.0);         ( 450118.4,
3770440.8,     312.7,     312.7,       0.0);
     ( 450118.4, 3770540.8,     314.1,     314.1,       0.0);         ( 450118.4,
3770640.8,     315.5,     315.5,       0.0);
     ( 450118.4, 3770740.8,     317.0,     317.0,       0.0);         ( 450118.4,
3770940.8,     320.3,     320.3,       0.0);
     ( 450118.4, 3771040.8,     321.7,     321.7,       0.0);         ( 450118.4,
3771140.8,     322.9,     322.9,       0.0);
     ( 450118.4, 3771240.8,     323.6,     323.6,       0.0);         ( 450218.4,
3770240.8,     310.3,     310.3,       0.0);
     ( 450218.4, 3770340.8,     311.2,     311.2,       0.0);         ( 450218.4,
3770440.8,     312.6,     312.6,       0.0);
     ( 450218.4, 3770540.8,     313.7,     313.7,       0.0);         ( 450218.4,
3770640.8,     315.2,     315.2,       0.0);
     ( 450218.4, 3770740.8,     316.4,     316.4,       0.0);         ( 450218.4,
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3770940.8,   320.2,   320.2,   0.0);
     (450218.4, 3771040.8,   321.8,   321.8,   0.0);   (450218.4,
3771140.8,   323.4,   323.4,   0.0);
     (450218.4, 3771240.8,   324.1,   324.1,   0.0);   (449218.4,
3771490.8,   326.6,   326.6,   0.0);
     (449218.4, 3771740.8,   329.7,   329.7,   0.0);   (449468.4,
3771490.8,   326.6,   326.6,   0.0);
     (449468.4, 3771740.8,   329.5,   329.5,   0.0);   (449718.4,
3771490.8,   326.0,   326.0,   0.0);
     (449718.4, 3771740.8,   329.8,   329.8,   0.0);   (449968.4,
3771490.8,   326.9,   326.9,   0.0);
     (449968.4, 3771740.8,   330.4,   330.4,   0.0);   (450218.4,
3771490.8,   327.9,   327.9,   0.0);
     (450218.4, 3771740.8,   332.3,   332.3,   0.0);   (450468.4,
3771490.8,   327.6,   327.6,   0.0);
     (450468.4, 3771740.8,   331.3,   331.3,   0.0);   (450718.4,
3771490.8,   327.1,   327.1,   0.0);
     (450718.4, 3771740.8,   330.5,   330.5,   0.0);   (450468.4,
3771240.8,   323.5,   323.5,   0.0);
     (450468.4, 3770990.8,   319.7,   319.7,   0.0);   (450468.4,
3770740.8,   316.0,   316.0,   0.0);
     (450468.4, 3770490.8,   313.2,   313.2,   0.0);   (450468.4,
3770240.8,   310.3,   310.3,   0.0);
     (450468.4, 3769990.8,   307.8,   307.8,   0.0);   (450468.4,
3769740.8,   304.5,   304.5,   0.0);
     (450718.4, 3771240.8,   323.5,   323.5,   0.0);   (450718.4,
3770990.8,   319.4,   319.4,   0.0);
     (450718.4, 3770740.8,   316.5,   316.5,   0.0);   (450718.4,
3770490.8,   314.1,   314.1,   0.0);
     (450718.4, 3770240.8,   310.9,   310.9,   0.0);   (450718.4,
3769990.8,   308.0,   308.0,   0.0);
     (450718.4, 3769740.8,   304.9,   304.9,   0.0);   (450218.4,
3769990.8,   307.7,   307.7,   0.0);
     (450218.4, 3769740.8,   303.4,   303.4,   0.0);   (449968.4,
3769990.8,   306.9,   306.9,   0.0);

                                        *** DISCRETE CARTESIAN RECEPTORS ***
                                      (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                (METERS)

     (449968.4, 3769740.8,   301.8,   301.8,   0.0);   (449718.4,
3769990.8,   306.5,   306.5,   0.0);
     (449718.4, 3769740.8,   302.3,   302.3,   0.0);   (449468.4,

3769990.8,   306.3,   306.3,   0.0);
     (449468.4, 3769740.8,   302.7,   302.7,   0.0);   (449218.4,
3769990.8,   305.4,   305.4,   0.0);
     (449218.4, 3769740.8,   302.4,   302.4,   0.0);   (448968.4,
3769990.8,   304.4,   304.4,   0.0);
     (448968.4, 3769740.8,   301.6,   301.6,   0.0);   (448718.4,
3769990.8,   304.1,   304.1,   0.0);
     (448718.4, 3769740.8,   301.1,   301.1,   0.0);   (448968.4,
3770490.8,   310.6,   310.6,   0.0);
     (448968.4, 3770990.8,   317.7,   317.7,   0.0);   (448968.4,
3771240.8,   321.6,   321.6,   0.0);
     (448968.4, 3771490.8,   325.2,   325.2,   0.0);   (448968.4,
3771740.8,   328.9,   328.9,   0.0);
     (448718.4, 3770490.8,   310.0,   310.0,   0.0);   (448718.4,
3770990.8,   317.7,   317.7,   0.0);
     (448718.4, 3771240.8,   321.7,   321.7,   0.0);   (448718.4,
3771490.8,   325.5,   325.5,   0.0);
     (448718.4, 3771740.8,   329.3,   329.3,   0.0);   (449700.3,
3771531.4,   326.5,   326.5,   0.0);
     (449748.6, 3771525.3,   326.4,   326.4,   0.0);   (449754.6,
3769950.3,   305.8,   305.8,   0.0);
     (449670.2, 3769950.3,   305.9,   305.9,   0.0);

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

                     * SOURCE-RECEPTOR COMBINATIONS FOR WHICH CALCULATIONS MAY NOT
BE PERFORMED *
                       LESS THAN 1.0 METER; WITHIN OPENPIT; OR BEYOND 80KM FOR
FASTAREA/FASTALL

                              SOURCE   - - RECEPTOR LOCATION - -
DISTANCE
                                ID   XR (METERS)   YR (METERS)
(METERS)
                             -
- - -

                              L0000001   449718.4   3771490.8
-58.31
                              L0000001   449700.3   3771531.4
-18.39
                              L0000001   449748.6   3771525.3
-17.63

```
                              L0000002            449718.4     3771490.8
-2.49
                              L0000013            449718.4     3770740.8
-40.27
                              L0000014            449718.4     3770640.8
-1.40
                              L0000014            449718.4     3770740.8
-20.39
                              L0000015            449718.4     3770640.8
-57.36
                              L0000016            449718.4     3770540.8
-23.32
                              L0000017            449718.4     3770540.8
-37.23
                              L0000018            449718.4     3770440.8
-45.02
                              L0000019            449718.4     3770340.8
-6.34
                              L0000019            449718.4     3770440.8
-15.33
                              L0000020            449718.4     3770340.8
-53.29
                              L0000021            449718.4     3770240.8
-28.19
                              L0000022            449718.4     3770240.8
-32.16
                              L0000025            449718.4     3769990.8
-22.16
                              L0000026            449718.4     3769990.8
-37.92
                              L0000026            449754.6     3769950.3
-25.15
                              L0000026            449670.2     3769950.3
-4.61
↑ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 12, SB I-15
ONT\Segment 12, SB I-15 ONT ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                        ***        13:21:58

                                   PAGE   9
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                          *** METEOROLOGICAL DAYS SELECTED FOR
PROCESSING ***
                                                                (1=YES; 0=NO)

            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
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            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
```

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***

(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: C:\Users\kheck\Desktop\MET Data\FontanaADJU\FONT_V9_ADJU\FONT_v9.SFC Met Version: 16216
Profile file: C:\Users\kheck\Desktop\MET Data\FontanaADJU\FONT_V9_ADJU\FONT_v9.PFL
Surface format: FREE

Profile format: FREE

Surface station no.: 3102 Upper air station no.: 3190
Name: UNKNOWN Name: UNKNOWN

Year: 2011 Year: 2011

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT

- -
 11 01 01   1 01 -18.5 0.194 -9.000 -9.000 -999. 204.   41.2 0.25   2.82
1.00   1.80   69.   9.1 276.4   5.5
 11 01 01   1 02 -23.8 0.239 -9.000 -9.000 -999. 281.   63.0 0.25   2.82
1.00   2.20   52.   9.1 275.4   5.5
 11 01 01   1 03 -18.5 0.194 -9.000 -9.000 -999. 205.   41.2 0.25   2.82
1.00   1.80   32.   9.1 275.4   5.5
 11 01 01   1 04   -1.4 0.067 -9.000 -9.000 -999.   57.   18.3 0.25   2.82
1.00   0.40   27.   9.1 274.2   5.5
 11 01 01   1 05 -18.6 0.194 -9.000 -9.000 -999. 204.   41.2 0.25   2.82
1.00   1.80   51.   9.1 274.2   5.5
 11 01 01   1 06 -29.7 0.296 -9.000 -9.000 -999. 387.   96.6 0.25   2.82
1.00   2.70   53.   9.1 274.2   5.5
 11 01 01   1 07 -24.0 0.239 -9.000 -9.000 -999. 282.   63.0 0.25   2.82
1.00   2.20   70.   9.1 274.2   5.5
 11 01 01   1 08   -8.4 0.138 -9.000 -9.000 -999. 127.   27.3 0.25   2.82
0.54   1.30   72.   9.1 275.4   5.5
 11 01 01   1 09   44.3 0.280 0.571 0.005 147. 356.   -43.5 0.25   2.82
0.32   2.20   67.   9.1 277.5   5.5
 11 01 01   1 10 122.7 0.264 0.952 0.005 247. 326.   -13.2 0.25   2.82
0.25   1.80   83.   9.1 279.9   5.5
 11 01 01   1 11 179.8 0.316 1.733 0.005 1017. 426.   -15.4 0.25   2.82
0.22   2.20   58.   9.1 282.0   5.5
 11 01 01   1 12 206.0 0.320 1.940 0.008 1244. 435.   -14.0 0.25   2.82
0.21   2.20 115.   9.1 283.1   5.5
 11 01 01   1 13 132.6 0.214 1.733 0.009 1377. 243.   -6.5 0.25   2.82
0.21   1.30 147.   9.1 284.2   5.5
 11 01 01   1 14 147.0 0.216 1.818 0.009 1431. 242.   -6.0 0.25   2.82
0.23   1.30 219.   9.1 284.9   5.5
 11 01 01   1 15 104.0 0.208 1.633 0.009 1468. 228.   -7.6 0.25   2.82
0.26   1.30 126.   9.1 285.4   5.5
 11 01 01   1 16   26.4 0.140 1.037 0.009 1477. 127.   -9.1 0.25   2.82
0.35   0.90 151.   9.1 284.9   5.5
 11 01 01   1 17   -9.0 0.137 -9.000 -9.000 -999. 121.   24.9 0.25   2.82
0.63   1.30   69.   9.1 283.1   5.5
 11 01 01   1 18 -33.4 0.342 -9.000 -9.000 -999. 481.   129.0 0.25   2.82
1.00   3.10   81.   9.1 281.4   5.5
 11 01 01   1 19 -33.6 0.342 -9.000 -9.000 -999. 481.   128.9 0.25   2.82
1.00   3.10   51.   9.1 279.9   5.5
 11 01 01   1 20 -23.6 0.239 -9.000 -9.000 -999. 287.   63.1 0.25   2.82
1.00   2.20   77.   9.1 278.8   5.5
 11 01 01   1 21 -18.5 0.194 -9.000 -9.000 -999. 205.   41.2 0.25   2.82
1.00   1.80   53.   9.1 277.5   5.5
 11 01 01   1 22 -23.7 0.239 -9.000 -9.000 -999. 281.   63.0 0.25   2.82
1.00   2.20   58.   9.1 277.5   5.5
 11 01 01   1 23 -18.5 0.194 -9.000 -9.000 -999. 205.   41.2 0.25   2.82
1.00   1.80   64.   9.1 277.5   5.5
 11 01 01   1 24   -4.5 0.094 -9.000 -9.000 -999.   74.   16.3 0.25   2.82
1.00   0.90   52.   9.1 277.0   5.5

```
 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 11 01 01 01    5.5 0 -999.  -99.00   276.5   99.0  -99.00  -99.00
 11 01 01 01    9.1 1   69.    1.80  -999.0   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
↑ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 12, SB I-15
ONT\Segment 12, SB I-15 ONT ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                       ***        13:21:58

                                  PAGE  11
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                 INCLUDING SOURCE(S):     L0000001    , L0000002
 , L0000003    , L0000004    , L0000005    ,
                 L0000006    , L0000007    , L0000008    , L0000009    , L0000010
 , L0000011    , L0000012    , L0000013    ,
                 L0000014    , L0000015    , L0000016    , L0000017    , L0000018
 , L0000019    , L0000020    , L0000021    ,
                 L0000022    , L0000023    , L0000024    , L0000025    , L0000026
 ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                       ** CONC OF PM_10    IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
         448451.04    3771081.42       17.72361                       448429.20
3771103.12       17.15538
         448398.67    3771075.80       16.76617                       448450.23
3771159.02       16.96285
         448401.44    3771157.22       16.16570                       448450.69
3771207.78       16.47750
         448396.54    3771215.48       15.60569                       448424.46
3771242.79       15.71475
         448377.99    3771022.00       16.81067                       448347.31
3771019.30       16.28987
         448343.89    3771051.14       16.05387                       448353.29
3771120.18       15.70992
         448333.37    3771144.95       15.17725                       448296.87
```

3771133.91 14.80049
448307.17 3771056.41 15.45196 448266.95
3771046.14 14.99521
448265.10 3771083.29 14.68754 448258.10
3770988.30 15.20733
448246.33 3771025.62 14.78806 448211.91
3771012.48 14.42689
448288.69 3770935.72 15.89319 448265.78
3770903.72 15.73669
448239.81 3770936.21 15.22147 448189.13
3770940.10 14.46275
448162.42 3770903.75 14.27590 448139.58
3770939.12 13.76742
448208.90 3771064.05 14.08433 448240.22
3771136.41 13.95485
448276.11 3771198.15 14.07245 448132.83
3771030.32 13.22254
448093.96 3771023.67 12.70268 448084.65
3771061.27 12.18911
448158.38 3771086.75 13.18719 448187.76
3771121.26 13.33815
448200.69 3771159.79 13.20531 448190.90
3771193.68 12.91654
448234.13 3771256.03 13.03839 448219.57
3771296.61 12.55567
448173.44 3771231.01 12.45743 448136.25
3771188.32 12.31402
448096.08 3771124.40 12.17954 448063.45
3771089.20 11.86992
447996.72 3771051.78 11.16966 447928.93
3771027.59 10.93696
447896.97 3770974.80 10.90327 447855.11
3770923.51 10.85518
448441.53 3771735.38 10.71092 448395.82
3771736.36 10.27391
448445.09 3771787.14 10.16100 448423.54
3771810.35 9.72329
448398.22 3771788.78 9.74060 448359.57
3771742.49 9.89363
448333.17 3771731.42 9.71143 448306.96
3771746.56 9.37351
448322.49 3771795.29 9.00574 448355.55
3771807.67 9.20390
448329.16 3771836.81 8.65512 448430.25
3771870.32 9.12559
448448.38 3771945.88 8.44312 448423.66
3771931.33 8.45943
448398.68 3771938.21 8.25531 448427.99
3771992.32 7.92853
448357.83 3771741.56 9.88329 448330.80

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3771731.79        9.68281
         448305.71    3771744.59        9.37703                       448323.18
3771795.69        9.00904
         448351.94    3771810.66        9.14533                       448328.26
3771839.25        8.62582
         448366.24    3771895.95        8.35210                       449218.44
3770240.75       68.47403
         449218.44    3770340.75       71.55071                       449218.44
3770440.75       73.69249
         449218.44    3770940.75       69.20025                       449218.44
3771040.75       65.80769
         449218.44    3771140.75       61.55107                       449218.44
3771240.75       56.08871
         449318.44    3770240.75       88.77254                       449318.44
3770340.75       93.01525
         449318.44    3770440.75       95.54956                       449318.44
3770940.75       91.11750
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 12, SB I-15
ONT\Segment 12, SB I-15 ONT ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                       ***        13:21:58

                                  PAGE  12
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                  INCLUDING SOURCE(S):     L0000001    , L0000002
 , L0000003    , L0000004    , L0000005    ,
                L0000006    , L0000007    , L0000008    , L0000009    , L0000010
 , L0000011    , L0000012    , L0000013    ,
                L0000014    , L0000015    , L0000016    , L0000017    , L0000018
 , L0000019    , L0000020    , L0000021    ,
                L0000022    , L0000023    , L0000024    , L0000025    , L0000026
 ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_10    IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
         449318.44    3771040.75       86.94254                       449318.44
3771140.75       81.48341
         449318.44    3771240.75       74.69820                       449418.44
3770340.75      127.83070
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         449418.44    3770640.75      132.94183                    449418.44
3770940.75      127.02461
         449418.44    3771040.75      121.95928                    449418.44
3771140.75      115.05822
         449418.44    3771240.75      105.22082                    449518.44
3770540.75      198.69670
         449518.44    3770940.75      194.08015                    449518.44
3771040.75      188.44414
         449518.44    3771140.75      180.20208                    449518.44
3771240.75      167.82490
         449618.44    3770540.75      376.22649                    449618.44
3770640.75      378.00627
         449618.44    3770740.75      377.60194                    449718.44
3770240.75      355.55404
         449718.44    3770340.75      414.60136                    449718.44
3770440.75      385.79696
         449718.44    3770540.75      375.62270                    449718.44
3770640.75      449.16086
         449718.44    3770740.75      377.92505                    449818.44
3770240.75      454.19448
         449818.44    3770340.75      462.74871                    449818.44
3770440.75      465.79300
         449818.44    3770540.75      466.38826                    449818.44
3770640.75      464.90715
         449818.44    3770740.75      463.94937                    449918.44
3770240.75      228.53442
         449918.44    3770340.75      237.46499                    449918.44
3770440.75      241.81991
         449918.44    3770540.75      243.57995                    449918.44
3770640.75      243.37143
         449918.44    3770740.75      242.55084                    449918.44
3770940.75      237.65809
         449918.44    3771040.75      232.81873                    449918.44
3771140.75      225.91844
         449918.44    3771240.75      216.73730                    450018.44
3770240.75      147.31007
         450018.44    3770340.75      156.60872                    450018.44
3770440.75      161.85310
         450018.44    3770540.75      164.47651                    450018.44
3770640.75      165.53202
         450018.44    3770740.75      164.56342                    450018.44
3770940.75      162.40476
         450018.44    3771040.75      156.97026                    450018.44
3771140.75      152.83831
         450018.44    3771240.75      144.03431                    450118.44
3770240.75      105.06972
         450118.44    3770340.75      113.91525                    450118.44
3770440.75      119.89957
         450118.44    3770540.75      123.29694                    450118.44
3770640.75      123.92607
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         450118.44    3770740.75      124.25272                      450118.44
3770940.75      122.19772
         450118.44    3771040.75      119.69036                      450118.44
3771140.75      114.65535
         450118.44    3771240.75      108.37601                      450218.44
3770240.75       79.54603
         450218.44    3770340.75       87.29694                      450218.44
3770440.75       93.55066
         450218.44    3770540.75       96.44002                      450218.44
3770640.75       98.55326
         450218.44    3770740.75       98.39123                      450218.44
3770940.75       98.56934
         450218.44    3771040.75       96.86262                      450218.44
3771140.75       94.30682
         450218.44    3771240.75       88.95430                      449218.44
3771490.75       40.33210
         449218.44    3771740.75       25.49563                      449468.44
3771490.75       84.60606
         449468.44    3771740.75       38.87742                      449718.44
3771490.75      131.31154
         449718.44    3771740.75       53.72189                      449968.44
3771490.75      129.73567
         449968.44    3771740.75       51.49982                      450218.44
3771490.75       74.56354
         450218.44    3771740.75       50.11350                      450468.44
3771490.75       53.79248
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 12, SB I-15
ONT\Segment 12, SB I-15 ONT ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                       ***        13:21:58

                                  PAGE  13
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                  *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                   INCLUDING SOURCE(S):     L0000001    , L0000002
 , L0000003    , L0000004    , L0000005    ,
                  L0000006    , L0000007    , L0000008    , L0000009    , L0000010
 , L0000011    , L0000012    , L0000013    ,
                  L0000014    , L0000015    , L0000016    , L0000017    , L0000018
 , L0000019    , L0000020    , L0000021    ,
                  L0000022    , L0000023    , L0000024    , L0000025    , L0000026
 ,

                                                *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                             ** CONC OF PM_10    IN MICROGRAMS/M**3
                    **
```

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
450468.44	3771740.75	42.94761	450718.44	3771490.75	42.68097
450718.44	3771740.75	36.34220	450468.44	3771240.75	60.32780
450468.44	3770990.75	64.20348	450468.44	3770740.75	63.45811
450468.44	3770490.75	57.82244	450468.44	3770240.75	46.52471
450468.44	3769990.75	35.20910	450468.44	3769740.75	26.45397
450718.44	3771240.75	46.12175	450718.44	3770990.75	46.54441
450718.44	3770740.75	45.04471	450718.44	3770490.75	39.77128
450718.44	3770240.75	31.56437	450718.44	3769990.75	25.02681
450718.44	3769740.75	20.11939	450218.44	3769990.75	55.44624
450218.44	3769740.75	36.66700	449968.44	3769990.75	116.58765
449968.44	3769740.75	54.64792	449718.44	3769990.75	192.06661
449718.44	3769740.75	80.40254	449468.44	3769990.75	113.56446
449468.44	3769740.75	65.28579	449218.44	3769990.75	57.08273
449218.44	3769740.75	43.17356	448968.44	3769990.75	36.37398
448968.44	3769740.75	30.37119	448718.44	3769990.75	25.58450
448718.44	3769740.75	22.51637	448968.44	3770490.75	44.07290
448968.44	3770990.75	39.53905	448968.44	3771240.75	33.56460
448968.44	3771490.75	26.35352	448968.44	3771740.75	18.65298
448718.44	3770490.75	29.40123	448718.44	3770990.75	26.33219
448718.44	3771240.75	22.68014	448718.44	3771490.75	18.31912
448718.44	3771740.75	13.85800	449700.33	3771531.36	159.48551
449748.60	3771525.32	183.70785	449754.64	3769950.32	224.28084
449670.16	3769950.32	219.96240			

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE SUMMARY OF MAXIMUM ANNUAL RESULTS AVERAGED OVER   5 YEARS ***

** CONC OF PM_10   IN MICROGRAMS/M**3 **

```
                         NETWORK
GROUP ID                       AVERAGE CONC                RECEPTOR  (XR, YR, ZELEV, ZHILL, ZFLAG)  OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

ALL       1ST HIGHEST VALUE IS     466.38826 AT (  449818.44,  3770540.75, 314.32,   314.32,    0.00)  DC
          2ND HIGHEST VALUE IS     465.79300 AT (  449818.44,  3770440.75, 312.95,   312.95,    0.00)  DC
          3RD HIGHEST VALUE IS     464.90715 AT (  449818.44,  3770640.75, 316.11,   316.11,    0.00)  DC
          4TH HIGHEST VALUE IS     463.94937 AT (  449818.44,  3770740.75, 317.13,   317.13,    0.00)  DC
          5TH HIGHEST VALUE IS     462.74871 AT (  449818.44,  3770340.75, 311.44,   311.44,    0.00)  DC
          6TH HIGHEST VALUE IS     454.19448 AT (  449818.44,  3770240.75, 310.03,   310.03,    0.00)  DC
          7TH HIGHEST VALUE IS     449.16086 AT (  449718.44,  3770640.75, 315.20,   315.20,    0.00)  DC
          8TH HIGHEST VALUE IS     414.60136 AT (  449718.44,  3770340.75, 311.35,   311.35,    0.00)  DC
          9TH HIGHEST VALUE IS     385.79696 AT (  449718.44,  3770440.75, 312.63,   312.63,    0.00)  DC
         10TH HIGHEST VALUE IS     378.00627 AT (  449618.44,  3770640.75, 314.40,   314.40,    0.00)  DC
```

*** RECEPTOR TYPES: GC = GRIDCART
                     GP = GRIDPOLR
                     DC = DISCCART
                     DP = DISCPOLR

↑ *** AERMOD - VERSION 18081 ***   *** C:\Lakes\AERMOD View\Segment 12, SB I-15

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

 *** Message Summary : AERMOD Model Execution ***

  --------- Summary of Total Messages --------

 A Total of   0 Fatal Error Message(s)
 A Total of   7 Warning Message(s)
 A Total of   838 Informational Message(s)

 A Total of   43848 Hours Were Processed

 A Total of   40 Calm Hours Identified

 A Total of   798 Missing Hours Identified (1.82 Percent)

    ******** FATAL ERROR MESSAGES ********
               *** NONE ***

    ********   WARNING MESSAGES   ********
 ME W186   131   MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used
      0.50
 ME W187   131   MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET

 MX W438   8800   METQA: Convective Velocity Data Out-of-Range. KURDAT =
  12010216
 MX W438   11536   METQA: Convective Velocity Data Out-of-Range. KURDAT =
  12042516
 MX W420   16779   METQA: Wind Speed Out-of-Range.   KURDAT =
  12113003
 MX W450   26305   CHKDAT: Record Out of Sequence in Meteorological File at:
  15010101
 MX W450   26305   CHKDAT: Record Out of Sequence in Meteorological File at:
1 year gap

    ****
    *** AERMOD Finishes Successfully ***
    ****

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.7.0
** Lakes Environmental Software Inc.
** Date: 10/28/2019
** File: C:\Lakes\AERMOD View\Segment 13, SB I-15 VIC\Segment 13, SB I-15 VIC.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\Segment 13, SB I-15 VIC\Segment 13, SB I-15 VIC
   MODELOPT DFAULT CONC
   AVERTIME ANNUAL
   URBANOPT 122265
   POLLUTID PM_10
   RUNORNOT RUN
   ERRORFIL "Segment 13, SB I-15 VIC.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
** ----------------------------------------------------------------------
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE1
** DESCRSRC
** PREFIX
** Length of Side = 71.00
** Configuration = Adjacent
** Emission Rate = 23.0
** Vertical Dimension = 2.00
** SZINIT = 0.93
** Nodes = 3
** 468971.280, 3815573.840, 942.05, 2.00, 33.02
** 469317.320, 3816248.310, 931.17, 2.00, 33.02
** 469719.590, 3817003.070, 921.00, 2.00, 33.02
** ----------------------------------------------------------------------
```

```
   LOCATION L0000001     VOLUME   468987.485 3815605.426 940.56
   LOCATION L0000002     VOLUME   469019.895 3815668.597 940.00
   LOCATION L0000003     VOLUME   469052.305 3815731.768 939.36
   LOCATION L0000004     VOLUME   469084.716 3815794.939 939.00
   LOCATION L0000005     VOLUME   469117.126 3815858.110 938.02
   LOCATION L0000006     VOLUME   469149.536 3815921.281 936.17
   LOCATION L0000007     VOLUME   469181.946 3815984.452 935.05
   LOCATION L0000008     VOLUME   469214.356 3816047.623 933.95
   LOCATION L0000009     VOLUME   469246.767 3816110.794 933.00
   LOCATION L0000010     VOLUME   469279.177 3816173.965 932.00
   LOCATION L0000011     VOLUME   469311.587 3816237.136 931.63
   LOCATION L0000012     VOLUME   469344.807 3816299.883 929.77
   LOCATION L0000013     VOLUME   469378.202 3816362.540 927.56
   LOCATION L0000014     VOLUME   469411.596 3816425.196 927.00
   LOCATION L0000015     VOLUME   469444.991 3816487.852 926.16
   LOCATION L0000016     VOLUME   469478.385 3816550.508 926.00
   LOCATION L0000017     VOLUME   469511.779 3816613.165 925.94
   LOCATION L0000018     VOLUME   469545.174 3816675.821 925.82
   LOCATION L0000019     VOLUME   469578.568 3816738.477 924.65
   LOCATION L0000020     VOLUME   469611.963 3816801.134 923.60
   LOCATION L0000021     VOLUME   469645.357 3816863.790 922.36
   LOCATION L0000022     VOLUME   469678.751 3816926.446 921.87
   LOCATION L0000023     VOLUME   469712.146 3816989.103 921.00
** End of LINE VOLUME Source ID = SLINE1
** Source Parameters **
** LINE VOLUME Source ID = SLINE1
   SRCPARAM L0000001           1.0      2.00     33.02      0.93
   SRCPARAM L0000002           1.0      2.00     33.02      0.93
   SRCPARAM L0000003           1.0      2.00     33.02      0.93
   SRCPARAM L0000004           1.0      2.00     33.02      0.93
   SRCPARAM L0000005           1.0      2.00     33.02      0.93
   SRCPARAM L0000006           1.0      2.00     33.02      0.93
   SRCPARAM L0000007           1.0      2.00     33.02      0.93
   SRCPARAM L0000008           1.0      2.00     33.02      0.93
   SRCPARAM L0000009           1.0      2.00     33.02      0.93
   SRCPARAM L0000010           1.0      2.00     33.02      0.93
   SRCPARAM L0000011           1.0      2.00     33.02      0.93
   SRCPARAM L0000012           1.0      2.00     33.02      0.93
   SRCPARAM L0000013           1.0      2.00     33.02      0.93
   SRCPARAM L0000014           1.0      2.00     33.02      0.93
   SRCPARAM L0000015           1.0      2.00     33.02      0.93
   SRCPARAM L0000016           1.0      2.00     33.02      0.93
   SRCPARAM L0000017           1.0      2.00     33.02      0.93
   SRCPARAM L0000018           1.0      2.00     33.02      0.93
   SRCPARAM L0000019           1.0      2.00     33.02      0.93
   SRCPARAM L0000020           1.0      2.00     33.02      0.93
   SRCPARAM L0000021           1.0      2.00     33.02      0.93
   SRCPARAM L0000022           1.0      2.00     33.02      0.93
   SRCPARAM L0000023           1.0      2.00     33.02      0.93
** ------------------------------------------------------------------
```

```
   URBANSRC ALL
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED "Segment 13, SB I-15 VIC.rou"
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE "C:\Users\kheck\Desktop\MET Data\FontanaADJU\FONT_V9_ADJU\FONT_v9.SFC"
   PROFFILE "C:\Users\kheck\Desktop\MET Data\FontanaADJU\FONT_V9_ADJU\FONT_v9.PFL"
   SURFDATA 3102 2011
   UAIRDATA 3190 2011
   SITEDATA 99999 2011
   PROFBASE 853.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
** Auto-Generated Plotfiles
   PLOTFILE ANNUAL ALL "Segment 13, SB I-15 VIC.AD\AN00GALL.PLT" 31
   SUMMFILE "Segment 13, SB I-15 VIC.sum"
OU FINISHED


  *** Message Summary For AERMOD Model Setup ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of            2 Warning Message(s)
 A Total of            0 Informational Message(s)


    ******** FATAL ERROR MESSAGES ********
               ***  NONE  ***
```

```
   ********   WARNING MESSAGES   ********
 ME W186     126       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used
      0.50
 ME W187     126       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET


 ***********************************
 *** SETUP Finishes Successfully ***
 ***********************************

 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 13, SB I-15
VIC\Segment 13, SB I-15 VIC ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                         ***        14:21:44

                                    PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                              ***     MODEL SETUP OPTIONS SUMMARY
  ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - -

 **Model Is Setup For Calculation of Average CONCentration Values.

   --  DEPOSITION LOGIC  --
 **NO GAS DEPOSITION Data Provided.
 **NO PARTICLE DEPOSITION Data Provided.
 **Model Uses NO DRY DEPLETION.  DRYDPLT  =  F
 **Model Uses NO WET DEPLETION.  WETDPLT  =  F

 **Model Uses URBAN Dispersion Algorithm for the SBL for    23 Source(s),
   for Total of    1 Urban Area(s):
   Urban Population =    122265.0 ;  Urban Roughness Length =  1.000 m

 **Model Uses Regulatory DEFAULT Options:
        1. Stack-tip Downwash.
        2. Model Accounts for ELEVated Terrain Effects.
        3. Use Calms Processing Routine.
        4. Use Missing Data Processing Routine.
        5. No Exponential Decay.
        6. Urban Roughness Length of 1.0 Meter Assumed.

 **Other Options Specified:
        ADJ_U*   - Use ADJ_U* option for SBL in AERMET
        TEMP_Sub - Meteorological data includes TEMP substitutions

 **Model Assumes No FLAGPOLE Receptor Heights.
```

```
 **The User Specified a Pollutant Type of:  PM_10

 **Model Calculates ANNUAL Averages Only

 **This Run Includes:     23 Source(s);       1 Source Group(s); and     164
Receptor(s)

                with:      0 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                 and:     23 VOLUME source(s)
                 and:      0 AREA type source(s)
                 and:      0 LINE source(s)
                 and:      0 OPENPIT source(s)
                 and:      0 BUOYANT LINE source(s) with      0 line(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  16216

 **Output Options Selected:
          Model Outputs Tables of ANNUAL Averages by Receptor
          Model Outputs External File(s) of High Values for Plotting (PLOTFILE
Keyword)
          Model Outputs Separate Summary File of High Ranked Values (SUMMFILE
Keyword)

 **NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                 m for Missing
Hours
                                                                 b for Both Calm
and Missing Hours

 **Misc. Inputs:  Base Elev. for Pot. Temp. Profile (m MSL) =   853.00 ;  Decay
Coef. =    0.000     ;  Rot. Angle =     0.0
                  Emission Units = GRAMS/SEC                                ;
Emission Rate Unit Factor =   0.10000E+07
                  Output Units   = MICROGRAMS/M**3

 **Approximate Storage Requirements of Model =      3.5 MB of RAM.

 **Input Runstream File:          aermod.inp

 **Output Print File:             aermod.out


 **Detailed Error/Message File:   Segment 13, SB I-15 VIC.err

 **File for Summary of Results:   Segment 13, SB I-15 VIC.sum
```

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE BY	EMISSION RATE SCALAR VARY
L0000001	0	0.10000E+01	468987.5	3815605.4	940.6	2.00	33.02	0.93	YES	
L0000002	0	0.10000E+01	469019.9	3815668.6	940.0	2.00	33.02	0.93	YES	
L0000003	0	0.10000E+01	469052.3	3815731.8	939.4	2.00	33.02	0.93	YES	
L0000004	0	0.10000E+01	469084.7	3815794.9	939.0	2.00	33.02	0.93	YES	
L0000005	0	0.10000E+01	469117.1	3815858.1	938.0	2.00	33.02	0.93	YES	
L0000006	0	0.10000E+01	469149.5	3815921.3	936.2	2.00	33.02	0.93	YES	
L0000007	0	0.10000E+01	469181.9	3815984.5	935.0	2.00	33.02	0.93	YES	
L0000008	0	0.10000E+01	469214.4	3816047.6	933.9	2.00	33.02	0.93	YES	
L0000009	0	0.10000E+01	469246.8	3816110.8	933.0	2.00	33.02	0.93	YES	
L0000010	0	0.10000E+01	469279.2	3816174.0	932.0	2.00	33.02	0.93	YES	
L0000011	0	0.10000E+01	469311.6	3816237.1	931.6	2.00	33.02	0.93	YES	
L0000012	0	0.10000E+01	469344.8	3816299.9	929.8	2.00	33.02	0.93	YES	
L0000013	0	0.10000E+01	469378.2	3816362.5	927.6	2.00	33.02	0.93	YES	
L0000014	0	0.10000E+01	469411.6	3816425.2	927.0	2.00	33.02	0.93	YES	
L0000015	0	0.10000E+01	469445.0	3816487.9	926.2	2.00	33.02			

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs
ALL	L0000001 , L0000002 , L0000003 , L0000004 , L0000005 , L0000006 , L0000007 , L0000008 , L0000009 , L0000010 , L0000011 , L0000012 , L0000013 , L0000014 , L0000015 , L0000016 , L0000017 , L0000018 , L0000019 , L0000020 , L0000021 , L0000022 , L0000023 ,

*** SOURCE IDs DEFINED AS URBAN SOURCES ***

URBAN ID	URBAN POP	SOURCE IDs
	122265.	L0000001 , L0000002 , L0000003 , L0000004 , L0000005 , L0000006 , L0000007 , L0000008 ,
		L0000009 , L0000010 , L0000011 , L0000012 , L0000013 , L0000014 , L0000015 , L0000016 ,
		L0000017 , L0000018 , L0000019 , L0000020 , L0000021 , L0000022 , L0000023 ,

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

```
     ( 468950.1, 3816028.8,     937.7,     937.7,       0.0);         ( 468950.1,
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     ( 468950.1, 3816228.8,     935.7,     935.7,       0.0);         ( 468950.1,
3816328.8,     935.0,     935.0,       0.0);
     ( 468950.1, 3816428.8,     934.2,     934.2,       0.0);         ( 468950.1,
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     ( 468950.1, 3816828.8,     931.6,     931.6,       0.0);         ( 468950.1,
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 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 13, SB I-15
VIC\Segment 13, SB I-15 VIC ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                        ***       14:21:44

                                  PAGE   6
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                        *** DISCRETE CARTESIAN RECEPTORS ***
                                      (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                (METERS)

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3816750.0,     914.5,     914.5,       0.0);
```

* SOURCE-RECEPTOR COMBINATIONS FOR WHICH CALCULATIONS MAY NOT BE PERFORMED *
LESS THAN 1.0 METER; WITHIN OPENPIT; OR BEYOND 80KM FOR FASTAREA/FASTALL

SOURCE ID	- - RECEPTOR LOCATION - - XR (METERS)	YR (METERS)	DISTANCE (METERS)
L0000001	468937.8	3815598.4	-20.85
L0000001	468997.1	3815561.3	-25.84
L0000007	469150.1	3816028.8	-16.41
L0000008	469150.1	3816028.8	-3.98
L0000008	469250.1	3816028.8	-30.61
L0000009	469250.1	3816128.8	-52.74
L0000010	469250.1	3816128.8	-17.21
L0000010	469250.1	3816228.8	-8.95
L0000011	469250.1	3816228.8	-8.90
L0000011	469350.1	3816228.8	-31.62
L0000012	469350.1	3816228.8	0.33
L0000012	469350.1	3816328.8	-41.65
L0000013	469350.1	3816328.8	

```
-27.02
                            L0000013            469350.1     3816428.8
0.95
                            L0000014            469350.1     3816428.8
-9.35
                            L0000014            469450.1     3816428.8
-32.37
                            L0000015            469450.1     3816428.8
-11.67
                            L0000015            469450.1     3816528.8
-29.78
                            L0000016            469450.1     3816528.8
-35.28
                            L0000017            469450.1     3816628.8
-7.34
                            L0000017            469550.1     3816628.8
-29.66
                            L0000018            469550.1     3816628.8
-23.67
                            L0000018            469550.1     3816728.8
-17.84
                            L0000019            469550.1     3816728.8
-40.87
                            L0000020            469550.1     3816828.8
-3.21
                            L0000020            469650.1     3816828.8
-23.94
                            L0000021            469650.1     3816828.8
-35.64
                            L0000021            469650.1     3816928.8
-5.86
                            L0000022            469650.1     3816928.8
-42.21
                            L0000023            469750.1     3817028.8
-16.14
                            L0000023            469756.9     3817010.4
-21.48
                            L0000023            469701.3     3817040.0
-18.94
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 13, SB I-15
VIC\Segment 13, SB I-15 VIC ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                          ***       14:21:44

                                    PAGE   8
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                              *** METEOROLOGICAL DAYS SELECTED FOR
PROCESSING ***
                                                                  (1=YES; 0=NO)
```

```
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
```

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***

(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: C:\Users\kheck\Desktop\MET Data\FontanaADJU\FONT_V9_ADJU\FONT_v9.SFC Met Version: 16216
Profile file: C:\Users\kheck\Desktop\MET Data\FontanaADJU\FONT_V9_ADJU\FONT_v9.PFL
Surface format: FREE

Profile format: FREE

Surface station no.: 3102 Upper air station no.: 3190
Name: UNKNOWN Name: UNKNOWN

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
11	01	01	1	01	-18.5	0.194	-9.000	-9.000	-999.	204.	41.2	0.25	2.82	1.00	1.80	69.	9.1	276.4	5.5
11	01	01	1	02	-23.8	0.239	-9.000	-9.000	-999.	281.	63.0	0.25	2.82	1.00	2.20	52.	9.1	275.4	5.5
11	01	01	1	03	-18.5	0.194	-9.000	-9.000	-999.	205.	41.2	0.25	2.82	1.00	1.80	32.	9.1	275.4	5.5
11	01	01	1	04	-1.4	0.067	-9.000	-9.000	-999.	57.	18.3	0.25	2.82	1.00	0.40	27.	9.1	274.2	5.5
11	01	01	1	05	-18.6	0.194	-9.000	-9.000	-999.	204.	41.2	0.25	2.82	1.00	1.80	51.	9.1	274.2	5.5
11	01	01	1	06	-29.7	0.296	-9.000	-9.000	-999.	387.	96.6	0.25	2.82	1.00	2.70	53.	9.1	274.2	5.5
11	01	01	1	07	-24.0	0.239	-9.000	-9.000	-999.	282.	63.0	0.25	2.82	1.00	2.20	70.	9.1	274.2	5.5
11	01	01	1	08	-8.4	0.138	-9.000	-9.000	-999.	127.	27.3	0.25	2.82	0.54	1.30	72.	9.1	275.4	5.5
11	01	01	1	09	44.3	0.280	0.571	0.005	147.	356.	-43.5	0.25	2.82	0.32	2.20	67.	9.1	277.5	5.5
11	01	01	1	10	122.7	0.264	0.952	0.005	247.	326.	-13.2	0.25	2.82	0.25	1.80	83.	9.1	279.9	5.5
11	01	01	1	11	179.8	0.316	1.733	0.005	1017.	426.	-15.4	0.25	2.82	0.22	2.20	58.	9.1	282.0	5.5
11	01	01	1	12	206.0	0.320	1.940	0.008	1244.	435.	-14.0	0.25	2.82	0.21	2.20	115.	9.1	283.1	5.5
11	01	01	1	13	132.6	0.214	1.733	0.009	1377.	243.	-6.5	0.25	2.82	0.21	1.30	147.	9.1	284.2	5.5
11	01	01	1	14	147.0	0.216	1.818	0.009	1431.	242.	-6.0	0.25	2.82	0.23	1.30	219.	9.1	284.9	5.5
11	01	01	1	15	104.0	0.208	1.633	0.009	1468.	228.	-7.6	0.25	2.82	0.26	1.30	126.	9.1	285.4	5.5
11	01	01	1	16	26.4	0.140	1.037	0.009	1477.	127.	-9.1	0.25	2.82	0.35	0.90	151.	9.1	284.9	5.5
11	01	01	1	17	-9.0	0.137	-9.000	-9.000	-999.	121.	24.9	0.25	2.82	0.63	1.30	69.	9.1	283.1	5.5
11	01	01	1	18	-33.4	0.342	-9.000	-9.000	-999.	481.	129.0	0.25	2.82	1.00	3.10	81.	9.1	281.4	5.5
11	01	01	1	19	-33.6	0.342	-9.000	-9.000	-999.	481.	128.9	0.25	2.82	1.00	3.10	51.	9.1	279.9	5.5
11	01	01	1	20	-23.6	0.239	-9.000	-9.000	-999.	287.	63.1	0.25	2.82	1.00	2.20	77.	9.1	278.8	5.5
11	01	01	1	21	-18.5	0.194	-9.000	-9.000	-999.	205.	41.2	0.25	2.82	1.00	1.80	53.	9.1	277.5	5.5
11	01	01	1	22	-23.7	0.239	-9.000	-9.000	-999.	281.	63.0	0.25	2.82						

```
1.00    2.20   58.    9.1  277.5    5.5
 11 01 01   1 23  -18.5  0.194 -9.000 -9.000 -999.  205.     41.2  0.25   2.82
1.00    1.80   64.    9.1  277.5    5.5
 11 01 01   1 24   -4.5  0.094 -9.000 -9.000 -999.   74.     16.3  0.25   2.82
1.00    0.90   52.    9.1  277.0    5.5


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 11 01 01 01    5.5 0 -999.  -99.00   276.5   99.0  -99.00  -99.00
 11 01 01 01    9.1 1   69.    1.80  -999.0   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
↟ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 13, SB I-15
VIC\Segment 13, SB I-15 VIC ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                       ***        14:21:44

                                  PAGE  10
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                   INCLUDING SOURCE(S):     L0000001    , L0000002
 , L0000003    , L0000004    , L0000005    ,
                   L0000006    , L0000007    , L0000008    , L0000009    , L0000010
 , L0000011    , L0000012    , L0000013    ,
                   L0000014    , L0000015    , L0000016    , L0000017    , L0000018
 , L0000019    , L0000020    , L0000021    ,
                   L0000022    , L0000023    ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                       ** CONC OF PM_10    IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - -
         468950.06    3816028.75      151.39041                     468950.06
3816128.75      126.77210
         468950.06    3816228.75      107.30858                     468950.06
3816328.75       90.99456
         468950.06    3816428.75       78.07048                     468950.06
3816528.75       66.45573
         468950.06    3816628.75       57.51064                     468950.06
3816728.75       50.90417
         468950.06    3816828.75       44.12591                     468950.06
```

3816928.75 40.05381
468950.06 3817028.75 34.99113 469050.06
3816028.75 249.58532
469050.06 3816128.75 190.94011 469050.06
3816228.75 153.70329
469050.06 3816328.75 125.84466 469050.06
3816428.75 103.11619
469050.06 3816528.75 85.96565 469050.06
3816628.75 74.00319
469050.06 3816728.75 64.20412 469050.06
3816828.75 55.56333
469050.06 3816928.75 47.88246 469050.06
3817028.75 40.96822
469150.06 3816028.75 280.98570 469150.06
3816128.75 356.66505
469150.06 3816228.75 248.82345 469150.06
3816328.75 188.75305
469150.06 3816428.75 148.15548 469150.06
3816528.75 119.37224
469150.06 3816628.75 100.38225 469150.06
3816728.75 82.84726
469150.06 3816828.75 69.27265 469150.06
3816928.75 58.36178
469150.06 3817028.75 48.68834 469250.06
3816028.75 507.39277
469250.06 3816128.75 357.74974 469250.06
3816228.75 281.38869
469250.06 3816328.75 351.12519 469250.06
3816428.75 238.10064
469250.06 3816528.75 179.49090 469250.06
3816628.75 140.38158
469250.06 3816728.75 111.55640 469250.06
3816828.75 89.80099
469250.06 3816928.75 72.39554 469250.06
3817028.75 59.82500
469350.06 3816028.75 338.09250 469350.06
3816128.75 511.65704
469350.06 3816228.75 372.75283 469350.06
3816328.75 328.74913
469350.06 3816428.75 268.22379 469350.06
3816528.75 322.71585
469350.06 3816628.75 221.86455 469350.06
3816728.75 163.68905
469350.06 3816828.75 124.56755 469350.06
3816928.75 96.30759
469350.06 3817028.75 74.74440 469450.06
3816028.75 202.12888
469450.06 3816128.75 258.19700 469450.06
3816228.75 342.30068
469450.06 3816328.75 522.25537 469450.06

3816428.75   344.05301
         469450.06   3816528.75   313.18190   469450.06
3816628.75   360.65833
         469450.06   3816728.75   293.11202   469450.06
3816828.75   194.52507
         469450.06   3816928.75   136.89912   469450.06
3817028.75   97.46842
         469550.06   3816028.75   139.56869   469550.06
3816128.75   169.10336
         469550.06   3816228.75   205.85616   469550.06
3816328.75   259.16711
         469550.06   3816628.75   323.90795   469550.06
3816728.75   295.23100
         469550.06   3816828.75   306.83802   469550.06
3816928.75   239.59349
         469550.06   3817028.75   140.87982   469650.06
3816028.75   104.16780
         469650.06   3816128.75   122.39320   469650.06
3816228.75   143.74641
         469650.06   3816328.75   170.62874   469650.06
3816828.75   284.16600

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

                   *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   L0000001   , L0000002
 , L0000003   , L0000004   , L0000005   ,
                   L0000006   , L0000007   , L0000008   , L0000009   , L0000010
 , L0000011   , L0000012   , L0000013   ,
                   L0000014   , L0000015   , L0000016   , L0000017   , L0000018
 , L0000019   , L0000020   , L0000021   ,
                   L0000022   , L0000023   ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                       ** CONC OF PM_10   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)
Y-COORD (M)   CONC
 -
- -
         469650.06   3816928.75   230.91267   469650.06

3817028.75 276.19668
469750.06 3816028.75 81.31918 469750.06
3816128.75 93.64829
469750.06 3816228.75 107.47141 469750.06
3816328.75 123.41929
469750.06 3817028.75 154.34348 469850.06
3816028.75 65.45426
469850.06 3816128.75 74.42137 469850.06
3816228.75 84.03484
469850.06 3816328.75 94.58554 469950.06
3816028.75 54.10996
469950.06 3816128.75 60.78207 469950.06
3816228.75 67.72191
469950.06 3816328.75 74.86867 468950.06
3817278.75 26.02691
468950.06 3817528.75 19.83247 469200.06
3817278.75 34.99061
469200.06 3817528.75 23.41111 469450.06
3817278.75 45.61549
469450.06 3817528.75 26.50258 469700.06
3817278.75 52.38837
469700.06 3817528.75 27.26267 469950.06
3817278.75 48.05375
469950.06 3817528.75 25.55318 470200.06
3817278.75 40.20532
470200.06 3817528.75 24.25913 470450.06
3817278.75 31.13566
470450.06 3817528.75 22.35869 470200.06
3817028.75 56.95854
470200.06 3816778.75 58.04941 470200.06
3816528.75 52.89375
470200.06 3816278.75 44.66495 470200.06
3816028.75 36.01162
470200.06 3815778.75 27.97020 470200.06
3815528.75 20.99368
470450.06 3817028.75 37.62330 470450.06
3816778.75 38.12912
470450.06 3816528.75 35.06833 470450.06
3816278.75 30.60377
470450.06 3816028.75 25.55697 470450.06
3815778.75 20.67413
470450.06 3815528.75 16.72467 469950.06
3815778.75 39.28286
469950.06 3815528.75 27.96428 469700.06
3815778.75 60.72377
469700.06 3815528.75 39.82771 469450.06
3815778.75 113.96573
469450.06 3815528.75 62.14460 469200.06
3815778.75 368.24164
469200.06 3815528.75 118.41284 468950.06

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3815778.75      270.05980
         468950.06    3815528.75      247.15714                       468700.06
3815778.75       74.39039
         468700.06    3815528.75       73.35862                       468450.06
3815778.75       36.14389
         468450.06    3815528.75       37.45253                       468700.06
3816028.75       63.92462
         468700.06    3816278.75       50.50356                       468700.06
3816528.75       39.41551
         468700.06    3816778.75       30.17472                       468700.06
3817028.75       23.99302
         468700.06    3817278.75       19.84162                       468700.06
3817528.75       16.44645
         468450.06    3816028.75       34.43949                       468450.06
3816278.75       29.41106
         468450.06    3816528.75       24.86532                       468450.06
3816778.75       20.89584
         468450.06    3817028.75       17.67594                       468450.06
3817278.75       15.09162
         468450.06    3817528.75       13.27442                       469399.30
3816589.65      372.35538
         469552.37    3816874.91      335.59436                       469604.55
3816979.27      276.13555
         469896.72    3816978.82      147.74932                       469903.98
3816873.50      141.02164
         469898.53    3816922.53      148.10113                       470127.34
3816641.06       64.68819
         470125.53    3816700.98       66.36850                       470167.29
3816750.01       61.46275
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 13, SB I-15
VIC\Segment 13, SB I-15 VIC ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                       ***        14:21:44

                                  PAGE  12
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                  *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                    INCLUDING SOURCE(S):     L0000001    , L0000002
 , L0000003    , L0000004    , L0000005    ,
                  L0000006    , L0000007    , L0000008    , L0000009    , L0000010
 , L0000011    , L0000012    , L0000013    ,
                  L0000014    , L0000015    , L0000016    , L0000017    , L0000018
 , L0000019    , L0000020    , L0000021    ,
                  L0000022    , L0000023    ,

                                                *** DISCRETE CARTESIAN RECEPTOR POINTS
***
```

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
468937.84	3815598.38	189.80376	468997.13	3815561.32	190.70968
469756.86	3817010.36	180.90116	469701.27	3817040.01	145.97325

*** THE SUMMARY OF MAXIMUM ANNUAL RESULTS AVERAGED OVER 5 YEARS ***

** CONC OF PM_10 IN MICROGRAMS/M**3
**

NETWORK GROUP ID	AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	GRID-ID
ALL	1ST HIGHEST VALUE IS	522.25537 AT (469450.06, 3816328.75, 927.57, 927.57, 0.00)	DC	
	2ND HIGHEST VALUE IS	511.65704 AT (469350.06, 3816128.75, 933.00, 933.00, 0.00)	DC	
	3RD HIGHEST VALUE IS	507.39277 AT (469250.06, 3816028.75, 934.00, 934.00, 0.00)	DC	
	4TH HIGHEST VALUE IS	372.75283 AT (469350.06, 3816228.75, 931.24, 931.24, 0.00)	DC	
	5TH HIGHEST VALUE IS	372.35538 AT (469399.30, 3816589.65, 927.69, 927.69, 0.00)	DC	
	6TH HIGHEST VALUE IS	368.24164 AT (469200.06, 3815778.75, 938.30, 938.30, 0.00)	DC	
	7TH HIGHEST VALUE IS	360.65833 AT (469450.06, 3816628.75, 927.00, 927.00, 0.00)	DC	
	8TH HIGHEST VALUE IS	357.74974 AT (469250.06, 3816128.75, 933.00, 933.00, 0.00)	DC	
	9TH HIGHEST VALUE IS	356.66505 AT (469150.06, 3816128.75,		

```
932.00,   932.00,    0.00)  DC
         10TH HIGHEST VALUE IS     351.12519 AT (  469250.06,  3816328.75,
931.66,   931.66,    0.00)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
↑ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 13, SB I-15
VIC\Segment 13, SB I-15 VIC ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                       ***        14:21:44

                                  PAGE  14
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

 *** Message Summary : AERMOD Model Execution ***

  --------- Summary of Total Messages --------

 A Total of           0 Fatal Error Message(s)
 A Total of           7 Warning Message(s)
 A Total of         838 Informational Message(s)

 A Total of       43848 Hours Were Processed

 A Total of          40 Calm Hours Identified

 A Total of         798 Missing Hours Identified (  1.82 Percent)


    ******** FATAL ERROR MESSAGES ********
               ***  NONE  ***


    ********   WARNING MESSAGES   ********
 ME W186     126       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used
      0.50
 ME W187     126       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET

 MX W438    8800        METQA: Convective Velocity Data Out-of-Range.  KURDAT =
  12010216
 MX W438   11536        METQA: Convective Velocity Data Out-of-Range.  KURDAT =
  12042516
 MX W420   16779        METQA: Wind Speed Out-of-Range.   KURDAT =
  12113003
 MX W450   26305       CHKDAT: Record Out of Sequence in Meteorological File at:
  15010101
 MX W450   26305       CHKDAT: Record Out of Sequence in Meteorological File at:
```

1 year gap

```
    ***********************************
    *** AERMOD Finishes Successfully ***
    ***********************************
```

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.7.0
** Lakes Environmental Software Inc.
** Date: 10/28/2019
** File: C:\Lakes\AERMOD View\Segment 14, SB SR-60\Segment 14, SB SR-60.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\Segment 14, SB SR-60\Segment 14, SB SR-60.isc
   MODELOPT DFAULT CONC
   AVERTIME ANNUAL
   URBANOPT 173212
   POLLUTID PM_10
   RUNORNOT RUN
   ERRORFIL "Segment 14, SB SR-60.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
** ----------------------------------------------------------------------
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE1
** DESCRSRC
** PREFIX
** Length of Side = 60.00
** Configuration = Adjacent
** Emission Rate = 28.0
** Vertical Dimension = 2.00
** SZINIT = 0.93
** Nodes = 3
** 448027.240, 3765102.400, 247.48, 2.00, 27.91
** 446870.310, 3765519.480, 252.94, 2.00, 27.91
** 446468.470, 3765643.830, 251.74, 2.00, 27.91
** ----------------------------------------------------------------------
```

```
   LOCATION L0000001     VOLUME   447999.018 3765112.574 247.63
   LOCATION L0000002     VOLUME   447942.574 3765132.923 248.07
   LOCATION L0000003     VOLUME   447886.130 3765153.271 248.28
   LOCATION L0000004     VOLUME   447829.686 3765173.620 248.49
   LOCATION L0000005     VOLUME   447773.241 3765193.968 248.69
   LOCATION L0000006     VOLUME   447716.797 3765214.316 249.13
   LOCATION L0000007     VOLUME   447660.353 3765234.665 249.41
   LOCATION L0000008     VOLUME   447603.909 3765255.013 249.67
   LOCATION L0000009     VOLUME   447547.465 3765275.362 250.14
   LOCATION L0000010     VOLUME   447491.021 3765295.710 250.64
   LOCATION L0000011     VOLUME   447434.577 3765316.059 250.54
   LOCATION L0000012     VOLUME   447378.132 3765336.407 250.16
   LOCATION L0000013     VOLUME   447321.688 3765356.756 250.04
   LOCATION L0000014     VOLUME   447265.244 3765377.104 250.40
   LOCATION L0000015     VOLUME   447208.800 3765397.452 251.19
   LOCATION L0000016     VOLUME   447152.356 3765417.801 252.37
   LOCATION L0000017     VOLUME   447095.912 3765438.149 251.91
   LOCATION L0000018     VOLUME   447039.468 3765458.498 251.29
   LOCATION L0000019     VOLUME   446983.023 3765478.846 253.27
   LOCATION L0000020     VOLUME   446926.579 3765499.195 252.99
   LOCATION L0000021     VOLUME   446870.132 3765519.535 252.85
   LOCATION L0000022     VOLUME   446812.814 3765537.272 253.18
   LOCATION L0000023     VOLUME   446755.496 3765555.009 252.84
   LOCATION L0000024     VOLUME   446698.177 3765572.747 252.06
   LOCATION L0000025     VOLUME   446640.859 3765590.484 250.76
   LOCATION L0000026     VOLUME   446583.541 3765608.221 250.69
   LOCATION L0000027     VOLUME   446526.222 3765625.958 251.07
   LOCATION L0000028     VOLUME   446468.904 3765643.696 251.71
** End of LINE VOLUME Source ID = SLINE1
** Source Parameters **
** LINE VOLUME Source ID = SLINE1
   SRCPARAM L0000001          1.0      2.00     27.91      0.93
   SRCPARAM L0000002          1.0      2.00     27.91      0.93
   SRCPARAM L0000003          1.0      2.00     27.91      0.93
   SRCPARAM L0000004          1.0      2.00     27.91      0.93
   SRCPARAM L0000005          1.0      2.00     27.91      0.93
   SRCPARAM L0000006          1.0      2.00     27.91      0.93
   SRCPARAM L0000007          1.0      2.00     27.91      0.93
   SRCPARAM L0000008          1.0      2.00     27.91      0.93
   SRCPARAM L0000009          1.0      2.00     27.91      0.93
   SRCPARAM L0000010          1.0      2.00     27.91      0.93
   SRCPARAM L0000011          1.0      2.00     27.91      0.93
   SRCPARAM L0000012          1.0      2.00     27.91      0.93
   SRCPARAM L0000013          1.0      2.00     27.91      0.93
   SRCPARAM L0000014          1.0      2.00     27.91      0.93
   SRCPARAM L0000015          1.0      2.00     27.91      0.93
   SRCPARAM L0000016          1.0      2.00     27.91      0.93
   SRCPARAM L0000017          1.0      2.00     27.91      0.93
   SRCPARAM L0000018          1.0      2.00     27.91      0.93
   SRCPARAM L0000019          1.0      2.00     27.91      0.93
```

```
   SRCPARAM L0000020          1.0      2.00     27.91      0.93
   SRCPARAM L0000021          1.0      2.00     27.91      0.93
   SRCPARAM L0000022          1.0      2.00     27.91      0.93
   SRCPARAM L0000023          1.0      2.00     27.91      0.93
   SRCPARAM L0000024          1.0      2.00     27.91      0.93
   SRCPARAM L0000025          1.0      2.00     27.91      0.93
   SRCPARAM L0000026          1.0      2.00     27.91      0.93
   SRCPARAM L0000027          1.0      2.00     27.91      0.93
   SRCPARAM L0000028          1.0      2.00     27.91      0.93
** ----------------------------------------------------------------
   URBANSRC ALL
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED "Segment 14, SB SR-60.rou"
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE "C:\Users\kheck\Desktop\MET Data\UplandsADJU\UPLA_V9_ADJU\UPLA_v9.SFC"
   PROFFILE "C:\Users\kheck\Desktop\MET Data\UplandsADJU\UPLA_V9_ADJU\UPLA_v9.PFL"
   SURFDATA 3102 2012
   UAIRDATA 3190 2012
   SITEDATA 99999 2012
   PROFBASE 379.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
** Auto-Generated Plotfiles
   PLOTFILE ANNUAL ALL "Segment 14, SB SR-60.AD\AN00GALL.PLT" 31
   SUMMFILE "Segment 14, SB SR-60.sum"
OU FINISHED


  *** Message Summary For AERMOD Model Setup ***
```

```
 --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of            2 Warning Message(s)
 A Total of            0 Informational Message(s)


    ******** FATAL ERROR MESSAGES ********
              ***  NONE  ***


    ********   WARNING MESSAGES   ********
 ME W186     136       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used
      0.50
 ME W187     136       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET


 **********************************
 *** SETUP Finishes Successfully ***
 **********************************

 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 14, SB
SR-60\Segment 14, SB SR-60.isc   ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                       ***        11:05:33

                                  PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                          ***     MODEL SETUP OPTIONS SUMMARY
  ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - -

 **Model Is Setup For Calculation of Average CONCentration Values.

   --  DEPOSITION LOGIC  --
 **NO GAS DEPOSITION Data Provided.
 **NO PARTICLE DEPOSITION Data Provided.
 **Model Uses NO DRY DEPLETION.  DRYDPLT  =  F
 **Model Uses NO WET DEPLETION.  WETDPLT  =  F

 **Model Uses URBAN Dispersion Algorithm for the SBL for    28 Source(s),
   for Total of    1 Urban Area(s):
   Urban Population =    173212.0 ;  Urban Roughness Length =  1.000 m

 **Model Uses Regulatory DEFAULT Options:
        1. Stack-tip Downwash.
        2. Model Accounts for ELEVated Terrain Effects.
```

```
         3. Use Calms Processing Routine.
         4. Use Missing Data Processing Routine.
         5. No Exponential Decay.
         6. Urban Roughness Length of 1.0 Meter Assumed.

 **Other Options Specified:
         ADJ_U*   - Use ADJ_U* option for SBL in AERMET
         TEMP_Sub - Meteorological data includes TEMP substitutions

 **Model Assumes No FLAGPOLE Receptor Heights.

 **The User Specified a Pollutant Type of:  PM_10

 **Model Calculates ANNUAL Averages Only

 **This Run Includes:     28 Source(s);       1 Source Group(s); and     173
Receptor(s)

                with:      0 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                 and:     28 VOLUME source(s)
                 and:      0 AREA type source(s)
                 and:      0 LINE source(s)
                 and:      0 OPENPIT source(s)
                 and:      0 BUOYANT LINE source(s) with      0 line(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  16216

 **Output Options Selected:
          Model Outputs Tables of ANNUAL Averages by Receptor
          Model Outputs External File(s) of High Values for Plotting (PLOTFILE
Keyword)
          Model Outputs Separate Summary File of High Ranked Values (SUMMFILE
Keyword)

 **NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                 m for Missing
Hours
                                                                 b for Both Calm
and Missing Hours

 **Misc. Inputs:  Base Elev. for Pot. Temp. Profile (m MSL) =   379.00 ;  Decay
Coef. =    0.000     ;  Rot. Angle =     0.0
                  Emission Units = GRAMS/SEC                                 ;
Emission Rate Unit Factor =   0.10000E+07
                  Output Units   = MICROGRAMS/M**3
```

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0000001	0	0.10000E+01	447999.0	3765112.6	247.6	2.00	27.91	0.93	YES	
L0000002	0	0.10000E+01	447942.6	3765132.9	248.1	2.00	27.91	0.93	YES	
L0000003	0	0.10000E+01	447886.1	3765153.3	248.3	2.00	27.91	0.93	YES	
L0000004	0	0.10000E+01	447829.7	3765173.6	248.5	2.00	27.91	0.93	YES	
L0000005	0	0.10000E+01	447773.2	3765194.0	248.7	2.00	27.91	0.93	YES	
L0000006	0	0.10000E+01	447716.8	3765214.3	249.1	2.00	27.91	0.93	YES	
L0000007	0	0.10000E+01	447660.4	3765234.7	249.4	2.00	27.91	0.93	YES	
L0000008	0	0.10000E+01	447603.9	3765255.0	249.7	2.00	27.91	0.93	YES	
L0000009	0	0.10000E+01	447547.5	3765275.4	250.1	2.00	27.91	0.93	YES	
L0000010	0	0.10000E+01	447491.0	3765295.7	250.6	2.00	27.91			

```
0.93     YES
 L0000011         0   0.10000E+01  447434.6 3765316.1   250.5     2.00    27.91
0.93     YES
 L0000012         0   0.10000E+01  447378.1 3765336.4   250.2     2.00    27.91
0.93     YES
 L0000013         0   0.10000E+01  447321.7 3765356.8   250.0     2.00    27.91
0.93     YES
 L0000014         0   0.10000E+01  447265.2 3765377.1   250.4     2.00    27.91
0.93     YES
 L0000015         0   0.10000E+01  447208.8 3765397.5   251.2     2.00    27.91
0.93     YES
 L0000016         0   0.10000E+01  447152.4 3765417.8   252.4     2.00    27.91
0.93     YES
 L0000017         0   0.10000E+01  447095.9 3765438.1   251.9     2.00    27.91
0.93     YES
 L0000018         0   0.10000E+01  447039.5 3765458.5   251.3     2.00    27.91
0.93     YES
 L0000019         0   0.10000E+01  446983.0 3765478.8   253.3     2.00    27.91
0.93     YES
 L0000020         0   0.10000E+01  446926.6 3765499.2   253.0     2.00    27.91
0.93     YES
 L0000021         0   0.10000E+01  446870.1 3765519.5   252.9     2.00    27.91
0.93     YES
 L0000022         0   0.10000E+01  446812.8 3765537.3   253.2     2.00    27.91
0.93     YES
 L0000023         0   0.10000E+01  446755.5 3765555.0   252.8     2.00    27.91
0.93     YES
 L0000024         0   0.10000E+01  446698.2 3765572.7   252.1     2.00    27.91
0.93     YES
 L0000025         0   0.10000E+01  446640.9 3765590.5   250.8     2.00    27.91
0.93     YES
 L0000026         0   0.10000E+01  446583.5 3765608.2   250.7     2.00    27.91
0.93     YES
 L0000027         0   0.10000E+01  446526.2 3765626.0   251.1     2.00    27.91
0.93     YES
 L0000028         0   0.10000E+01  446468.9 3765643.7   251.7     2.00    27.91
0.93     YES
```



```
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                              *** SOURCE IDs DEFINING SOURCE GROUPS
***

 SRCGROUP ID                                                SOURCE IDs
```

```
 -----------                                                  ----------


  ALL        L0000001    , L0000002    , L0000003    , L0000004    , L0000005    ,
L0000006    , L0000007    , L0000008    ,

             L0000009    , L0000010    , L0000011    , L0000012    , L0000013    ,
L0000014    , L0000015    , L0000016    ,

             L0000017    , L0000018    , L0000019    , L0000020    , L0000021    ,
L0000022    , L0000023    , L0000024    ,

             L0000025    , L0000026    , L0000027    , L0000028    ,
↑ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 14, SB
SR-60\Segment 14, SB SR-60.isc   ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                        ***        11:05:33

                                   PAGE   4
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                         *** SOURCE IDs DEFINED AS URBAN SOURCES
***

  URBAN ID   URBAN POP                                      SOURCE IDs
  --------   ---------                                      ----------


               173212.   L0000001    , L0000002    , L0000003    , L0000004    ,
L0000005    , L0000006    , L0000007    ,
 L0000008    ,

             L0000009    , L0000010    , L0000011    , L0000012    , L0000013    ,
L0000014    , L0000015    , L0000016    ,

             L0000017    , L0000018    , L0000019    , L0000020    , L0000021    ,
L0000022    , L0000023    , L0000024    ,

             L0000025    , L0000026    , L0000027    , L0000028    ,
↑ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 14, SB
SR-60\Segment 14, SB SR-60.isc   ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                        ***        11:05:33

                                   PAGE   5
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                           *** DISCRETE CARTESIAN RECEPTORS ***
                                         (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
```

(METERS)

(446737.0, 3764888.0, 244.4, 244.4, 0.0); (446737.0, 3764988.0, 245.4, 245.4, 0.0);
(446737.0, 3765088.0, 246.1, 246.1, 0.0); (446737.0, 3765188.0, 246.9, 246.9, 0.0);
(446737.0, 3765288.0, 248.7, 248.7, 0.0); (446737.0, 3765388.0, 250.1, 250.1, 0.0);
(446737.0, 3765588.0, 253.0, 253.0, 0.0); (446737.0, 3765688.0, 252.7, 252.7, 0.0);
(446737.0, 3765788.0, 253.0, 253.0, 0.0); (446737.0, 3765888.0, 254.2, 254.2, 0.0);
(446837.0, 3764888.0, 244.4, 244.4, 0.0); (446837.0, 3764988.0, 245.4, 245.4, 0.0);
(446837.0, 3765088.0, 246.1, 246.1, 0.0); (446837.0, 3765488.0, 252.9, 252.9, 0.0);
(446837.0, 3765588.0, 253.3, 253.3, 0.0); (446837.0, 3765688.0, 253.4, 253.4, 0.0);
(446837.0, 3765788.0, 254.1, 254.1, 0.0); (446837.0, 3765888.0, 256.1, 256.1, 0.0);
(446937.0, 3764888.0, 245.1, 245.1, 0.0); (446937.0, 3764988.0, 246.2, 246.2, 0.0);
(446937.0, 3765088.0, 246.7, 246.7, 0.0); (446937.0, 3765188.0, 247.0, 247.0, 0.0);
(446937.0, 3765488.0, 253.0, 253.0, 0.0); (446937.0, 3765588.0, 253.5, 253.5, 0.0);
(446937.0, 3765688.0, 254.1, 254.1, 0.0); (446937.0, 3765788.0, 255.0, 255.0, 0.0);
(446937.0, 3765888.0, 255.9, 255.9, 0.0); (447037.0, 3764888.0, 245.8, 245.8, 0.0);
(447037.0, 3764988.0, 247.5, 247.5, 0.0); (447037.0, 3765088.0, 247.9, 247.9, 0.0);
(447037.0, 3765188.0, 248.6, 248.6, 0.0); (447037.0, 3765288.0, 249.6, 249.6, 0.0);
(447037.0, 3765488.0, 252.5, 252.5, 0.0); (447037.0, 3765588.0, 253.6, 253.6, 0.0);
(447037.0, 3765688.0, 254.3, 254.3, 0.0); (447037.0, 3765788.0, 255.0, 255.0, 0.0);
(447037.0, 3765888.0, 256.1, 256.1, 0.0); (447137.0, 3764888.0, 246.7, 246.7, 0.0);
(447137.0, 3764988.0, 248.2, 248.2, 0.0); (447137.0, 3765088.0, 249.7, 249.7, 0.0);
(447137.0, 3765188.0, 249.9, 249.9, 0.0); (447137.0, 3765288.0, 249.6, 249.6, 0.0);
(447137.0, 3765488.0, 252.5, 252.5, 0.0); (447137.0, 3765588.0, 253.5, 253.5, 0.0);
(447137.0, 3765688.0, 254.2, 254.2, 0.0); (447137.0, 3765788.0, 255.0, 255.0, 0.0);
(447137.0, 3765888.0, 255.7, 255.7, 0.0); (447237.0, 3764888.0, 247.5, 247.5, 0.0);

```
     ( 447237.0, 3764988.0,     249.2,     249.2,       0.0);         ( 447237.0,
3765088.0,     249.8,     249.8,       0.0);
     ( 447237.0, 3765188.0,     249.9,     249.9,       0.0);         ( 447237.0,
3765288.0,     249.6,     249.6,       0.0);
     ( 447237.0, 3765388.0,     250.8,     250.8,       0.0);         ( 447237.0,
3765488.0,     252.5,     252.5,       0.0);
     ( 447237.0, 3765588.0,     253.3,     253.3,       0.0);         ( 447237.0,
3765688.0,     254.0,     254.0,       0.0);
     ( 447237.0, 3765788.0,     254.8,     254.8,       0.0);         ( 447237.0,
3765888.0,     255.4,     255.4,       0.0);
     ( 447337.0, 3764888.0,     246.8,     246.8,       0.0);         ( 447337.0,
3764988.0,     247.5,     247.5,       0.0);
     ( 447337.0, 3765088.0,     249.5,     249.5,       0.0);         ( 447337.0,
3765188.0,     249.9,     249.9,       0.0);
     ( 447337.0, 3765288.0,     249.6,     249.6,       0.0);         ( 447337.0,
3765388.0,     250.5,     250.5,       0.0);
     ( 447337.0, 3765488.0,     252.0,     252.0,       0.0);         ( 447337.0,
3765588.0,     252.7,     252.7,       0.0);
     ( 447337.0, 3765688.0,     254.0,     254.0,       0.0);         ( 447337.0,
3765788.0,     254.7,     254.7,       0.0);
     ( 447337.0, 3765888.0,     255.4,     255.4,       0.0);         ( 447437.0,
3764888.0,     246.5,     246.5,       0.0);
     ( 447437.0, 3764988.0,     247.5,     247.5,       0.0);         ( 447437.0,
3765088.0,     249.2,     249.2,       0.0);
     ( 447437.0, 3765188.0,     249.6,     249.6,       0.0);         ( 447437.0,
3765288.0,     250.0,     250.0,       0.0);
     ( 447437.0, 3765388.0,     252.0,     252.0,       0.0);         ( 447437.0,
3765488.0,     253.4,     253.4,       0.0);
     ( 447437.0, 3765588.0,     255.2,     255.2,       0.0);         ( 447437.0,
3765688.0,     255.4,     255.4,       0.0);
     ( 447437.0, 3765788.0,     255.2,     255.2,       0.0);         ( 447437.0,
3765888.0,     255.4,     255.4,       0.0);
     ( 447537.0, 3764888.0,     246.2,     246.2,       0.0);         ( 447537.0,
3764988.0,     247.2,     247.2,       0.0);
     ( 447537.0, 3765088.0,     248.2,     248.2,       0.0);         ( 447537.0,
3765188.0,     249.2,     249.2,       0.0);
     ( 447537.0, 3765288.0,     250.4,     250.4,       0.0);         ( 447537.0,
3765388.0,     252.2,     252.2,       0.0);
     ( 447537.0, 3765488.0,     254.4,     254.4,       0.0);         ( 447537.0,
3765588.0,     256.8,     256.8,       0.0);
     ( 447537.0, 3765688.0,     258.5,     258.5,       0.0);         ( 447537.0,
3765788.0,     255.9,     255.9,       0.0);
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 14, SB
SR-60\Segment 14, SB SR-60.isc   ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                          ***        11:05:33

                                    PAGE   6
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*
```

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(447537.0, 3765888.0, 255.9, 255.9, 0.0); (447637.0, 3764888.0, 246.1, 246.1, 0.0);
(447637.0, 3764988.0, 246.9, 246.9, 0.0); (447637.0, 3765088.0, 247.9, 247.9, 0.0);
(447637.0, 3765188.0, 248.9, 248.9, 0.0); (447637.0, 3765288.0, 250.0, 250.0, 0.0);
(447637.0, 3765388.0, 252.6, 252.6, 0.0); (447637.0, 3765488.0, 253.2, 253.2, 0.0);
(447637.0, 3765588.0, 254.6, 254.6, 0.0); (447637.0, 3765688.0, 255.3, 255.3, 0.0);
(447637.0, 3765788.0, 256.0, 256.0, 0.0); (447637.0, 3765888.0, 256.6, 256.6, 0.0);
(447737.0, 3764888.0, 245.9, 245.9, 0.0); (447737.0, 3764988.0, 246.6, 246.6, 0.0);
(447737.0, 3765088.0, 247.6, 247.6, 0.0); (447737.0, 3765188.0, 248.7, 248.7, 0.0);
(447737.0, 3765288.0, 249.7, 249.7, 0.0); (447737.0, 3765388.0, 254.7, 254.7, 0.0);
(447737.0, 3765488.0, 253.9, 253.9, 0.0); (447737.0, 3765588.0, 253.0, 253.0, 0.0);
(447737.0, 3765688.0, 254.4, 254.4, 0.0); (447737.0, 3765788.0, 255.9, 255.9, 0.0);
(447737.0, 3765888.0, 256.7, 256.7, 0.0); (446737.0, 3766138.0, 254.5, 254.5, 0.0);
(446737.0, 3766388.0, 259.0, 259.0, 0.0); (446987.0, 3766138.0, 257.8, 257.8, 0.0);
(446987.0, 3766388.0, 260.1, 260.1, 0.0); (447237.0, 3766138.0, 257.6, 257.6, 0.0);
(447237.0, 3766388.0, 260.2, 260.2, 0.0); (447487.0, 3766138.0, 257.7, 257.7, 0.0);
(447487.0, 3766388.0, 260.1, 260.1, 0.0); (447737.0, 3766138.0, 259.0, 259.0, 0.0);
(447737.0, 3766388.0, 262.2, 262.2, 0.0); (447987.0, 3766138.0, 260.7, 260.7, 0.0);
(447987.0, 3766388.0, 262.2, 262.2, 0.0); (448237.0, 3766138.0, 260.0, 260.0, 0.0);
(448237.0, 3766388.0, 263.0, 263.0, 0.0); (447987.0, 3765888.0, 256.4, 256.4, 0.0);
(447987.0, 3765638.0, 253.5, 253.5, 0.0); (447987.0, 3765388.0, 250.4, 250.4, 0.0);
(447987.0, 3765138.0, 248.1, 248.1, 0.0); (447987.0, 3764888.0, 245.9, 245.9, 0.0);
(447987.0, 3764638.0, 244.2, 244.2, 0.0); (447987.0, 3764388.0, 243.8, 243.8, 0.0);
(448237.0, 3765888.0, 256.1, 256.1, 0.0); (448237.0, 3765638.0, 252.9, 252.9, 0.0);

```
     ( 448237.0, 3765388.0,     250.5,     250.5,       0.0);         ( 448237.0,
3765138.0,     248.7,     248.7,       0.0);
     ( 448237.0, 3764888.0,     246.5,     246.5,       0.0);         ( 448237.0,
3764638.0,     244.4,     244.4,       0.0);
     ( 448237.0, 3764388.0,     242.3,     242.3,       0.0);         ( 447737.0,
3764638.0,     244.0,     244.0,       0.0);
     ( 447737.0, 3764388.0,     243.4,     243.4,       0.0);         ( 447487.0,
3764638.0,     244.4,     244.4,       0.0);
     ( 447487.0, 3764388.0,     243.5,     243.5,       0.0);         ( 447237.0,
3764638.0,     244.1,     244.1,       0.0);
     ( 447237.0, 3764388.0,     242.6,     242.6,       0.0);         ( 446987.0,
3764638.0,     243.7,     243.7,       0.0);
     ( 446987.0, 3764388.0,     240.8,     240.8,       0.0);         ( 446737.0,
3764638.0,     242.1,     242.1,       0.0);
     ( 446737.0, 3764388.0,     241.1,     241.1,       0.0);         ( 446487.0,
3764638.0,     240.9,     240.9,       0.0);
     ( 446487.0, 3764388.0,     240.1,     240.1,       0.0);         ( 446237.0,
3764638.0,     243.3,     243.3,       0.0);
     ( 446237.0, 3764388.0,     240.2,     240.2,       0.0);         ( 446487.0,
3764888.0,     243.8,     243.8,       0.0);
     ( 446487.0, 3765138.0,     247.5,     247.5,       0.0);         ( 446487.0,
3765388.0,     250.1,     250.1,       0.0);
     ( 446487.0, 3765638.0,     251.5,     251.5,       0.0);         ( 446487.0,
3765888.0,     253.0,     253.0,       0.0);
     ( 446487.0, 3766138.0,     254.5,     254.5,       0.0);         ( 446487.0,
3766388.0,     257.9,     257.9,       0.0);
     ( 446237.0, 3764888.0,     245.3,     245.3,       0.0);         ( 446237.0,
3765138.0,     246.4,     246.4,       0.0);
     ( 446237.0, 3765388.0,     248.9,     248.9,       0.0);         ( 446237.0,
3765638.0,     250.6,     250.6,       0.0);
     ( 446237.0, 3765888.0,     251.9,     251.9,       0.0);         ( 446237.0,
3766138.0,     253.8,     253.8,       0.0);
     ( 446237.0, 3766388.0,     255.5,     255.5,       0.0);         ( 446437.5,
3765682.0,     252.1,     252.1,       0.0);
     ( 448026.7, 3765145.7,     247.9,     247.9,       0.0);         ( 447990.9,
3765086.1,     247.4,     247.4,       0.0);
     ( 446417.6, 3765622.4,     251.3,     251.3,       0.0);

 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 14, SB
SR-60\Segment 14, SB SR-60.isc   ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                        ***        11:05:33

                                    PAGE   7
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                     * SOURCE-RECEPTOR COMBINATIONS FOR WHICH CALCULATIONS MAY NOT
BE PERFORMED *
                       LESS THAN 1.0 METER; WITHIN OPENPIT; OR BEYOND 80KM FOR
FASTAREA/FASTALL
```

SOURCE ID	- - RECEPTOR LOCATION - - XR (METERS)	YR (METERS)	DISTANCE (METERS)
L0000001	447987.0	3765138.0	-31.88
L0000001	448026.7	3765145.7	-16.84
L0000001	447990.9	3765086.1	-32.33
L0000002	447987.0	3765138.0	-15.29
L0000005	447737.0	3765188.0	-23.28
L0000006	447737.0	3765188.0	-26.83
L0000007	447637.0	3765188.0	-7.82
L0000007	447637.0	3765288.0	-1.78
L0000008	447637.0	3765288.0	-13.28
L0000009	447537.0	3765288.0	-43.60
L0000010	447437.0	3765288.0	-5.44
L0000010	447537.0	3765288.0	-13.39
L0000011	447437.0	3765288.0	-31.84
L0000013	447337.0	3765388.0	-25.21
L0000014	447237.0	3765388.0	-29.73
L0000015	447237.0	3765388.0	-30.26
L0000018	447037.0	3765488.0	-30.40
L0000019	446937.0	3765488.0	-13.08
L0000019	447037.0	3765488.0	-5.26
L0000020	446937.0	3765488.0	-44.71
L0000021	446837.0	3765488.0	

-14.27
L0000022 446837.0 3765488.0
-5.12
L0000022 446837.0 3765588.0
-3.81
L0000023 446737.0 3765588.0
-22.18
L0000024 446737.0 3765588.0
-18.29
L0000027 446487.0 3765638.0
-18.98
L0000028 446487.0 3765638.0
-41.04
L0000028 446437.5 3765682.0
-10.44
L0000028 446417.6 3765622.4
-4.51

↑ *** AERMOD - VERSION 18081 *** *** C:\Lakes\AERMOD View\Segment 14, SB SR-60\Segment 14, SB SR-60.isc *** 10/28/19
*** AERMET - VERSION 16216 *** ***
*** 11:05:33

PAGE 8

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***

(1=YES; 0=NO)

1 1

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: C:\Users\kheck\Desktop\MET Data\UplandsADJU\UPLA_V9_ADJU\UPLA_v9.SFC Met Version: 16216
Profile file: C:\Users\kheck\Desktop\MET Data\UplandsADJU\UPLA_V9_ADJU\UPLA_v9.PFL
Surface format: FREE

Profile format: FREE

Surface station no.: 3102 Upper air station no.: 3190
Name: UNKNOWN Name: UNKNOWN

Year: 2012 Year: 2012

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
12	01	01	1	01	-21.0	0.218	-9.000	-9.000	-999.	245.	52.4	0.34	1.15	1.00	1.80	351.	9.1	284.2	5.5
12	01	01	1	02	-21.0	0.218	-9.000	-9.000	-999.	245.	52.4	0.34	1.15	1.00	1.80	347.	9.1	284.2	5.5
12	01	01	1	03	-25.9	0.270	-9.000	-9.000	-999.	336.	79.9	0.34	1.15	1.00	2.20	340.	9.1	284.2	5.5
12	01	01	1	04	-20.9	0.218	-9.000	-9.000	-999.	246.	52.4	0.34	1.15	1.00	1.80	337.	9.1	285.4	5.5
12	01	01	1	05	-5.4	0.105	-9.000	-9.000	-999.	89.	18.5	0.34	1.15	1.00	0.90	344.	9.1	284.9	5.5
12	01	01	1	06	-11.5	0.154	-9.000	-9.000	-999.	145.	27.6	0.34	1.15	1.00	1.30	17.	9.1	283.1	5.5
12	01	01	1	07	-11.5	0.154	-9.000	-9.000	-999.	145.	27.6	0.34	1.15	1.00	1.30	326.	9.1	282.0	5.5
12	01	01	1	08	-10.1	0.156	-9.000	-9.000	-999.	147.	32.6	0.34	1.15						

```
0.53    1.30  337.    9.1  284.9    5.5
 12 01 01   1 09   42.1  0.096  0.369  0.015   42.   72.     -1.8  0.34   1.15
0.31    0.40  347.    9.1  291.4    5.5
 12 01 01   1 10  102.2  0.280  0.715  0.005  125.  356.    -18.8  0.34   1.15
0.24    1.80  320.    9.1  296.4    5.5
 12 01 01   1 11  143.5  0.233  1.110  0.005  333.  271.     -7.7  0.34   1.15
0.21    1.30  185.    9.1  297.5    5.5
 12 01 01   1 12  162.2  0.188  1.407  0.005  600.  196.     -3.6  0.34   1.15
0.20    0.90  199.    9.1  298.1    5.5
 12 01 01   1 13  158.3  0.187  1.641  0.005  974.  195.     -3.6  0.34   1.15
0.20    0.90  152.    9.1  299.9    5.5
 12 01 01   1 14  131.9  0.288  1.687  0.005 1270.  370.    -15.7  0.34   1.15
0.22    1.80  107.    9.1  301.4    5.5
 12 01 01   1 15   84.3  0.106  1.511  0.005 1427.  119.     -1.2  0.34   1.15
0.25    0.40  107.    9.1  302.0    5.5
 12 01 01   1 16   32.1  0.154  1.105  0.005 1463.  146.    -10.0  0.34   1.15
0.34    0.90  124.    9.1  302.0    5.5
 12 01 01   1 17  -10.6  0.155 -9.000 -9.000 -999.  146.     30.5  0.34   1.15
0.62    1.30  138.    9.1  299.9    5.5
 12 01 01   1 18  -20.4  0.219 -9.000 -9.000 -999.  245.     52.5  0.34   1.15
1.00    1.80  353.    9.1  293.1    5.5
 12 01 01   1 19 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.34   1.15
1.00  999.00  999.   -9.0  291.2    5.5
 12 01 01   1 20   -5.4  0.105 -9.000 -9.000 -999.   81.     18.6  0.34   1.15
1.00    0.90  308.    9.1  289.2    5.5
 12 01 01   1 21  -11.4  0.154 -9.000 -9.000 -999.  145.     27.9  0.34   1.15
1.00    1.30  339.    9.1  287.0    5.5
 12 01 01   1 22  -11.5  0.154 -9.000 -9.000 -999.  145.     27.8  0.34   1.15
1.00    1.30  339.    9.1  286.4    5.5
 12 01 01   1 23   -5.4  0.105 -9.000 -9.000 -999.   81.     18.5  0.34   1.15
1.00    0.90  336.    9.1  285.4    5.5
 12 01 01   1 24  -11.5  0.154 -9.000 -9.000 -999.  145.     27.7  0.34   1.15
1.00    1.30  338.    9.1  284.9    5.5


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 12 01 01 01    5.5 0 -999.  -99.00   284.3   99.0  -99.00  -99.00
 12 01 01 01    9.1 1  351.    1.80  -999.0   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 14, SB
SR-60\Segment 14, SB SR-60.isc   ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                       ***        11:05:33

                                  PAGE  10
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
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YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): L0000001 , L0000002 , L0000003 , L0000004 , L0000005 , L0000006 , L0000007 , L0000008 , L0000009 , L0000010 , L0000011 , L0000012 , L0000013 , L0000014 , L0000015 , L0000016 , L0000017 , L0000018 , L0000019 , L0000020 , L0000021 , L0000022 , L0000023 , L0000024 , L0000025 , L0000026 , L0000027 , L0000028 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
446737.00	3764888.00	61.80049	446737.00	3764988.00	74.55186
446737.00	3765088.00	92.33834	446737.00	3765188.00	119.02524
446737.00	3765288.00	164.16402	446737.00	3765388.00	256.51652
446737.00	3765588.00	409.62536	446737.00	3765688.00	365.97571
446737.00	3765788.00	191.07693	446737.00	3765888.00	120.68643
446837.00	3764888.00	67.63607	446837.00	3764988.00	82.55098
446837.00	3765088.00	103.72678	446837.00	3765488.00	385.37500
446837.00	3765588.00	537.14985	446837.00	3765688.00	308.48810
446837.00	3765788.00	178.90625	446837.00	3765888.00	114.54541
446937.00	3764888.00	73.66448	446937.00	3764988.00	90.99980
446937.00	3765088.00	116.05774	446937.00	3765188.00	155.61554
446937.00	3765488.00	464.69532	446937.00	3765588.00	536.44860
446937.00	3765688.00	264.23072	446937.00	3765788.00	164.93618
446937.00	3765888.00	111.49423	447037.00	3764888.00	79.81526
447037.00	3764988.00	99.98057	447037.00	3765088.00	129.75492

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         447037.00    3765188.00      178.99047                      447037.00
3765288.00      278.00200
         447037.00    3765488.00      446.83711                      447037.00
3765588.00      403.98969
         447037.00    3765688.00      229.44978                      447037.00
3765788.00      151.99256
         447037.00    3765888.00      106.20999                      447137.00
3764888.00       86.13207
         447137.00    3764988.00      109.45952                      447137.00
3765088.00      145.25516
         447137.00    3765188.00      207.31376                      447137.00
3765288.00      346.74740
         447137.00    3765488.00      747.92990                      447137.00
3765588.00      324.85384
         447137.00    3765688.00      201.82659                      447137.00
3765788.00      139.64017
         447137.00    3765888.00      100.00283                      447237.00
3764888.00       92.60048
         447237.00    3764988.00      119.71514                      447237.00
3765088.00      162.76719
         447237.00    3765188.00      243.04370                      447237.00
3765288.00      459.64849
         447237.00    3765388.00      446.54892                      447237.00
3765488.00      510.92160
         447237.00    3765588.00      271.57417                      447237.00
3765688.00      179.42814
         447237.00    3765788.00      128.21191                      447237.00
3765888.00       94.58446
         447337.00    3764888.00       99.01991                      447337.00
3764988.00      130.55176
         447337.00    3765088.00      183.58427                      447337.00
3765188.00      291.77550
         447337.00    3765288.00      688.62484                      447337.00
3765388.00      652.79921
         447337.00    3765488.00      389.50053                      447337.00
3765588.00      232.69853
         447337.00    3765688.00      160.12110                      447337.00
3765788.00      117.34606
         447337.00    3765888.00       88.06743                      447437.00
3764888.00      105.56403
         447437.00    3764988.00      142.85394                      447437.00
3765088.00      209.34237
         447437.00    3765188.00      364.03379                      447437.00
3765288.00      443.78019
         447437.00    3765388.00      679.94285                      447437.00
3765488.00      311.91114
         447437.00    3765588.00      191.00833                      447437.00
3765688.00      136.21072
         447437.00    3765788.00      104.82339                      447437.00
3765888.00       81.62859
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): L0000001 , L0000002 , L0000003 , L0000004 , L0000005 ,
L0000006 , L0000007 , L0000008 , L0000009 , L0000010 , L0000011 , L0000012 , L0000013 ,
L0000014 , L0000015 , L0000016 , L0000017 , L0000018 , L0000019 , L0000020 , L0000021 ,
L0000022 , L0000023 , L0000024 , L0000025 , L0000026 , L0000027 , L0000028 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447537.00	3764888.00	112.03405	447537.00	3764988.00	156.62541
447537.00	3765088.00	242.46663	447537.00	3765188.00	487.98136
447537.00	3765288.00	453.81559	447537.00	3765388.00	473.04073
447537.00	3765488.00	252.23705	447537.00	3765588.00	160.18896
447537.00	3765688.00	118.05179	447537.00	3765788.00	93.10642
447537.00	3765888.00	74.52997	447637.00	3764888.00	118.05003
447637.00	3764988.00	172.10741	447637.00	3765088.00	288.50949
447637.00	3765188.00	511.80371	447637.00	3765288.00	418.64233
447637.00	3765388.00	359.16052	447637.00	3765488.00	217.71416
447637.00	3765588.00	148.21058	447637.00	3765688.00	109.26072
447637.00	3765788.00	84.48349	447637.00		

3765888.00 67.54366
447737.00 3764888.00 122.61876 447737.00
3764988.00 189.08277
447737.00 3765088.00 358.05879 447737.00
3765188.00 402.93578
447737.00 3765288.00 597.15023 447737.00
3765388.00 264.17712
447737.00 3765488.00 179.48960 447737.00
3765588.00 134.87279
447737.00 3765688.00 100.85773 447737.00
3765788.00 76.93348
447737.00 3765888.00 62.18850 446737.00
3766138.00 57.99837
446737.00 3766388.00 27.38568 446987.00
3766138.00 51.15960
446987.00 3766388.00 26.50391 447237.00
3766138.00 49.10639
447237.00 3766388.00 26.13796 447487.00
3766138.00 44.31260
447487.00 3766388.00 25.27200 447737.00
3766138.00 37.39538
447737.00 3766388.00 21.97115 447987.00
3766138.00 31.79300
447987.00 3766388.00 20.71470 448237.00
3766138.00 28.73786
448237.00 3766388.00 19.05002 447987.00
3765888.00 50.85318
447987.00 3765638.00 82.83729 447987.00
3765388.00 160.58196
447987.00 3765138.00 229.15793 447987.00
3764888.00 110.60812
447987.00 3764638.00 53.03335 447987.00
3764388.00 34.15724
448237.00 3765888.00 40.75517 448237.00
3765638.00 59.18181
448237.00 3765388.00 86.02707 448237.00
3765138.00 103.27240
448237.00 3764888.00 61.64467 448237.00
3764638.00 39.89174
448237.00 3764388.00 28.37133 447737.00
3764638.00 60.08985
447737.00 3764388.00 37.73061 447487.00
3764638.00 59.83202
447487.00 3764388.00 38.57555 447237.00
3764638.00 55.38360
447237.00 3764388.00 37.10035 446987.00
3764638.00 49.01321
446987.00 3764388.00 34.05427 446737.00
3764638.00 41.71141
446737.00 3764388.00 30.21340 446487.00

```
3764638.00       34.38046
         446487.00    3764388.00       26.02014                       446237.00
3764638.00       27.90305
         446237.00    3764388.00       22.05569                       446487.00
3764888.00       47.88770
         446487.00    3765138.00       73.13533                       446487.00
3765388.00      141.53318
         446487.00    3765638.00      195.58936                       446487.00
3765888.00      103.79215
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 14, SB
SR-60\Segment 14, SB SR-60.isc   ***        10/28/19
 *** AERMET - VERSION  16216 ***   ***
                       ***        11:05:33

                                  PAGE  12
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                  INCLUDING SOURCE(S):     L0000001    , L0000002
 , L0000003    , L0000004    , L0000005    ,
                 L0000006    , L0000007    , L0000008    , L0000009    , L0000010
 , L0000011    , L0000012    , L0000013    ,
                 L0000014    , L0000015    , L0000016    , L0000017    , L0000018
 , L0000019    , L0000020    , L0000021    ,
                 L0000022    , L0000023    , L0000024    , L0000025    , L0000026
 , L0000027    , L0000028    ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_10    IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - -
         446487.00    3766138.00       50.64642                       446487.00
3766388.00       26.99127
         446237.00    3764888.00       36.22112                       446237.00
3765138.00       48.70440
         446237.00    3765388.00       68.37603                       446237.00
3765638.00       84.65132
         446237.00    3765888.00       60.02644                       446237.00
3766138.00       38.92679
         446237.00    3766388.00       26.78816                       446437.51
3765682.05      189.51806
         448026.69    3765145.70      297.34394                       447990.94
3765086.10      348.15877
```

*** THE SUMMARY OF MAXIMUM ANNUAL RESULTS AVERAGED OVER   5 YEARS ***

** CONC OF PM_10   IN MICROGRAMS/M**3 **

GROUP ID	NETWORK	AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	GRID-ID
ALL	1ST HIGHEST VALUE IS	747.92990	AT (447137.00, 3765488.00, 252.47, 252.47, 0.00)	DC	
	2ND HIGHEST VALUE IS	688.62484	AT (447337.00, 3765288.00, 249.63, 249.63, 0.00)	DC	
	3RD HIGHEST VALUE IS	679.94285	AT (447437.00, 3765388.00, 251.99, 251.99, 0.00)	DC	
	4TH HIGHEST VALUE IS	652.79921	AT (447337.00, 3765388.00, 250.48, 250.48, 0.00)	DC	
	5TH HIGHEST VALUE IS	597.15023	AT (447737.00, 3765288.00, 249.68, 249.68, 0.00)	DC	
	6TH HIGHEST VALUE IS	537.14985	AT (446837.00, 3765588.00, 253.29, 253.29, 0.00)	DC	
	7TH HIGHEST VALUE IS	536.44860	AT (446937.00, 3765588.00, 253.47, 253.47, 0.00)	DC	
	8TH HIGHEST VALUE IS	511.80371	AT (447637.00, 3765188.00, 248.94, 248.94, 0.00)	DC	
	9TH HIGHEST VALUE IS	510.92160	AT (447237.00, 3765488.00, 252.45, 252.45, 0.00)	DC	
	10TH HIGHEST VALUE IS	487.98136	AT (447537.00, 3765188.00, 249.24, 249.24, 0.00)	DC	

 *** RECEPTOR TYPES: GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

 *** Message Summary : AERMOD Model Execution ***

  --------- Summary of Total Messages --------

 A Total of   0 Fatal Error Message(s)
 A Total of   2 Warning Message(s)
 A Total of   956 Informational Message(s)

 A Total of   43848 Hours Were Processed

 A Total of   49 Calm Hours Identified

 A Total of   907 Missing Hours Identified (2.07 Percent)

    ******** FATAL ERROR MESSAGES ********
              *** NONE ***

    ********   WARNING MESSAGES   ********
 ME W186   136   MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used
      0.50
 ME W187   136   MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET

    ****
    *** AERMOD Finishes Successfully ***
    ****

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.7.0
** Lakes Environmental Software Inc.
** Date: 10/28/2019
** File: C:\Lakes\AERMOD View\Segment 15, VEN US-101 SB\Segment 15, VEN US-101
SB.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\Segment 15, VEN US-101 SB\Segment 15, VEN US-10
   MODELOPT DFAULT CONC
   AVERTIME ANNUAL
   URBANOPT 109067
   POLLUTID PM_10
   RUNORNOT RUN
   ERRORFIL "Segment 15, VEN US-101 SB.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
** ----------------------------------------------------------------------
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE1
** DESCRSRC
** PREFIX
** Length of Side = 46.00
** Configuration = Adjacent
** Emission Rate = 34.0
** Vertical Dimension = 2.00
** SZINIT = 0.93
** Nodes = 2
** 295972.840, 3792685.400, 43.48, 2.00, 21.40
** 294592.550, 3793463.500, 42.87, 2.00, 21.40
** ----------------------------------------------------------------------
```

```
   LOCATION L0000001     VOLUME   295952.804 3792696.695 44.00
   LOCATION L0000002     VOLUME   295912.733 3792719.284 44.00
   LOCATION L0000003     VOLUME   295872.661 3792741.873 44.14
   LOCATION L0000004     VOLUME   295832.590 3792764.462 44.00
   LOCATION L0000005     VOLUME   295792.518 3792787.051 44.65
   LOCATION L0000006     VOLUME   295752.447 3792809.641 44.49
   LOCATION L0000007     VOLUME   295712.375 3792832.230 45.00
   LOCATION L0000008     VOLUME   295672.304 3792854.819 45.00
   LOCATION L0000009     VOLUME   295632.232 3792877.408 45.85
   LOCATION L0000010     VOLUME   295592.160 3792899.997 45.89
   LOCATION L0000011     VOLUME   295552.089 3792922.587 46.00
   LOCATION L0000012     VOLUME   295512.017 3792945.176 45.93
   LOCATION L0000013     VOLUME   295471.946 3792967.765 46.00
   LOCATION L0000014     VOLUME   295431.874 3792990.354 46.00
   LOCATION L0000015     VOLUME   295391.803 3793012.944 46.00
   LOCATION L0000016     VOLUME   295351.731 3793035.533 45.99
   LOCATION L0000017     VOLUME   295311.660 3793058.122 46.00
   LOCATION L0000018     VOLUME   295271.588 3793080.711 46.00
   LOCATION L0000019     VOLUME   295231.517 3793103.300 46.00
   LOCATION L0000020     VOLUME   295191.445 3793125.890 46.00
   LOCATION L0000021     VOLUME   295151.374 3793148.479 46.00
   LOCATION L0000022     VOLUME   295111.302 3793171.068 46.00
   LOCATION L0000023     VOLUME   295071.231 3793193.657 46.00
   LOCATION L0000024     VOLUME   295031.159 3793216.246 45.96
   LOCATION L0000025     VOLUME   294991.087 3793238.836 45.55
   LOCATION L0000026     VOLUME   294951.016 3793261.425 45.00
   LOCATION L0000027     VOLUME   294910.944 3793284.014 45.02
   LOCATION L0000028     VOLUME   294870.873 3793306.603 44.99
   LOCATION L0000029     VOLUME   294830.801 3793329.192 44.84
   LOCATION L0000030     VOLUME   294790.730 3793351.782 44.53
   LOCATION L0000031     VOLUME   294750.658 3793374.371 44.00
   LOCATION L0000032     VOLUME   294710.587 3793396.960 43.99
   LOCATION L0000033     VOLUME   294670.515 3793419.549 43.09
   LOCATION L0000034     VOLUME   294630.444 3793442.138 43.00
** End of LINE VOLUME Source ID = SLINE1
** Source Parameters **
** LINE VOLUME Source ID = SLINE1
   SRCPARAM L0000001          1.0      2.00     21.40      0.93
   SRCPARAM L0000002          1.0      2.00     21.40      0.93
   SRCPARAM L0000003          1.0      2.00     21.40      0.93
   SRCPARAM L0000004          1.0      2.00     21.40      0.93
   SRCPARAM L0000005          1.0      2.00     21.40      0.93
   SRCPARAM L0000006          1.0      2.00     21.40      0.93
   SRCPARAM L0000007          1.0      2.00     21.40      0.93
   SRCPARAM L0000008          1.0      2.00     21.40      0.93
   SRCPARAM L0000009          1.0      2.00     21.40      0.93
   SRCPARAM L0000010          1.0      2.00     21.40      0.93
   SRCPARAM L0000011          1.0      2.00     21.40      0.93
   SRCPARAM L0000012          1.0      2.00     21.40      0.93
   SRCPARAM L0000013          1.0      2.00     21.40      0.93
```

```
   SRCPARAM L0000014          1.0      2.00     21.40      0.93
   SRCPARAM L0000015          1.0      2.00     21.40      0.93
   SRCPARAM L0000016          1.0      2.00     21.40      0.93
   SRCPARAM L0000017          1.0      2.00     21.40      0.93
   SRCPARAM L0000018          1.0      2.00     21.40      0.93
   SRCPARAM L0000019          1.0      2.00     21.40      0.93
   SRCPARAM L0000020          1.0      2.00     21.40      0.93
   SRCPARAM L0000021          1.0      2.00     21.40      0.93
   SRCPARAM L0000022          1.0      2.00     21.40      0.93
   SRCPARAM L0000023          1.0      2.00     21.40      0.93
   SRCPARAM L0000024          1.0      2.00     21.40      0.93
   SRCPARAM L0000025          1.0      2.00     21.40      0.93
   SRCPARAM L0000026          1.0      2.00     21.40      0.93
   SRCPARAM L0000027          1.0      2.00     21.40      0.93
   SRCPARAM L0000028          1.0      2.00     21.40      0.93
   SRCPARAM L0000029          1.0      2.00     21.40      0.93
   SRCPARAM L0000030          1.0      2.00     21.40      0.93
   SRCPARAM L0000031          1.0      2.00     21.40      0.93
   SRCPARAM L0000032          1.0      2.00     21.40      0.93
   SRCPARAM L0000033          1.0      2.00     21.40      0.93
   SRCPARAM L0000034          1.0      2.00     21.40      0.93
** ----------------------------------------------------------------------
   URBANSRC ALL
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED "Segment 15, VEN US-101 SB.rou"
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE "C:\Users\kheck\Desktop\MET Data\Oxnard Airport\723927.SFC"
   PROFFILE "C:\Users\kheck\Desktop\MET Data\Oxnard Airport\723927.PFL"
   SURFDATA 93110 2009
   UAIRDATA 93214 2009
   PROFBASE 11.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
```

```
************************************
**
**
OU STARTING
** Auto-Generated Plotfiles
   PLOTFILE ANNUAL ALL "Segment 15, VEN US-101 SB.AD\AN00GALL.PLT" 31
   SUMMFILE "Segment 15, VEN US-101 SB.sum"
OU FINISHED

 *********************************
 *** SETUP Finishes Successfully ***
 *********************************

 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 15, VEN
US-101 SB\Segment 15, VEN US-10 ***        10/28/19
 *** AERMET - VERSION  14134 ***   ***
                        ***        15:14:11

                                   PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                                          ***     MODEL SETUP OPTIONS SUMMARY
  ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - -

 **Model Is Setup For Calculation of Average CONCentration Values.

   --  DEPOSITION LOGIC  --
 **NO GAS DEPOSITION Data Provided.
 **NO PARTICLE DEPOSITION Data Provided.
 **Model Uses NO DRY DEPLETION.  DRYDPLT  =  F
 **Model Uses NO WET DEPLETION.  WETDPLT  =  F

 **Model Uses URBAN Dispersion Algorithm for the SBL for    34 Source(s),
   for Total of    1 Urban Area(s):
   Urban Population =    109067.0 ;  Urban Roughness Length =  1.000 m

 **Model Uses Regulatory DEFAULT Options:
        1. Stack-tip Downwash.
        2. Model Accounts for ELEVated Terrain Effects.
        3. Use Calms Processing Routine.
        4. Use Missing Data Processing Routine.
        5. No Exponential Decay.
        6. Urban Roughness Length of 1.0 Meter Assumed.

 **Other Options Specified:
        CCVR_Sub - Meteorological data includes CCVR substitutions
        TEMP_Sub - Meteorological data includes TEMP substitutions
```

```
 **Model Assumes No FLAGPOLE Receptor Heights.

 **The User Specified a Pollutant Type of:  PM_10

 **Model Calculates ANNUAL Averages Only

 **This Run Includes:     34 Source(s);       1 Source Group(s); and     158
Receptor(s)

                with:      0 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                 and:     34 VOLUME source(s)
                 and:      0 AREA type source(s)
                 and:      0 LINE source(s)
                 and:      0 OPENPIT source(s)
                 and:      0 BUOYANT LINE source(s) with      0 line(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  14134

 **Output Options Selected:
          Model Outputs Tables of ANNUAL Averages by Receptor
          Model Outputs External File(s) of High Values for Plotting (PLOTFILE
Keyword)
          Model Outputs Separate Summary File of High Ranked Values (SUMMFILE
Keyword)

 **NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                 m for Missing
Hours
                                                                 b for Both Calm
and Missing Hours

 **Misc. Inputs:  Base Elev. for Pot. Temp. Profile (m MSL) =    11.00 ;  Decay
Coef. =    0.000     ;  Rot. Angle =     0.0
                  Emission Units = GRAMS/SEC                                ;
Emission Rate Unit Factor =   0.10000E+07
                  Output Units   = MICROGRAMS/M**3

 **Approximate Storage Requirements of Model =      3.5 MB of RAM.

 **Input Runstream File:          aermod.inp

 **Output Print File:             aermod.out


 **Detailed Error/Message File:   Segment 15, VEN US-101 SB.err
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE BY	EMISSION RATE SCALAR VARY
L0000001	0	0.10000E+01	295952.8	3792696.7	44.0	2.00	21.40	0.93	YES	
L0000002	0	0.10000E+01	295912.7	3792719.3	44.0	2.00	21.40	0.93	YES	
L0000003	0	0.10000E+01	295872.7	3792741.9	44.1	2.00	21.40	0.93	YES	
L0000004	0	0.10000E+01	295832.6	3792764.5	44.0	2.00	21.40	0.93	YES	
L0000005	0	0.10000E+01	295792.5	3792787.1	44.6	2.00	21.40	0.93	YES	
L0000006	0	0.10000E+01	295752.4	3792809.6	44.5	2.00	21.40	0.93	YES	
L0000007	0	0.10000E+01	295712.4	3792832.2	45.0	2.00	21.40	0.93	YES	
L0000008	0	0.10000E+01	295672.3	3792854.8	45.0	2.00	21.40	0.93	YES	
L0000009	0	0.10000E+01	295632.2	3792877.4	45.8	2.00	21.40	0.93	YES	
L0000010	0	0.10000E+01	295592.2	3792900.0	45.9	2.00	21.40	0.93	YES	
L0000011	0	0.10000E+01	295552.1	3792922.6	46.0	2.00	21.40	0.93	YES	
L0000012	0	0.10000E+01	295512.0	3792945.2	45.9	2.00	21.40	0.93	YES	
L0000013	0	0.10000E+01	295471.9	3792967.8	46.0	2.00	21.40	0.93	YES	
L0000014	0	0.10000E+01	295431.9	3792990.4	46.0	2.00	21.40	0.93	YES	

```
 L0000015         0   0.10000E+01  295391.8 3793012.9    46.0     2.00    21.40
0.93     YES
 L0000016         0   0.10000E+01  295351.7 3793035.5    46.0     2.00    21.40
0.93     YES
 L0000017         0   0.10000E+01  295311.7 3793058.1    46.0     2.00    21.40
0.93     YES
 L0000018         0   0.10000E+01  295271.6 3793080.7    46.0     2.00    21.40
0.93     YES
 L0000019         0   0.10000E+01  295231.5 3793103.3    46.0     2.00    21.40
0.93     YES
 L0000020         0   0.10000E+01  295191.4 3793125.9    46.0     2.00    21.40
0.93     YES
 L0000021         0   0.10000E+01  295151.4 3793148.5    46.0     2.00    21.40
0.93     YES
 L0000022         0   0.10000E+01  295111.3 3793171.1    46.0     2.00    21.40
0.93     YES
 L0000023         0   0.10000E+01  295071.2 3793193.7    46.0     2.00    21.40
0.93     YES
 L0000024         0   0.10000E+01  295031.2 3793216.2    46.0     2.00    21.40
0.93     YES
 L0000025         0   0.10000E+01  294991.1 3793238.8    45.5     2.00    21.40
0.93     YES
 L0000026         0   0.10000E+01  294951.0 3793261.4    45.0     2.00    21.40
0.93     YES
 L0000027         0   0.10000E+01  294910.9 3793284.0    45.0     2.00    21.40
0.93     YES
 L0000028         0   0.10000E+01  294870.9 3793306.6    45.0     2.00    21.40
0.93     YES
 L0000029         0   0.10000E+01  294830.8 3793329.2    44.8     2.00    21.40
0.93     YES
 L0000030         0   0.10000E+01  294790.7 3793351.8    44.5     2.00    21.40
0.93     YES
 L0000031         0   0.10000E+01  294750.7 3793374.4    44.0     2.00    21.40
0.93     YES
 L0000032         0   0.10000E+01  294710.6 3793397.0    44.0     2.00    21.40
0.93     YES
 L0000033         0   0.10000E+01  294670.5 3793419.5    43.1     2.00    21.40
0.93     YES
 L0000034         0   0.10000E+01  294630.4 3793442.1    43.0     2.00    21.40
0.93     YES
↟ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 15, VEN
US-101 SB\Segment 15, VEN US-10 ***        10/28/19
 *** AERMET - VERSION  14134 ***   ***
                       ***        15:14:11

                                  PAGE   3
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN


                                          *** SOURCE IDs DEFINING SOURCE GROUPS
```

***

 SRCGROUP ID   SOURCE IDs
 -----------   ----------

  ALL   L0000001   , L0000002   , L0000003   , L0000004   , L0000005   ,
L0000006   , L0000007   , L0000008   ,

             L0000009   , L0000010   , L0000011   , L0000012   , L0000013   ,
L0000014   , L0000015   , L0000016   ,

             L0000017   , L0000018   , L0000019   , L0000020   , L0000021   ,
L0000022   , L0000023   , L0000024   ,

             L0000025   , L0000026   , L0000027   , L0000028   , L0000029   ,
L0000030   , L0000031   , L0000032   ,

             L0000033   , L0000034   ,

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN

                                      *** SOURCE IDs DEFINED AS URBAN SOURCES
***

  URBAN ID   URBAN POP   SOURCE IDs
  --------   ---------   ----------

               109067.   L0000001   , L0000002   , L0000003   , L0000004   ,
L0000005   , L0000006   , L0000007   ,
 L0000008   ,

             L0000009   , L0000010   , L0000011   , L0000012   , L0000013   ,
L0000014   , L0000015   , L0000016   ,

             L0000017   , L0000018   , L0000019   , L0000020   , L0000021   ,
L0000022   , L0000023   , L0000024   ,

             L0000025   , L0000026   , L0000027   , L0000028   , L0000029   ,
L0000030   , L0000031   , L0000032   ,

             L0000033   , L0000034   ,

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

```
     ( 294768.2, 3792572.8,      32.7,      32.7,       0.0);         ( 294768.2,
3792672.8,      34.3,      34.3,       0.0);
     ( 294768.2, 3792772.8,      36.0,      36.0,       0.0);         ( 294768.2,
3792872.8,      37.2,      37.2,       0.0);
     ( 294768.2, 3792972.8,      38.9,      38.9,       0.0);         ( 294768.2,
3793072.8,      40.1,      40.1,       0.0);
     ( 294768.2, 3793172.8,      42.2,      42.2,       0.0);         ( 294768.2,
3793272.8,      43.3,      43.3,       0.0);
     ( 294768.2, 3793372.8,      44.3,      44.3,       0.0);         ( 294768.2,
3793472.8,      45.2,      45.2,       0.0);
     ( 294768.2, 3793572.8,      46.0,      46.0,       0.0);         ( 294868.2,
3792572.8,      34.0,      34.0,       0.0);
     ( 294868.2, 3792672.8,      35.6,      35.6,       0.0);         ( 294868.2,
3792772.8,      37.0,      37.0,       0.0);
     ( 294868.2, 3792872.8,      38.3,      38.3,       0.0);         ( 294868.2,
3792972.8,      39.9,      39.9,       0.0);
     ( 294868.2, 3793072.8,      41.7,      41.7,       0.0);         ( 294868.2,
3793172.8,      43.3,      43.3,       0.0);
     ( 294868.2, 3793272.8,      44.6,      44.6,       0.0);         ( 294868.2,
3793372.8,      45.7,      45.7,       0.0);
     ( 294868.2, 3793472.8,      46.3,      46.3,       0.0);         ( 294868.2,
3793572.8,      47.0,      47.0,       0.0);
     ( 294968.2, 3792572.8,      35.0,      35.0,       0.0);         ( 294968.2,
3792672.8,      36.0,      36.0,       0.0);
     ( 294968.2, 3792772.8,      38.0,      38.0,       0.0);         ( 294968.2,
3792872.8,      39.5,      39.5,       0.0);
     ( 294968.2, 3792972.8,      41.0,      41.0,       0.0);         ( 294968.2,
3793072.8,      42.2,      42.2,       0.0);
     ( 294968.2, 3793172.8,      44.5,      44.5,       0.0);         ( 294968.2,
3793272.8,      45.0,      45.0,       0.0);
     ( 294968.2, 3793372.8,      46.2,      46.2,       0.0);         ( 294968.2,
3793472.8,      47.5,      47.5,       0.0);
     ( 294968.2, 3793572.8,      48.0,      48.0,       0.0);         ( 295068.2,
3792572.8,      36.7,      36.7,       0.0);
     ( 295068.2, 3792672.8,      38.0,      38.0,       0.0);         ( 295068.2,
3792772.8,      39.3,      39.3,       0.0);
     ( 295068.2, 3792872.8,      40.7,      40.7,       0.0);         ( 295068.2,
3792972.8,      42.0,      42.0,       0.0);
     ( 295068.2, 3793072.8,      44.1,      44.1,       0.0);         ( 295068.2,
```

```
3793172.8,      45.7,      45.7,       0.0);
     ( 295068.2, 3793272.8,      46.3,      46.3,       0.0);         ( 295068.2,
3793372.8,      47.1,      47.1,       0.0);
     ( 295068.2, 3793472.8,      48.2,      48.2,       0.0);         ( 295068.2,
3793572.8,      49.3,      49.3,       0.0);
     ( 295168.2, 3793172.8,      46.0,      46.0,       0.0);         ( 295168.2,
3793272.8,      47.0,      47.0,       0.0);
     ( 295168.2, 3793372.8,      48.0,      48.0,       0.0);         ( 295168.2,
3793472.8,      49.0,      49.0,       0.0);
     ( 295168.2, 3793572.8,      50.6,      50.6,       0.0);         ( 295268.2,
3793072.8,      46.0,      46.0,       0.0);
     ( 295268.2, 3793172.8,      46.0,      46.0,       0.0);         ( 295268.2,
3793272.8,      47.8,      47.8,       0.0);
     ( 295268.2, 3793372.8,      49.0,      49.0,       0.0);         ( 295268.2,
3793472.8,      50.0,      50.0,       0.0);
     ( 295268.2, 3793572.8,      51.8,      51.8,       0.0);         ( 295368.2,
3793072.8,      46.0,      46.0,       0.0);
     ( 295368.2, 3793172.8,      46.7,      46.7,       0.0);         ( 295368.2,
3793272.8,      48.0,      48.0,       0.0);
     ( 295368.2, 3793372.8,      49.5,      53.0,       0.0);         ( 295368.2,
3793472.8,      51.2,      54.0,       0.0);
     ( 295368.2, 3793572.8,      52.9,      56.0,       0.0);         ( 295468.2,
3792572.8,      45.5,      45.5,       0.0);
     ( 295468.2, 3792672.8,      42.7,      42.7,       0.0);         ( 295468.2,
3792772.8,      43.0,      43.0,       0.0);
     ( 295468.2, 3792872.8,      44.5,      44.5,       0.0);         ( 295468.2,
3792972.8,      46.0,      46.0,       0.0);
     ( 295468.2, 3793072.8,      46.0,      46.0,       0.0);         ( 295468.2,
3793172.8,      47.5,      47.5,       0.0);
     ( 295468.2, 3793272.8,      48.9,      48.9,       0.0);         ( 295468.2,
3793372.8,      50.7,      50.7,       0.0);
     ( 295468.2, 3793472.8,      52.3,      52.3,       0.0);         ( 295468.2,
3793572.8,      54.6,      54.6,       0.0);
     ( 295568.2, 3792572.8,      43.0,      43.0,       0.0);         ( 295568.2,
3792672.8,      43.0,      43.0,       0.0);
     ( 295568.2, 3792772.8,      44.0,      44.0,       0.0);         ( 295568.2,
3792872.8,      45.0,      45.0,       0.0);
     ( 295568.2, 3792972.8,      46.0,      46.0,       0.0);         ( 295568.2,
3793072.8,      47.0,      47.0,       0.0);
     ( 295568.2, 3793172.8,      48.0,      48.0,       0.0);         ( 295568.2,
3793272.8,      49.8,      49.8,       0.0);
     ( 295568.2, 3793372.8,      52.0,      52.0,       0.0);         ( 295568.2,
3793472.8,      53.5,      53.5,       0.0);
     ( 295568.2, 3793572.8,      55.8,      55.8,       0.0);         ( 295668.2,
3792572.8,      42.5,      42.5,       0.0);
     ( 295668.2, 3792672.8,      43.0,      43.0,       0.0);         ( 295668.2,
3792772.8,      44.2,      44.2,       0.0);
     ( 295668.2, 3792872.8,      45.0,      45.0,       0.0);         ( 295668.2,
3792972.8,      46.0,      46.0,       0.0);
     ( 295668.2, 3793072.8,      47.5,      47.5,       0.0);         ( 295668.2,
```

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

```
     ( 295668.2, 3793272.8,      50.9,      50.9,       0.0);         ( 295668.2,
3793372.8,      52.5,      52.5,       0.0);
     ( 295668.2, 3793472.8,      54.5,      54.5,       0.0);         ( 295668.2,
3793572.8,      56.0,      56.0,       0.0);
     ( 295768.2, 3792572.8,      42.0,      42.0,       0.0);         ( 295768.2,
3792672.8,      43.0,      43.0,       0.0);
     ( 295768.2, 3792772.8,      44.1,      44.1,       0.0);         ( 295768.2,
3792872.8,      45.0,      45.0,       0.0);
     ( 295768.2, 3792972.8,      46.8,      46.8,       0.0);         ( 295768.2,
3793072.8,      48.2,      48.2,       0.0);
     ( 295768.2, 3793172.8,      50.0,      50.0,       0.0);         ( 295768.2,
3793272.8,      51.9,      51.9,       0.0);
     ( 295768.2, 3793372.8,      53.2,      53.2,       0.0);         ( 295768.2,
3793472.8,      55.3,      55.3,       0.0);
     ( 295768.2, 3793572.8,      56.9,      56.9,       0.0);         ( 294768.2,
3793822.8,      48.2,      48.2,       0.0);
     ( 294768.2, 3794072.8,      52.2,      55.0,       0.0);         ( 295018.2,
3793822.8,      52.1,      52.1,       0.0);
     ( 295018.2, 3794072.8,      56.3,      59.0,       0.0);         ( 295268.2,
3793822.8,      56.0,      56.0,       0.0);
     ( 295268.2, 3794072.8,      61.0,      61.0,       0.0);         ( 295518.2,
3793822.8,      61.0,      61.0,       0.0);
     ( 295518.2, 3794072.8,      64.2,      64.2,       0.0);         ( 295768.2,
3793822.8,      62.2,      62.2,       0.0);
     ( 295768.2, 3794072.8,      65.5,      65.5,       0.0);         ( 296018.2,
3793822.8,      62.2,      62.2,       0.0);
     ( 296018.2, 3794072.8,      66.0,      66.0,       0.0);         ( 296268.2,
3793822.8,      63.1,      63.1,       0.0);
     ( 296268.2, 3794072.8,      67.5,      67.5,       0.0);         ( 296018.2,
3793572.8,      58.8,      58.8,       0.0);
     ( 296018.2, 3793322.8,      54.5,      54.5,       0.0);         ( 296018.2,
3793072.8,      50.2,      50.2,       0.0);
     ( 296018.2, 3792822.8,      45.8,      45.8,       0.0);         ( 296268.2,
3793572.8,      60.0,      60.0,       0.0);
     ( 296268.2, 3793322.8,      57.0,      57.0,       0.0);         ( 296268.2,
3793072.8,      52.2,      52.2,       0.0);
     ( 296268.2, 3792822.8,      46.0,      50.0,       0.0);         ( 296268.2,
```

3792572.8,   40.8,   40.8,   0.0);
     (296268.2, 3792322.8,   36.0,   36.0,   0.0);   (295768.2,
3792322.8,   39.9,   51.0,   0.0);
     (295768.2, 3792072.8,   29.7,   29.7,   0.0);   (295518.2,
3792322.8,   44.4,   44.4,   0.0);
     (295518.2, 3792072.8,   29.0,   29.0,   0.0);   (295018.2,
3792322.8,   30.2,   30.2,   0.0);
     (295018.2, 3792072.8,   28.0,   28.0,   0.0);   (294768.2,
3792322.8,   29.0,   29.0,   0.0);
     (294768.2, 3792072.8,   28.0,   28.0,   0.0);   (294518.2,
3792322.8,   27.0,   27.0,   0.0);
     (294518.2, 3792072.8,   27.4,   27.4,   0.0);   (294268.2,
3792322.8,   24.2,   28.0,   0.0);
     (294268.2, 3792072.8,   26.4,   26.4,   0.0);   (294518.2,
3792572.8,   30.0,   30.0,   0.0);
     (294518.2, 3792822.8,   33.0,   33.0,   0.0);   (294518.2,
3793072.8,   37.0,   37.0,   0.0);
     (294518.2, 3793322.8,   40.0,   42.0,   0.0);   (294518.2,
3793572.8,   42.0,   46.0,   0.0);
     (294518.2, 3793822.8,   46.2,   46.2,   0.0);   (294518.2,
3794072.8,   50.5,   50.5,   0.0);
     (294268.2, 3792572.8,   27.8,   27.8,   0.0);   (294268.2,
3792822.8,   30.6,   30.6,   0.0);
     (294268.2, 3793072.8,   33.7,   33.7,   0.0);   (294268.2,
3793322.8,   36.7,   36.7,   0.0);
     (294268.2, 3793572.8,   39.6,   39.6,   0.0);   (294268.2,
3793822.8,   44.1,   44.1,   0.0);
     (294268.2, 3794072.8,   48.5,   48.5,   0.0);   (296108.9,
3792144.7,   32.0,   32.0,   0.0);
     (296211.2, 3793608.3,   60.0,   60.0,   0.0);   (297266.2,
3793679.5,   68.0,   68.0,   0.0);

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN

                    * SOURCE-RECEPTOR COMBINATIONS FOR WHICH CALCULATIONS MAY NOT
BE PERFORMED *
                      LESS THAN 1.0 METER; WITHIN OPENPIT; OR BEYOND 80KM FOR
FASTAREA/FASTALL

                           SOURCE   - - RECEPTOR LOCATION - -
DISTANCE
                             ID   XR (METERS)   YR (METERS)
(METERS)
                          -

	L0000005	295768.2	3792772.8
-17.84			
	L0000006	295768.2	3792772.8
-5.88			
	L0000008	295668.2	3792872.8
-27.63			
	L0000009	295668.2	3792872.8
-9.69			
	L0000010	295568.2	3792872.8
-9.76			
	L0000013	295468.2	3792972.8
-39.80			
	L0000014	295468.2	3792972.8
-5.60			
	L0000016	295368.2	3793072.8
-5.29			
	L0000017	295268.2	3793072.8
-0.20			
	L0000018	295268.2	3793072.8
-37.38			
	L0000021	295168.2	3793172.8
-16.45			
	L0000022	295068.2	3793172.8
-2.93			
	L0000023	295068.2	3793172.8
-24.89			
	L0000025	294968.2	3793272.8
-5.12			
	L0000026	294968.2	3793272.8
-25.39			
	L0000027	294868.2	3793272.8
-1.86			
	L0000028	294868.2	3793272.8
-12.06			
	L0000030	294768.2	3793372.8
-15.27			
	L0000031	294768.2	3793372.8
-28.34			

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN

                                          *** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***

(1=YES; 0=NO)

```
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
```

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***

(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** MODELOPTs: RegDFAULT CONC ELEV URBAN

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: C:\Users\kheck\Desktop\MET Data\Oxnard Airport\723927.SFC
Met Version: 14134
Profile file: C:\Users\kheck\Desktop\MET Data\Oxnard Airport\723927.PFL

Surface format: FREE

Profile format: FREE

Surface station no.: 93110 Upper air station no.: 93214
Name: UNKNOWN Name: UNKNOWN

Year: 2009 Year: 2009

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
09	01	01	1	01	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.11	0.84	1.00	0.00	0.	10.0	280.4	2.0
09	01	01	1	02	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.11	0.84	1.00	0.00	0.	10.0	280.4	2.0
09	01	01	1	03	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.11	0.84	1.00	0.00	0.	10.0	279.9	2.0
09	01	01	1	04	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.11	0.84	1.00	0.00	0.	10.0	279.9	2.0
09	01	01	1	05	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.11	0.84	1.00	0.00	0.	10.0	278.1	2.0
09	01	01	1	06	-3.4	0.068	-9.000	-9.000	-999.	43.	8.5	0.06	0.84	1.00	1.76	42.	10.0	279.2	2.0
09	01	01	1	07	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.11	0.84	1.00	0.00	0.	10.0	279.9	2.0
09	01	01	1	08	-3.3	0.068	-9.000	-9.000	-999.	43.	8.8	0.06	0.84	0.58	1.76	23.	10.0	279.2	2.0
09	01	01	1	09	0.6	0.190	0.054	0.017	10.	199.	-1074.3	0.24	0.84	0.33	1.76	137.	10.0	278.8	2.0
09	01	01	1	10	11.9	0.208	0.243	0.015	43.	228.	-68.7	0.24	0.84	0.24	1.76	151.	10.0	279.9	2.0
09	01	01	1	11	98.9	0.258	0.747	0.013	153.	314.	-15.7	0.11	0.84	0.21	2.36	264.	10.0	282.0	2.0
09	01	01	1	12	110.5	0.260	0.881	0.013	224.	319.	-14.4	0.11	0.84	0.20	2.36	246.	10.0	283.8	2.0
09	01	01	1	13	110.7	0.260	1.018	0.012	344.	319.	-14.4	0.11	0.84	0.20	2.36	293.	10.0	284.2	2.0
09	01	01	1	14	94.7	0.378	1.041	0.005	431.	557.	-51.4	0.11	0.84	0.21	3.86	279.	10.0	284.9	2.0
09	01	01	1	15	62.9	0.288	0.941	0.010	479.	376.	-34.5	0.11	0.84	0.24	2.86	282.	10.0	284.2	2.0
09	01	01	1	16	25.6	0.274	0.701	0.010	486.	344.	-72.6	0.11	0.84	0.33	2.86	294.	10.0	283.8	2.0
09	01	01	1	17	-6.5	0.127	-9.000	-9.000	-999.	125.	28.6	0.04	0.84	0.57	2.36	321.	10.0	282.0	2.0
09	01	01	1	18	-2.9	0.062	-9.000	-9.000	-999.	40.	7.4	0.04	0.84	1.00	1.76	337.	10.0	282.0	2.0
09	01	01	1	19	-2.9	0.062	-9.000	-9.000	-999.	37.	7.4	0.04	0.84	1.00	1.76	354.	10.0	281.4	2.0
09	01	01	1	20	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.11	0.84	1.00	0.00	0.	10.0	280.9	2.0
09	01	01	1	21	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.11	0.84	1.00	0.00	0.	10.0	279.9	2.0

```
 09 01 01   1 22 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.11   0.84
1.00    0.00    0.   10.0  280.4    2.0
 09 01 01   1 23 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.11   0.84
1.00    0.00    0.   10.0  280.9    2.0
 09 01 01   1 24   -4.7  0.080 -9.000 -9.000 -999.   54.      9.8  0.12   0.84
1.00    1.76   90.   10.0  279.9    2.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 09 01 01 01   10.0 1 -999.  -99.00   280.4   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
↟ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 15, VEN
US-101 SB\Segment 15, VEN US-10 ***        10/28/19
 *** AERMET - VERSION  14134 ***   ***
                       ***        15:14:11

                                  PAGE  10
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                   INCLUDING SOURCE(S):     L0000001    , L0000002
 , L0000003    , L0000004    , L0000005    ,
                   L0000006    , L0000007    , L0000008    , L0000009    , L0000010
 , L0000011    , L0000012    , L0000013    ,
                   L0000014    , L0000015    , L0000016    , L0000017    , L0000018
 , L0000019    , L0000020    , L0000021    ,
                   L0000022    , L0000023    , L0000024    , L0000025    , L0000026
 , L0000027    , L0000028    ,  . . .      ,

                                             *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_10    IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                        X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
         294768.25    3792572.75       80.52435                      294768.25
3792672.75       93.41315
         294768.25    3792772.75      109.49662                      294768.25
3792872.75      129.70724
         294768.25    3792972.75      159.31613                      294768.25
3793072.75      204.76702
         294768.25    3793172.75      297.20496                      294768.25
3793272.75      564.99706
```

294768.25 3793372.75 566.55346 294768.25
3793472.75 265.58279
294768.25 3793572.75 94.30643 294868.25
3792572.75 87.10313
294868.25 3792672.75 102.48702 294868.25
3792772.75 121.80470
294868.25 3792872.75 147.70263 294868.25
3792972.75 186.94218
294868.25 3793072.75 256.39513 294868.25
3793172.75 420.71906
294868.25 3793272.75 514.90921 294868.25
3793372.75 670.34346
294868.25 3793472.75 188.25389 294868.25
3793572.75 88.67104
294968.25 3792572.75 94.30197 294968.25
3792672.75 112.09303
294968.25 3792772.75 136.69928 294968.25
3792872.75 170.54441
294968.25 3792972.75 224.74742 294968.25
3793072.75 330.60444
294968.25 3793172.75 704.17215 294968.25
3793272.75 709.23874
294968.25 3793372.75 344.03831 294968.25
3793472.75 146.94497
294968.25 3793572.75 80.83070 295068.25
3792572.75 103.25717
295068.25 3792672.75 125.64544 295068.25
3792772.75 155.81441
295068.25 3792872.75 200.77689 295068.25
3792972.75 280.33379
295068.25 3793072.75 483.33153 295068.25
3793172.75 662.92556
295068.25 3793272.75 608.08829 295068.25
3793372.75 232.25419
295068.25 3793472.75 120.87231 295068.25
3793572.75 72.18171
295168.25 3793172.75 864.44039 295168.25
3793272.75 349.30737
295168.25 3793372.75 174.71097 295168.25
3793472.75 102.28600
295168.25 3793572.75 62.75036 295268.25
3793072.75 837.44908
295268.25 3793172.75 543.51074 295268.25
3793272.75 243.24813
295268.25 3793372.75 140.25188 295268.25
3793472.75 86.67405
295268.25 3793572.75 53.30434 295368.25
3793072.75 790.08525
295368.25 3793172.75 337.26591 295368.25
3793272.75 185.10062

```
         295368.25    3793372.75      115.86960                      295368.25
3793472.75       70.90180
         295368.25    3793572.75       47.39210                      295468.25
3792572.75      159.08810
         295468.25    3792672.75      218.92827                      295468.25
3792772.75      325.20478
         295468.25    3792872.75      617.57308                      295468.25
3792972.75      685.84018
         295468.25    3793072.75      489.04810                      295468.25
3793172.75      241.65417
         295468.25    3793272.75      148.12322                      295468.25
3793372.75       96.77872
         295468.25    3793472.75       60.90888                      295468.25
3793572.75       41.62902
         295568.25    3792572.75      176.01038                      295568.25
3792672.75      264.40913
         295568.25    3792772.75      446.05467                      295568.25
3792872.75      822.88835
         295568.25    3792972.75      846.59619                      295568.25
3793072.75      318.39896
         295568.25    3793172.75      185.80605                      295568.25
3793272.75      121.56469
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 15, VEN
US-101 SB\Segment 15, VEN US-10 ***        10/28/19
 *** AERMET - VERSION  14134 ***   ***
                       ***        15:14:11

                                  PAGE  11
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                  INCLUDING SOURCE(S):     L0000001    , L0000002
 , L0000003    , L0000004    , L0000005    ,
                   L0000006    , L0000007    , L0000008    , L0000009    , L0000010
 , L0000011    , L0000012    , L0000013    ,
                   L0000014    , L0000015    , L0000016    , L0000017    , L0000018
 , L0000019    , L0000020    , L0000021    ,
                   L0000022    , L0000023    , L0000024    , L0000025    , L0000026
 , L0000027    , L0000028    ,  . . .      ,

                                               *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                          ** CONC OF PM_10    IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                        X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
```

- -
295568.25 3793372.75 77.18466 295568.25
3793472.75 52.79760
295568.25 3793572.75 37.03615 295668.25
3792572.75 195.96934
295668.25 3792672.75 332.21195 295668.25
3792772.75 702.80332
295668.25 3792872.75 649.73564 295668.25
3792972.75 439.38716
295668.25 3793072.75 232.06969 295668.25
3793172.75 148.19466
295668.25 3793272.75 100.54833 295668.25
3793372.75 66.29357
295668.25 3793472.75 46.15148 295668.25
3793572.75 33.77455
295768.25 3792572.75 211.55211 295768.25
3792672.75 449.16093
295768.25 3792772.75 607.44274 295768.25
3792872.75 691.37078
295768.25 3792972.75 293.37555 295768.25
3793072.75 178.61254
295768.25 3793172.75 120.45590 295768.25
3793272.75 80.70485
295768.25 3793372.75 56.99227 295768.25
3793472.75 40.63467
295768.25 3793572.75 30.27757 294768.25
3793822.75 31.84503
294768.25 3794072.75 15.72496 295018.25
3793822.75 27.69024
295018.25 3794072.75 14.96289 295268.25
3793822.75 23.22018
295268.25 3794072.75 12.94198 295518.25
3793822.75 18.58867
295518.25 3794072.75 11.11571 295768.25
3793822.75 15.95020
295768.25 3794072.75 9.78109 296018.25
3793822.75 13.87782
296018.25 3794072.75 8.78052 296268.25
3793822.75 11.92906
296268.25 3794072.75 7.83076 296018.25
3793572.75 23.49348
296018.25 3793322.75 46.18804 296018.25
3793072.75 99.64595
296018.25 3792822.75 265.62033 296268.25
3793572.75 18.82575
296268.25 3793322.75 32.79835 296268.25
3793072.75 62.54411
296268.25 3792822.75 112.35716 296268.25
3792572.75 124.61362
296268.25 3792322.75 55.03041 295768.25

```
3792322.75       51.17343
         295768.25    3792072.75       23.97183                       295518.25
3792322.75       70.35882
         295518.25    3792072.75       29.13851                       295018.25
3792322.75       62.33262
         295018.25    3792072.75       40.68584                       294768.25
3792322.75       56.69321
         294768.25    3792072.75       41.07366                       294518.25
3792322.75       50.95796
         294518.25    3792072.75       39.54851                       294268.25
3792322.75       45.33744
         294268.25    3792072.75       37.27264                       294518.25
3792572.75       67.54664
         294518.25    3792822.75       90.99675                       294518.25
3793072.75      132.40139
         294518.25    3793322.75      217.21270                       294518.25
3793572.75       53.32936
         294518.25    3793822.75       25.22878                       294518.25
3794072.75       14.81878
         294268.25    3792572.75       57.11016                       294268.25
3792822.75       70.40829
         294268.25    3793072.75       80.15438                       294268.25
3793322.75       59.90557
         294268.25    3793572.75       27.69134                       294268.25
3793822.75       16.99344
         294268.25    3794072.75       12.33875                       296108.86
3792144.66       29.20763
         296211.22    3793608.29       18.46097                       297266.17
3793679.53        8.10727
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 15, VEN
US-101 SB\Segment 15, VEN US-10 ***        10/28/19
 *** AERMET - VERSION  14134 ***   ***
                       ***        15:14:11

                                  PAGE  12
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

                                  *** THE SUMMARY OF MAXIMUM ANNUAL RESULTS
AVERAGED OVER   5 YEARS ***


                                   ** CONC OF PM_10    IN MICROGRAMS/M**3
             **


                      NETWORK
GROUP ID                     AVERAGE CONC                RECEPTOR  (XR, YR,
ZELEV, ZHILL, ZFLAG)  OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -
```

```
ALL       1ST HIGHEST VALUE IS     864.44039 AT (  295168.25,  3793172.75,
46.00,    46.00,    0.00)  DC
          2ND HIGHEST VALUE IS     846.59619 AT (  295568.25,  3792972.75,
46.00,    46.00,    0.00)  DC
          3RD HIGHEST VALUE IS     837.44908 AT (  295268.25,  3793072.75,
46.00,    46.00,    0.00)  DC
          4TH HIGHEST VALUE IS     822.88835 AT (  295568.25,  3792872.75,
45.01,    45.01,    0.00)  DC
          5TH HIGHEST VALUE IS     790.08525 AT (  295368.25,  3793072.75,
46.00,    46.00,    0.00)  DC
          6TH HIGHEST VALUE IS     709.23874 AT (  294968.25,  3793272.75,
45.01,    45.01,    0.00)  DC
          7TH HIGHEST VALUE IS     704.17215 AT (  294968.25,  3793172.75,
44.51,    44.51,    0.00)  DC
          8TH HIGHEST VALUE IS     702.80332 AT (  295668.25,  3792772.75,
44.17,    44.17,    0.00)  DC
          9TH HIGHEST VALUE IS     691.37078 AT (  295768.25,  3792872.75,
45.00,    45.00,    0.00)  DC
         10TH HIGHEST VALUE IS     685.84018 AT (  295468.25,  3792972.75,
46.00,    46.00,    0.00)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
↑ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 15, VEN
US-101 SB\Segment 15, VEN US-10 ***        10/28/19
 *** AERMET - VERSION  14134 ***   ***
                       ***        15:14:11

                                  PAGE  13
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN

 *** Message Summary : AERMOD Model Execution ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of            1 Warning Message(s)
 A Total of        11814 Informational Message(s)

 A Total of        43872 Hours Were Processed

 A Total of         9787 Calm Hours Identified

 A Total of         2027 Missing Hours Identified (  4.62 Percent)
```

```
   ******** FATAL ERROR MESSAGES ********
              ***  NONE  ***


   ********   WARNING MESSAGES   ********
MX W481   43873         MAIN: Data Remaining After End of Year. Number of Hours=
       48

   ***********************************
   *** AERMOD Finishes Successfully ***
   ***********************************
```

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.7.0
** Lakes Environmental Software Inc.
** Date: 10/28/2019
** File: C:\Lakes\AERMOD View\Segment 16, VEN US-101 TO\Segment 16, VEN US-101
TO.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\Segment 16, VEN US-101 TO\Segment 16, VEN US-10
   MODELOPT CONC NODRYDPLT NOWETDPLT FLAT ELEV
   AVERTIME ANNUAL
   URBANOPT 128888
   POLLUTID PM_10
   RUNORNOT RUN
   ERRORFIL "Segment 16, VEN US-101 TO.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
** ------------------------------------------------------------------
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE2
** DESCRSRC
** PREFIX
** Length of Side = 58.00
** Configuration = Adjacent
** Emission Rate = 24.0
** Vertical Dimension = 1.83
** SZINIT = 0.85
** Nodes = 4
** 330269.090, 3782373.560, 304.00, 1.83, 26.98
** 329531.920, 3782986.930, 298.39, 1.83, 26.98
** 329277.580, 3783161.120, 274.86, 1.83, 26.98
```

```
** 329182.050, 3783180.760, 275.97, 1.83, 26.98
** ----------------------------------------------------------------
   LOCATION L0000001     VOLUME   330246.798 3782392.109 304.00
   LOCATION L0000002     VOLUME   330202.213 3782429.206 304.00
   LOCATION L0000003     VOLUME   330157.628 3782466.303 304.00
   LOCATION L0000004     VOLUME   330113.043 3782503.400 304.00
   LOCATION L0000005     VOLUME   330068.459 3782540.497 304.00
   LOCATION L0000006     VOLUME   330023.874 3782577.595 304.00
   LOCATION L0000007     VOLUME   329979.289 3782614.692 304.00
   LOCATION L0000008     VOLUME   329934.705 3782651.789 304.00
   LOCATION L0000009     VOLUME   329890.120 3782688.886 304.00
   LOCATION L0000010     VOLUME   329845.535 3782725.983 303.65
   LOCATION L0000011     VOLUME   329800.950 3782763.081 303.04
   LOCATION L0000012     VOLUME   329756.366 3782800.178 303.00
   LOCATION L0000013     VOLUME   329711.781 3782837.275 303.00
   LOCATION L0000014     VOLUME   329667.196 3782874.372 303.00
   LOCATION L0000015     VOLUME   329622.611 3782911.469 302.74
   LOCATION L0000016     VOLUME   329578.027 3782948.566 301.51
   LOCATION L0000017     VOLUME   329533.442 3782985.664 298.58
   LOCATION L0000018     VOLUME   329485.700 3783018.584 293.79
   LOCATION L0000019     VOLUME   329437.847 3783051.358 285.81
   LOCATION L0000020     VOLUME   329389.994 3783084.131 281.13
   LOCATION L0000021     VOLUME   329342.141 3783116.904 278.91
   LOCATION L0000022     VOLUME   329294.288 3783149.677 276.95
   LOCATION L0000023     VOLUME   329240.604 3783168.722 277.43
   LOCATION L0000024     VOLUME   329183.792 3783180.402 278.88
** End of LINE VOLUME Source ID = SLINE2
** Source Parameters **
** LINE VOLUME Source ID = SLINE2
   SRCPARAM L0000001          1.0      1.83     26.98      0.85
   SRCPARAM L0000002          1.0      1.83     26.98      0.85
   SRCPARAM L0000003          1.0      1.83     26.98      0.85
   SRCPARAM L0000004          1.0      1.83     26.98      0.85
   SRCPARAM L0000005          1.0      1.83     26.98      0.85
   SRCPARAM L0000006          1.0      1.83     26.98      0.85
   SRCPARAM L0000007          1.0      1.83     26.98      0.85
   SRCPARAM L0000008          1.0      1.83     26.98      0.85
   SRCPARAM L0000009          1.0      1.83     26.98      0.85
   SRCPARAM L0000010          1.0      1.83     26.98      0.85
   SRCPARAM L0000011          1.0      1.83     26.98      0.85
   SRCPARAM L0000012          1.0      1.83     26.98      0.85
   SRCPARAM L0000013          1.0      1.83     26.98      0.85
   SRCPARAM L0000014          1.0      1.83     26.98      0.85
   SRCPARAM L0000015          1.0      1.83     26.98      0.85
   SRCPARAM L0000016          1.0      1.83     26.98      0.85
   SRCPARAM L0000017          1.0      1.83     26.98      0.85
   SRCPARAM L0000018          1.0      1.83     26.98      0.85
   SRCPARAM L0000019          1.0      1.83     26.98      0.85
   SRCPARAM L0000020          1.0      1.83     26.98      0.85
   SRCPARAM L0000021          1.0      1.83     26.98      0.85
```

```
   SRCPARAM L0000022           1.0      1.83     26.98      0.85
   SRCPARAM L0000023           1.0      1.83     26.98      0.85
   SRCPARAM L0000024           1.0      1.83     26.98      0.85
** ----------------------------------------------------------------------
   URBANSRC ALL
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED "Segment 16, VEN US-101 TO.rou"
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE "M:\9. Air Quality\Projects\1329.001 SCAG 2020 RTP\The SCAG\SCAG MET
DATA\Camarillo Airport\723926.SFC"
   PROFFILE "M:\9. Air Quality\Projects\1329.001 SCAG 2020 RTP\The SCAG\SCAG MET
DATA\Camarillo Airport\723926.PFL"
   SURFDATA 23136 2009
   UAIRDATA 93214 2009
   PROFBASE 21.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
** Auto-Generated Plotfiles
   PLOTFILE ANNUAL ALL "Segment 16, VEN US-101 TO.AD\AN00GALL.PLT" 31
   SUMMFILE "Segment 16, VEN US-101 TO.sum"
OU FINISHED

 ***********************************
 *** SETUP Finishes Successfully ***
 ***********************************

↟ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 16, VEN
US-101 TO\Segment 16, VEN US-10 ***        10/28/19
 *** AERMET - VERSION  14134 ***   ***
```

```
*** MODELOPTs:    NonDFAULT  CONC  FLAT and  ELEV  NODRYDPLT  NOWETDPLT  URBAN

                                         ***     MODEL SETUP OPTIONS SUMMARY
 ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - -

 **Model Is Setup For Calculation of Average CONCentration Values.

   --  DEPOSITION LOGIC  --
 **NO GAS DEPOSITION Data Provided.
 **NO PARTICLE DEPOSITION Data Provided.
 **Model Uses NO DRY DEPLETION.  DRYDPLT  =  F
 **Model Uses NO WET DEPLETION.  WETDPLT  =  F

 **Model Uses URBAN Dispersion Algorithm for the SBL for    24 Source(s),
   for Total of    1 Urban Area(s):
   Urban Population =    128888.0 ;  Urban Roughness Length =  1.000 m

 **Model Allows User-Specified Options:
         1. Stack-tip Downwash.
         2. Allow FLAT/ELEV Terrain Option by Source,
            with      0 FLAT and     24 ELEV Source(s).
         3. Use Calms Processing Routine.
         4. Use Missing Data Processing Routine.
         5. No Exponential Decay.
         6. Full Conversion Assumed for NO2.
         6. Urban Roughness Length of 1.0 Meter Used.

 **Other Options Specified:
         CCVR_Sub - Meteorological data includes CCVR substitutions
         TEMP_Sub - Meteorological data includes TEMP substitutions

 **Model Assumes No FLAGPOLE Receptor Heights.

 **The User Specified a Pollutant Type of:  PM_10

 **Model Calculates ANNUAL Averages Only

 **This Run Includes:     24 Source(s);       1 Source Group(s); and     146
Receptor(s)

                with:      0 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                 and:     24 VOLUME source(s)
                 and:      0 AREA type source(s)
                 and:      0 LINE source(s)
```

```
                and:      0 OPENPIT source(s)
                and:      0 BUOYANT LINE source(s) with      0 line(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  14134

 **Output Options Selected:
          Model Outputs Tables of ANNUAL Averages by Receptor
          Model Outputs External File(s) of High Values for Plotting (PLOTFILE
Keyword)
          Model Outputs Separate Summary File of High Ranked Values (SUMMFILE
Keyword)

 **NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                 m for Missing
Hours
                                                                 b for Both Calm
and Missing Hours

 **Misc. Inputs:  Base Elev. for Pot. Temp. Profile (m MSL) =    21.00 ;  Decay
Coef. =    0.000     ;  Rot. Angle =     0.0
                 Emission Units = GRAMS/SEC                                ;
Emission Rate Unit Factor =   0.10000E+07
                 Output Units   = MICROGRAMS/M**3

 **Approximate Storage Requirements of Model =      3.5 MB of RAM.

 **Input Runstream File:          aermod.inp

 **Output Print File:             aermod.out


 **Detailed Error/Message File:   Segment 16, VEN US-101 TO.err

 **File for Summary of Results:   Segment 16, VEN US-101 TO.sum

↟ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 16, VEN
US-101 TO\Segment 16, VEN US-10 ***        10/28/19
 *** AERMET - VERSION  14134 ***   ***
                        ***        15:48:08

                                   PAGE   2
 *** MODELOPTs:    NonDFAULT  CONC  FLAT and  ELEV  NODRYDPLT  NOWETDPLT  URBAN


                                                *** VOLUME SOURCE DATA ***

               NUMBER EMISSION RATE                     BASE    RELEASE    INIT.
```

INIT. SOURCE ID	URBAN SOURCE	EMISSION RATE PART. SCALAR CATS.	(GRAMS/SEC)	X (METERS)	Y (METERS)	ELEV. (METERS)	HEIGHT (METERS)	SY (METERS)	SZ (METERS)	SOURCE VARY BY
L0000001		0	0.10000E+01	330246.8	3782392.1	304.0	1.83	26.98	0.85	YES
L0000002		0	0.10000E+01	330202.2	3782429.2	304.0	1.83	26.98	0.85	YES
L0000003		0	0.10000E+01	330157.6	3782466.3	304.0	1.83	26.98	0.85	YES
L0000004		0	0.10000E+01	330113.0	3782503.4	304.0	1.83	26.98	0.85	YES
L0000005		0	0.10000E+01	330068.5	3782540.5	304.0	1.83	26.98	0.85	YES
L0000006		0	0.10000E+01	330023.9	3782577.6	304.0	1.83	26.98	0.85	YES
L0000007		0	0.10000E+01	329979.3	3782614.7	304.0	1.83	26.98	0.85	YES
L0000008		0	0.10000E+01	329934.7	3782651.8	304.0	1.83	26.98	0.85	YES
L0000009		0	0.10000E+01	329890.1	3782688.9	304.0	1.83	26.98	0.85	YES
L0000010		0	0.10000E+01	329845.5	3782726.0	303.7	1.83	26.98	0.85	YES
L0000011		0	0.10000E+01	329801.0	3782763.1	303.0	1.83	26.98	0.85	YES
L0000012		0	0.10000E+01	329756.4	3782800.2	303.0	1.83	26.98	0.85	YES
L0000013		0	0.10000E+01	329711.8	3782837.3	303.0	1.83	26.98	0.85	YES
L0000014		0	0.10000E+01	329667.2	3782874.4	303.0	1.83	26.98	0.85	YES
L0000015		0	0.10000E+01	329622.6	3782911.5	302.7	1.83	26.98	0.85	YES
L0000016		0	0.10000E+01	329578.0	3782948.6	301.5	1.83	26.98	0.85	YES
L0000017		0	0.10000E+01	329533.4	3782985.7	298.6	1.83	26.98	0.85	YES
L0000018		0	0.10000E+01	329485.7	3783018.6	293.8	1.83	26.98	0.85	YES
L0000019		0	0.10000E+01	329437.8	3783051.4	285.8	1.83	26.98	0.85	YES
L0000020		0	0.10000E+01	329390.0	3783084.1	281.1	1.83	26.98	0.85	YES
L0000021		0	0.10000E+01	329342.1	3783116.9	278.9	1.83	26.98	0.85	YES

```
 L0000022         0   0.10000E+01  329294.3 3783149.7   276.9     1.83    26.98
0.85     YES
 L0000023         0   0.10000E+01  329240.6 3783168.7   277.4     1.83    26.98
0.85     YES
 L0000024         0   0.10000E+01  329183.8 3783180.4   278.9     1.83    26.98
0.85     YES
```



```
                                          *** SOURCE IDs DEFINING SOURCE GROUPS
***

 SRCGROUP ID                                          SOURCE IDs
 -----------                                          ----------


  ALL        L0000001    , L0000002    , L0000003    , L0000004    , L0000005    ,
L0000006    , L0000007    , L0000008    ,

             L0000009    , L0000010    , L0000011    , L0000012    , L0000013    ,
L0000014    , L0000015    , L0000016    ,

             L0000017    , L0000018    , L0000019    , L0000020    , L0000021    ,
L0000022    , L0000023    , L0000024    ,
```



```
                                          *** SOURCE IDs DEFINED AS URBAN SOURCES
***

  URBAN ID   URBAN POP                               SOURCE IDs
  --------   ---------                               ----------


              128888.   L0000001    , L0000002    , L0000003    , L0000004    ,
L0000005    , L0000006    , L0000007    ,
 L0000008    ,
```

*** MODELOPTs: NonDFAULT CONC FLAT and ELEV NODRYDPLT NOWETDPLT URBAN

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(329449.4, 3783178.1, 273.2, 365.0, 0.0); (329522.0, 3783119.3, 289.5, 296.0, 0.0);
(329594.6, 3783060.5, 298.9, 298.9, 0.0); (329667.1, 3783001.7, 302.1, 302.1, 0.0);
(329739.7, 3782942.9, 302.8, 302.8, 0.0); (329812.3, 3782884.1, 303.1, 303.1, 0.0);
(329884.9, 3782825.3, 304.0, 304.0, 0.0); (329957.5, 3782766.5, 304.0, 304.0, 0.0);
(330030.1, 3782707.6, 304.0, 304.0, 0.0); (330102.7, 3782648.8, 303.8, 303.8, 0.0);
(330175.3, 3782590.0, 304.0, 304.0, 0.0); (330247.9, 3782531.2, 304.0, 304.0, 0.0);
(330320.5, 3782472.4, 303.7, 303.7, 0.0); (329512.3, 3783255.8, 274.7, 302.0, 0.0);
(329584.9, 3783197.0, 291.9, 291.9, 0.0); (329657.5, 3783138.2, 300.0, 300.0, 0.0);
(329730.1, 3783079.4, 302.0, 302.0, 0.0); (329802.7, 3783020.6, 302.9, 302.9, 0.0);
(329875.3, 3782961.8, 303.0, 303.0, 0.0); (329947.9, 3782903.0, 303.1, 303.1, 0.0);
(330020.5, 3782844.2, 303.1, 303.1, 0.0); (330093.1, 3782785.3, 303.1, 303.1, 0.0);
(330165.7, 3782726.5, 303.0, 303.0, 0.0); (330238.2, 3782667.7, 303.2, 303.2, 0.0);
(330310.8, 3782608.9, 303.1, 303.1, 0.0); (330383.4, 3782550.1, 303.0, 303.0, 0.0);
(329575.3, 3783333.5, 281.2, 299.0, 0.0); (329647.9, 3783274.7, 294.8, 294.8, 0.0);
(329720.5, 3783215.9, 299.5, 299.5, 0.0); (329793.0, 3783157.1, 301.8, 301.8, 0.0);
(329865.6, 3783098.3, 302.8, 302.8, 0.0); (329938.2, 3783039.5, 303.0, 303.0, 0.0);
(330010.8, 3782980.7, 303.0, 303.0, 0.0); (330083.4,

```
3782921.9,     303.0,     303.0,       0.0);
     ( 330156.0, 3782863.0,     303.0,     303.0,       0.0);         ( 330228.6,
3782804.2,     303.0,     303.0,       0.0);
     ( 330301.2, 3782745.4,     303.0,     303.0,       0.0);         ( 330373.8,
3782686.6,     303.0,     303.0,       0.0);
     ( 330446.4, 3782627.8,     303.0,     426.0,       0.0);         ( 329638.2,
3783411.2,     287.3,     292.0,       0.0);
     ( 329710.8, 3783352.4,     296.3,     296.3,       0.0);         ( 329783.4,
3783293.6,     300.3,     300.3,       0.0);
     ( 329856.0, 3783234.8,     302.2,     302.2,       0.0);         ( 329928.6,
3783176.0,     303.0,     303.0,       0.0);
     ( 330001.2, 3783117.2,     303.0,     303.0,       0.0);         ( 330073.8,
3783058.4,     303.0,     303.0,       0.0);
     ( 330146.4, 3782999.6,     303.0,     303.0,       0.0);         ( 330219.0,
3782940.8,     303.0,     303.0,       0.0);
     ( 330291.6, 3782881.9,     303.0,     426.0,       0.0);         ( 330364.1,
3782823.1,     303.0,     426.0,       0.0);
     ( 330436.8, 3782764.3,     303.0,     426.0,       0.0);         ( 330509.3,
3782705.5,     303.0,     426.0,       0.0);
     ( 329701.2, 3783488.9,     291.4,     291.4,       0.0);         ( 329773.8,
3783430.1,     297.8,     297.8,       0.0);
     ( 329846.4, 3783371.3,     301.0,     301.0,       0.0);         ( 329919.0,
3783312.5,     302.4,     302.4,       0.0);
     ( 329991.5, 3783253.7,     303.0,     303.0,       0.0);         ( 330064.1,
3783194.9,     303.0,     303.0,       0.0);
     ( 330136.7, 3783136.1,     303.0,     303.0,       0.0);         ( 330209.3,
3783077.3,     303.0,     426.0,       0.0);
     ( 330281.9, 3783018.4,     303.0,     426.0,       0.0);         ( 330354.5,
3782959.6,     303.0,     426.0,       0.0);
     ( 330427.1, 3782900.8,     303.0,     426.0,       0.0);         ( 330499.7,
3782842.0,     303.0,     426.0,       0.0);
     ( 330572.3, 3782783.2,     303.0,     426.0,       0.0);         ( 329970.2,
3783910.4,     301.9,     426.0,       0.0);
     ( 330088.5, 3783818.6,     303.0,     426.0,       0.0);         ( 330161.1,
3783759.8,     303.0,     426.0,       0.0);
     ( 330233.7, 3783701.0,     303.0,     426.0,       0.0);         ( 330306.3,
3783642.2,     303.0,     426.0,       0.0);
     ( 330378.9, 3783583.4,     303.0,     426.0,       0.0);         ( 330451.5,
3783524.6,     303.0,     426.0,       0.0);
     ( 330524.1, 3783465.8,     303.0,     426.0,       0.0);         ( 330596.7,
3783406.9,     303.1,     426.0,       0.0);
     ( 330669.3, 3783348.1,     303.2,     426.0,       0.0);         ( 330741.8,
3783289.3,     304.4,     426.0,       0.0);
     ( 330814.5, 3783230.5,     305.6,     426.0,       0.0);         ( 330887.0,
3783171.7,     309.7,     426.0,       0.0);
     ( 330262.0, 3784315.4,     304.0,     426.0,       0.0);         ( 330403.3,
3784207.1,     304.0,     426.0,       0.0);
     ( 330475.8, 3784148.3,     304.0,     426.0,       0.0);         ( 330548.5,
3784089.5,     304.0,     426.0,       0.0);
     ( 330621.0, 3784030.7,     311.0,     426.0,       0.0);         ( 330339.2,
```

*** MODELOPTs: NonDFAULT CONC FLAT and ELEV NODRYDPLT NOWETDPLT URBAN

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(329890.5, 3782536.6, 304.0, 399.0, 0.0); (329816.5, 3782594.6, 304.0, 304.0, 0.0);
(329742.5, 3782652.7, 303.9, 303.9, 0.0); (330198.0, 3782205.0, 304.0, 399.0, 0.0);
(330050.8, 3782283.8, 304.0, 399.0, 0.0); (329976.8, 3782341.8, 304.0, 399.0, 0.0);
(329902.8, 3782399.8, 304.0, 399.0, 0.0); (329828.8, 3782457.9, 304.0, 399.0, 0.0);
(329754.8, 3782515.9, 304.0, 399.0, 0.0); (329680.8, 3782574.0, 304.0, 365.0, 0.0);
(329989.1, 3782205.1, 304.0, 399.0, 0.0); (329693.1, 3782437.3, 304.3, 399.0, 0.0);
(329619.1, 3782495.3, 304.0, 399.0, 0.0); (329927.3, 3782126.4, 304.0, 399.0, 0.0);
(329557.3, 3782416.6, 304.0, 399.0, 0.0); (329483.3, 3782474.7, 304.2, 399.0, 0.0);
(329409.4, 3782532.8, 310.7, 365.0, 0.0); (329865.6, 3782047.7, 310.3, 399.0, 0.0);
(329791.6, 3782105.8, 305.9, 421.0, 0.0); (329421.6, 3782396.0, 314.1, 399.0, 0.0);
(329072.0, 3783170.8, 280.0, 365.0, 0.0); (329124.0, 3783089.9, 291.9, 365.0, 0.0);
(328995.5, 3783083.5, 286.1, 365.0, 0.0); (329151.5, 3783283.3, 263.6, 365.0, 0.0);
(329244.6, 3783279.7, 257.8, 365.0, 0.0); (329265.9, 3783377.4, 244.5, 365.0, 0.0);
(329287.1, 3783475.1, 243.0, 365.0, 0.0); (329308.4, 3783572.8, 243.0, 365.0, 0.0);
(328275.9, 3784372.6, 243.0, 243.0, 0.0); (328221.9, 3784282.4, 243.0, 243.0, 0.0);
(329384.5, 3783338.9, 248.3, 365.0, 0.0); (329389.5,

3783443.3,   243.0,   365.0,   0.0);
     (329493.1, 3783388.3,   259.9,   358.0,   0.0);   (329448.7,
3783525.4,   243.6,   426.0,   0.0);
     (329546.9, 3783472.6,   259.3,   303.0,   0.0);   (329491.7,
3783614.2,   249.3,   426.0,   0.0);
     (329600.7, 3783556.9,   271.6,   302.0,   0.0);   (329760.7,
3784035.6,   289.8,   289.8,   0.0);
     (329869.7, 3783978.3,   298.1,   298.1,   0.0);   (330029.7,
3784457.1,   299.1,   426.0,   0.0);
     (330138.6, 3784399.8,   304.0,   426.0,   0.0);   (330112.5,
3782369.2,   304.0,   399.0,   0.0);
     (330300.0, 3782406.6,   304.0,   304.0,   0.0);   (330241.7,
3782469.8,   304.0,   304.0,   0.0);
     (330057.7, 3782619.8,   304.0,   304.0,   0.0);   (329897.1,
3782763.9,   304.0,   304.0,   0.0);
     (331600.7, 3782363.7,   304.0,   426.0,   0.0);   (330323.4,
3783513.9,   303.0,   426.0,   0.0);
     (330438.4, 3783358.9,   303.0,   426.0,   0.0);   (329169.8,
3783193.6,   277.0,   365.0,   0.0);
     (329167.5, 3783175.0,   280.2,   365.0,   0.0);   (329286.3,
3783137.7,   279.4,   365.0,   0.0);
     (330248.2, 3782383.0,   304.0,   304.0,   0.0);   (330257.5,
3782394.7,   304.0,   304.0,   0.0);
     (329386.4, 3783100.4,   279.3,   365.0,   0.0);   (329276.9,
3783170.3,   274.7,   365.0,   0.0);

 *** MODELOPTs: NonDFAULT CONC FLAT and ELEV NODRYDPLT NOWETDPLT URBAN

                    * SOURCE-RECEPTOR COMBINATIONS FOR WHICH CALCULATIONS MAY NOT
BE PERFORMED *
                      LESS THAN 1.0 METER; WITHIN OPENPIT; OR BEYOND 80KM FOR
FASTAREA/FASTALL

                           SOURCE   - - RECEPTOR LOCATION - -
DISTANCE
                             ID   XR (METERS)   YR (METERS)
(METERS)
                          -
- - -

                           L0000001   330300.0   3782406.6
-2.88
                           L0000001   330248.2   3782383.0
-48.84

```
                              L0000001            330257.5     3782394.7
-46.96
                              L0000002            330241.7     3782469.8
-1.32
                              L0000006            330057.7     3782619.8
-3.92
                              L0000020            329386.4     3783100.4
-41.30
                              L0000021            329386.4     3783100.4
-10.77
                              L0000022            329286.3     3783137.7
-43.60
                              L0000022            329276.9     3783170.3
-31.04
                              L0000023            329286.3     3783137.7
-2.82
                              L0000023            329276.9     3783170.3
-21.64
                              L0000024            329169.8     3783193.6
-38.76
                              L0000024            329167.5     3783175.0
-40.81
```



```
 *** MODELOPTs:    NonDFAULT  CONC  FLAT and  ELEV  NODRYDPLT  NOWETDPLT  URBAN

                                          *** METEOROLOGICAL DAYS SELECTED FOR
PROCESSING ***
                                                              (1=YES; 0=NO)

           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
```

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***

(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** MODELOPTs: NonDFAULT CONC FLAT and ELEV NODRYDPLT NOWETDPLT URBAN

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: M:\9. Air Quality\Projects\1329.001 SCAG 2020 RTP\The SCAG\SCAG MET DATA\Camaril Met Version: 14134
Profile file: M:\9. Air Quality\Projects\1329.001 SCAG 2020 RTP\The SCAG\SCAG MET DATA\Camaril
Surface format: FREE

Profile format: FREE

Surface station no.: 23136 Upper air station no.: 93214
Name: UNKNOWN Name: UNKNOWN

Year: 2009 Year: 2009

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
09	01	01	1	01	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.04	0.81	1.00	0.00	0.	10.0	281.4	2.0
09	01	01	1	02	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.04	0.81	1.00	0.00	0.	10.0	280.9	2.0
09	01	01	1	03	-3.3	0.067	-9.000	-9.000	-999.	42.	8.3	0.05	0.81	1.00	1.76	214.	10.0	280.9	2.0
09	01	01	1	04	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.04	0.81	1.00	0.00	0.	10.0	280.4	2.0
09	01	01	1	05	-6.6	0.115	-9.000	-9.000	-999.	94.	21.1	0.03	0.81	1.00	2.36	93.	10.0	280.4	2.0

```
 09 01 01   1 06   -6.7  0.116 -9.000 -9.000 -999.   95.     21.1  0.03   0.81
1.00    2.36   52.   10.0  278.1    2.0
 09 01 01   1 07 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  276.4    2.0
 09 01 01   1 08 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
0.57    0.00    0.   10.0  277.5    2.0
 09 01 01   1 09   16.9  0.181  0.282  0.018   48.  185.    -31.8  0.03   0.81
0.33    2.36  107.   10.0  279.2    2.0
 09 01 01   1 10   61.0  0.211  0.601  0.015  129.  233.    -14.0  0.04   0.81
0.24    2.36  161.   10.0  281.4    2.0
 09 01 01   1 11   97.2  0.183  0.800  0.017  191.  188.     -5.7  0.05   0.81
0.21    1.76  214.   10.0  282.5    2.0
 09 01 01   1 12  108.8  0.264  0.957  0.013  292.  326.    -15.4  0.05   0.81
0.20    2.86  206.   10.0  285.4    2.0
 09 01 01   1 13  108.9  0.229  1.066  0.011  403.  263.     -9.9  0.05   0.81
0.20    2.36  223.   10.0  285.9    2.0
 09 01 01   1 14   93.2  0.261  1.073  0.010  479.  320.    -17.3  0.05   0.81
0.21    2.86  239.   10.0  287.0    2.0
 09 01 01   1 15   62.1  0.207  0.944  0.009  490.  226.    -12.8  0.04   0.81
0.24    2.36  272.   10.0  287.0    2.0
 09 01 01   1 16   18.0  0.190  0.626  0.009  491.  198.    -34.3  0.04   0.81
0.33    2.36  274.   10.0  285.9    2.0
 09 01 01   1 17  -12.1  0.125 -9.000 -9.000 -999.  107.     14.5  0.03   0.81
0.58    2.86  301.   10.0  283.1    2.0
 09 01 01   1 18   -7.2  0.107 -9.000 -9.000 -999.   84.     15.4  0.04   0.81
1.00    2.36  287.   10.0  281.4    2.0
 09 01 01   1 19   -7.1  0.124 -9.000 -9.000 -999.  105.     24.5  0.04   0.81
1.00    2.36  294.   10.0  280.4    2.0
 09 01 01   1 20 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  280.1    2.0
 09 01 01   1 21 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  280.1    2.0
 09 01 01   1 22   -4.4  0.065 -9.000 -9.000 -999.   40.      5.7  0.04   0.81
1.00    1.76  162.   10.0  279.1    2.0
 09 01 01   1 23 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  278.1    2.0
 09 01 01   1 24 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  279.1    2.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 09 01 01 01   10.0 1 -999.  -99.00   281.5   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 16, VEN
US-101 TO\Segment 16, VEN US-10 ***        10/28/19
 *** AERMET - VERSION  14134 ***   ***
                        ***       15:48:08
```

*** MODELOPTs: NonDFAULT CONC FLAT and ELEV NODRYDPLT NOWETDPLT URBAN

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5 YEARS FOR SOURCE GROUP: ALL ***

INCLUDING SOURCE(S): L0000001 , L0000002 , L0000003 , L0000004 , L0000005 , L0000006 , L0000007 , L0000008 , L0000009 , L0000010 , L0000011 , L0000012 , L0000013 , L0000014 , L0000015 , L0000016 , L0000017 , L0000018 , L0000019 , L0000020 , L0000021 , L0000022 , L0000023 , L0000024 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
329449.37	3783178.15	290.96704	329521.96	3783119.34	343.61566
329594.56	3783060.53	375.83095	329667.15	3783001.71	413.43624
329739.74	3782942.90	429.37045	329812.34	3782884.09	434.09465
329884.93	3782825.28	434.02954	329957.52	3782766.46	430.44725
330030.12	3782707.65	424.54235	330102.71	3782648.84	415.40613
330175.30	3782590.03	402.32815	330247.90	3782531.21	379.70450
330320.49	3782472.40	319.86023	329512.32	3783255.85	142.20014
329584.91	3783197.04	160.98144	329657.51	3783138.23	175.00178
329730.10	3783079.41	194.31077	329802.69	3783020.60	208.43499
329875.29	3782961.79	216.39461	329947.88	3782902.98	219.78101
330020.47	3782844.16	220.35507	330093.07	3782785.35	218.75127
330165.66	3782726.54	215.12519	330238.25	3782667.73	209.02663
330310.85	3782608.91	197.28806	330383.44	3782550.10	172.77444
329575.27	3783333.55	90.45877	329647.86		

3783274.74 98.00935
329720.46 3783215.93 108.46041 329793.05
3783157.11 119.25864
329865.64 3783098.30 128.88380 329938.24
3783039.49 136.31952
330010.83 3782980.68 140.75146 330083.42
3782921.86 142.79062
330156.02 3782863.05 143.01917 330228.61
3782804.24 141.55254
330301.20 3782745.43 137.83986 330373.80
3782686.61 130.24027
330446.39 3782627.80 117.40037 329638.22
3783411.25 63.55223
329710.81 3783352.44 68.55756 329783.41
3783293.63 75.09881
329856.00 3783234.81 82.07171 329928.59
3783176.00 88.48463
330001.19 3783117.19 94.40214 330073.78
3783058.38 98.89873
330146.37 3782999.56 101.66262 330218.97
3782940.75 102.77150
330291.56 3782881.94 102.33583 330364.15
3782823.13 99.98729
330436.75 3782764.31 95.11167 330509.34
3782705.50 87.61308
329701.17 3783488.95 47.32610 329773.76
3783430.14 51.69630
329846.36 3783371.33 55.99414 329918.95
3783312.51 60.92054
329991.54 3783253.70 65.38780 330064.14
3783194.89 69.68261
330136.73 3783136.08 73.25827 330209.32
3783077.26 76.00005
330281.92 3783018.45 77.64701 330354.51
3782959.64 77.81327
330427.10 3782900.83 76.28047 330499.70
3782842.01 73.10217
330572.29 3782783.20 68.55105 329970.16
3783910.43 17.57665
330088.51 3783818.64 20.22531 330161.11
3783759.83 22.11266
330233.70 3783701.01 23.88524 330306.29
3783642.20 25.19112
330378.89 3783583.39 26.05376 330451.48
3783524.58 26.73873
330524.07 3783465.76 27.34495 330596.67
3783406.95 27.79922
330669.26 3783348.14 28.01588 330741.85
3783289.33 27.89422
330814.45 3783230.51 27.55554 330887.04

3783171.70   26.72516
         330262.03   3784315.42   10.44388   330403.26
3784207.14   11.63830

 *** MODELOPTs: NonDFAULT CONC FLAT and ELEV NODRYDPLT NOWETDPLT URBAN

                   *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL   ***
                                    INCLUDING SOURCE(S):   L0000001   , L0000002
 , L0000003   , L0000004   , L0000005   ,
                   L0000006   , L0000007   , L0000008   , L0000009   , L0000010
 , L0000011   , L0000012   , L0000013   ,
                   L0000014   , L0000015   , L0000016   , L0000017   , L0000018
 , L0000019   , L0000020   , L0000021   ,
                   L0000022   , L0000023   , L0000024   ,

                                             *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                          ** CONC OF PM_10   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)
Y-COORD (M)   CONC
 -
- -
         330475.85   3784148.33   12.29444   330548.45
3784089.51   12.98582
         330621.04   3784030.70   13.09323   330339.21
3782344.47   207.36528
         330514.77   3782502.29   106.87324   330635.41
3782667.35   67.64412
         330186.51   3782304.37   175.37572   330112.51
3782362.42   311.80414
         330038.51   3782420.48   338.80478   329964.51
3782478.53   342.09379
         329890.52   3782536.58   339.66443   329816.52
3782594.63   334.48746
         329742.52   3782652.68   327.38262   330198.05
3782205.04   61.67980
         330050.79   3782283.75   141.48464   329976.79
3782341.80   179.47621
         329902.79   3782399.85   191.93770   329828.79
3782457.90   195.56245
         329754.79   3782515.95   195.71293   329680.80

```
3782574.00      193.89232
         329989.06    3782205.07       82.16517                        329693.07
3782437.27      137.83611
         329619.07    3782495.33      138.08661                        329927.34
3782126.39       55.52452
         329557.35    3782416.65      106.37374                        329483.35
3782474.70      106.23229
         329409.36    3782532.75      101.24653                        329865.62
3782047.71       38.02458
         329791.62    3782105.76       54.12589                        329421.63
3782396.02       80.34142
         329072.02    3783170.77      167.43055                        329123.99
3783089.90      177.17096
         328995.45    3783083.46      125.58679                        329151.53
3783283.28       82.88930
         329244.62    3783279.69      135.65758                        329265.87
3783377.40       59.28167
         329287.12    3783475.12       37.51133                        329308.37
3783572.83       27.10762
         328275.93    3784372.65        4.63510                        328221.88
3784282.38        4.55111
         329384.54    3783338.91       85.60156                        329389.51
3783443.34       48.15472
         329493.07    3783388.27       66.12248                        329448.73
3783525.40       35.80744
         329546.87    3783472.57       46.26792                        329491.68
3783614.17       27.80010
         329600.67    3783556.87       37.92635                        329760.67
3784035.65       14.74483
         329869.66    3783978.35       16.06458                        330029.66
3784457.13        8.86452
         330138.64    3784399.83        9.43293                        330112.50
3782369.25      331.59038
         330299.99    3782406.60      250.56055                        330241.74
3782469.84      428.18815
         330057.68    3782619.82      499.52752                        329897.13
3782763.92      695.99197
         331600.66    3782363.74       17.81270                        330323.40
3783513.88       29.75418
         330438.43    3783358.94       34.31407                        329169.80
3783193.62      187.22517
         329167.47    3783174.98      230.42582                        329286.26
3783137.72      349.52475
         330248.23    3782383.05      311.44481                        330257.54
3782394.70      353.75812
         329386.42    3783100.45      286.15450                        329276.94
3783170.32      221.69429
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Segment 16, VEN
US-101 TO\Segment 16, VEN US-10 ***        10/28/19
 *** AERMET - VERSION  14134 ***   ***
```

 *** MODELOPTs: NonDFAULT CONC FLAT and ELEV NODRYDPLT NOWETDPLT URBAN

                                  *** THE SUMMARY OF MAXIMUM ANNUAL RESULTS
AVERAGED OVER   5 YEARS ***

                                   ** CONC OF PM_10   IN MICROGRAMS/M**3
              **

                       NETWORK
GROUP ID   AVERAGE CONC   RECEPTOR (XR, YR,
ZELEV, ZHILL, ZFLAG) OF TYPE GRID-ID
- -
- - - - - - - - - - - - - - - - - - -

ALL   1ST HIGHEST VALUE IS   695.99197 AT (329897.13, 3782763.92,
304.00,   304.00,   0.00) DC
          2ND HIGHEST VALUE IS   499.52752 AT (330057.68, 3782619.82,
304.00,   304.00,   0.00) DC
          3RD HIGHEST VALUE IS   434.09465 AT (329812.34, 3782884.09,
303.06,   303.06,   0.00) DC
          4TH HIGHEST VALUE IS   434.02954 AT (329884.93, 3782825.28,
303.97,   303.97,   0.00) DC
          5TH HIGHEST VALUE IS   430.44725 AT (329957.52, 3782766.46,
303.97,   303.97,   0.00) DC
          6TH HIGHEST VALUE IS   429.37045 AT (329739.74, 3782942.90,
302.78,   302.78,   0.00) DC
          7TH HIGHEST VALUE IS   428.18815 AT (330241.74, 3782469.84,
304.00,   304.00,   0.00) DC
          8TH HIGHEST VALUE IS   424.54235 AT (330030.12, 3782707.65,
303.97,   303.97,   0.00) DC
          9TH HIGHEST VALUE IS   415.40613 AT (330102.71, 3782648.84,
303.83,   303.83,   0.00) DC
         10TH HIGHEST VALUE IS   413.43624 AT (329667.15, 3783001.71,
302.10,   302.10,   0.00) DC

 *** RECEPTOR TYPES: GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR

*** MODELOPTs: NonDFAULT CONC FLAT and ELEV NODRYDPLT NOWETDPLT URBAN

*** Message Summary : AERMOD Model Execution ***

 --------- Summary of Total Messages --------

A Total of   0 Fatal Error Message(s)
A Total of   1 Warning Message(s)
A Total of   15612 Informational Message(s)

A Total of   43872 Hours Were Processed

A Total of   13724 Calm Hours Identified

A Total of   1888 Missing Hours Identified (4.30 Percent)

   ******** FATAL ERROR MESSAGES ********
              *** NONE ***

   ********   WARNING MESSAGES   ********
MX W481   43873   MAIN: Data Remaining After End of Year. Number of Hours=
       48

   ****
   *** AERMOD Finishes Successfully ***
   ****

APPENDIX 3.4

Biological Resources Technical Report

DRAFT Biological Resources Report for the 2020-2045 Regional Transportation Plan and Sustainable Communities Strategy for The Southern California Association of Governments

JULY 2019

PREPARED FOR

Impact Sciences

PREPARED BY

SWCA Environmental Consultants

DRAFT BIOLOGICAL RESOURCES REPORT FOR THE 2020–2045 REGIONAL TRANSPORTATION PLAN AND SUSTAINABLE COMMUNITIES STRATEGY FOR THE SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENT

Prepared for

Impact Sciences
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Prepared by

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SWCA Project No. 049443

July 2019

CONTENTS

Introduction **1**

Regulatory Framework **1**

Federal 1

Federal Endangered Species Act 1

Section 10 of Rivers and Harbors Appropriation Act of 1899 2

Migratory Bird Treaty Act of 1918 (MBTA) 2

Fish and Wildlife Coordination Act (FWCA), 1956 2

Section 404 of the Federal Clean Water Act (CWA) 2

Section 401 of the Federal CWA (1972) 3

Marine Mammal Protection Act of 1972 (MMPA) 3

Marine Protection, Research, and Sanctuaries Act of 1972 (MPRSA) 3

Emergency Wetlands Resources Act of 1986 (EWRA) 3

Bald and Golden Eagle Protection Act (BGEPA) 4

Wetlands – Executive Order Number 11990 4

Invasive Species – Executive Order Number 13112 5

National Environmental Policy Act 5

State 5

Section 1600 of the State Fish and Game Code, Lake or Streambed Alteration 5

Section 2080 of the State Fish and Game Code, California Endangered Species Act (California ESA) 6

Sections 2800 through 2840 of the State Fish and Game Code, Natural Community Conservation Planning Act 6

Sections 3503 and 3503.5 of the State Fish and Game Code, Resident and Migratory Birds 6

Sections 3511, 4700, 5050, and 5515 of the State Fish and Game Code, Fully Protected Species 7

Title 14, § 460 of the California Code of Regulations 7

California Porter-Cologne Water Quality Control Act (1969, amended 2019) 7

California Wild and Scenic Rivers Act (1972) 7

California Coastal Act (1976, amended 2019) 7

California Native Plant Protection Act (1977) 8

California Desert Native Plant Act (1981) 8

Natural Community Conservation Planning Act of 1991, as Amended 8

State Senate Concurrent Resolution No. 17 – Relative to Oak Woodlands 8

State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State 9

State Wildlife Action Plan (SWAP) 9

Local 9

County General Plans and Ordinances 9

City General Plan and Ordinances 11

Existing Conditions **12**

Environmental Setting 12

Definitions 13

Special - Status Species and Critical Habitat 15

State and Federally Listed Species 21

Sensitive Wildlife Species 27

Rare and Locally Important Plants 36

Riparian and State Sensitive Plant Communities 53
Federally Protected Wetlands and Waterways 61
Wildlife Movement Corridors 64
Habitat Conservation Plans and Natural Community Conservation Plans 67
Regional Conservation Investment Strategies/Local Conservation Plans 68
Local Policies and Ordinances 69

Figures

Figure 1. Designated Critical Habitat in the SCAG Region. 17
Figure 2. State and Federally Listed Species in the SCAG Region 22
Figure 3, Sensitive Wildlife Species Reported in the SCAG Region 28
Figure 4, Rare and Locally Important Plants Reported in the SCAG Region 52
Figure 5 Land Use Reported in the SCAG Region 55
Figure 6 Riparian Habitat and State Sensitive Plant Communities Reported in the SCAG Region 56
Figure 7 Essential Habitat Connectivity and Natural Landscape Blocks within the SCAG Region 66

Tables

Table 1. Summary of Special-Status Species and Designated Critical Habitat in the SCAG Region 15
Table 2. Critical Habitat in the SCAG Region. 18
Table 3. Federally and State Listed Species Reported in the SCAG Region. 23
Table 4. Sensitive Wildlife Species Reported in the SCAG Region 29
Table 5. Rare and Locally Important Plants Reported in the SCAG Region 36
Table 6. Riparian Habitat and State Sensitive Plant Communities Reported in the SCAG Region 53
Table 7. Sensitive Natural Communities Within The SCAG Region 57
Table 8. Federally Protected Wetlands and Waterways Reported n the SCAG Region. 61
Table 9. Federally Protected Waterways under Rivers and Harbors Act Report in the SCAG Region. 63
Table 10. Natural Landscap Blocks by County in the SCAG Regiosn 65
Table 11. Essential Connectivity Areas by County in the SCAG Region 65
Table 12. Potential Riparian Connections in the SCAG Region 67
Table 13. HCP's and NCCP'S in the Region. 67
HCP/NCCP 67
Table 14. County Policies and Ordinanaces Relevant to the SCAG Region 70
Table 15. Critical Habitat For Listed Species Potentially Affected by 2020 RTP/SCS Major Transportation Projects ..... **Error! Bookmark not defined.**
Table 16. Records of Listed Plant Species Potentially Affected by 2020 RTP/SCS Projects ..... **Error! Bookmark not defined.**
Table 17. Records of Listed Wildlife Species Potentially Affected by 2020 RTP/SCs Projects ..... **Error! Bookmark not defined.**

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INTRODUCTION

The Southern California Association of Governments (SCAG) is the lead California Environmental Quality Act (CEQA) agency for the proposed 2020–2045 Regional Transportation Plan and Sustainable Communities Strategy (2020 RTP/SCS or, the Plan). As the lead agency, SCAG has committed to prepare a Program Environmental Impact Report (PEIR) for the 2020 RTP/SCS.

SCAG is a federally designated Metropolitan Planning Organization (MPO) under Title 23, United States Code (USC.) 134(d)(1). The SCAG region consists of six counties (Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura) and 191 cities. The 2020 RTP/SCS is a regional planning document updated every four years for the SCAG region. The 2020 RTP/SCS will outline the region's goals and policies for meeting current and future mobility needs and provide a foundation for transportation decisions by local, regional and state officials that are ultimately aimed at achieving a coordinated and balanced transportation system. The 2020 RTP/SCS will also identify the region's transportation needs and issues, recommended actions, programs, and a list of projects to address the needs consistent with adopted regional policies and goals, and document the financial resources needed to implement the 2020 RTP/SCS. It is important to note that SCAG does not implement individual projects in the RTP, as they will be implemented by local and state jurisdictions, and other agencies. SCAG has already initiated the development of the 2020 RTP/SCS and is working closely with county transportation commission (CTCs) to compile a regional transportation project list that will build upon the list identified in the 2016 RTP/SCS [1].

This report describes the current biological resources within the region and evaluates the significance of the changes in biological resources that would result from implementation of the proposed 2020 RTP/SCS. In addition, this report provides a framework of mitigation measures for subsequent, site-specific environmental review documents prepared by lead agencies to reduce identified impacts. Information sources utilized in this discussion include the U.S. Fish and Wildlife Service (USFWS), the California Native Plant Society (CNPS), the California Natural Diversity Database (CNDDB), and the California Department of Fish and Wildlife (CDFW).

REGULATORY FRAMEWORK

Federal

Federal Endangered Species Act

The USFWS, under the auspices of the Federal Endangered Species Act of 1973 (ESA), manages and protects species listed as Endangered or Threatened. The USFWS can issue a permit for incidental "take" of listed species that can result from otherwise lawful activities. Take, under the federal definition, means to harass, harm (including habitat modification), pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct. The permitting process is used to determine if a project would

1 Southern California Association of Governments. 2016. 2016-2040 RTP/SCS. April. Available at: http://scagrtpscs.net/Documents/2016/final/f2016RTPSCS.pdf, accessed July 12, 2019.

jeopardize the continued existence of listed species and the mitigation measures that would be required to avoid or minimize impacts to listed species. Procedures for obtaining a permit for incidental take are set forth in Section 7 (for federal properties or where federal actions are involved) and Section 10 (for non-federal actions) of the ESA.

Candidate species do not have the full protection of the ESA; however, the USFWS advises applicants that candidate species could be elevated to listed species at any time.

The USFWS administers the ESA, which designates critical habitat for endangered species. This enables USFWS to carry out its mission to conserve, protect, and enhance the nation's fish and wildlife and their habitats for the continuing benefit of people. Critical habitat areas cannot be disturbed without permission from the USFWS and other federal agencies, depending on land ownership. The USFWS also manages a system of land and waters for the conservation of wildlife and associated ecosystems. These National Wildlife Refuges are primarily managed for the preservation and protection of unique or important resources and ecosystems.

Section 10 of Rivers and Harbors Appropriation Act of 1899

Authorization from the U.S. Army Corps of Engineers (USACE) must be obtained for construction of a structure in or over, or alteration (e.g., dredge or fill) of, any navigable water of the U.S., pursuant to Section 10 of the Rivers and Harbors Appropriation Act of 1899 (33 USC 401, 403, 407). Authorization is also needed for structures built near navigable water if they would affect the course, location, condition, or capacity of the water body, as through re-channelization, disposal of fill, and so forth. Geographic jurisdiction includes those waters subject to ebb and flow of the tide.

Migratory Bird Treaty Act of 1918 (MBTA)

The MBTA (16 USC §§ 703–712) makes it unlawful to pursue, capture, kill, or possess any migratory bird or part, nest, or egg of any such bird listed in wildlife protection treaties between the United States, Great Britain, Mexico, Japan, and the countries of the former Soviet Union. Similar to the federal ESA, the MBTA authorizes the Secretary of the Interior to issue permits for incidental take.

Fish and Wildlife Coordination Act (FWCA), 1956

The objective of the FWCA of 1956 (16 USC 661–666c) is to protect fish and wildlife when federal actions result in the control or modification of a natural stream or body of water. Under the FWCA, Federal agencies shall consider the effect that water-related projects would have on fish and wildlife resources, prevent loss or damage and develop and improve fish and wildlife resources. The FWCA requires consultation with USFWS and state fish and wildlife agencies to develop measures to protect, develop and improve fish and wildlife resources.

Section 404 of the Federal Clean Water Act (CWA)

Section 404 of the federal CWA (33 USC 1251), which is administered by the USACE, regulates the discharge of dredged and fill material into waters of the United States. USACE has established a series of nationwide permits that authorize certain activities in waters of the United States, provided that a proposed activity can demonstrate compliance with standard conditions. In general, USACE requires an individual permit for an activity that will affect an area equal to or in excess of 0.3 acre of waters of the United States. Projects that result in impacts to less than 0.3 acre of waters of the United States can normally be conducted pursuant to one of the nationwide permits, if consistent with the standard permit

conditions. USACE also has regional conditions which may apply to these nationwide permits depending upon the resources present, e.g., anadromous fish use. USACE also has discretionary authority to require an Environmental Impact Statement for projects that result in impacts to an area between 0.1 and 0.3 acre. Use of any nationwide permit is contingent on the activities having no impacts to endangered species.

Section 401 of the Federal CWA (1972)

Section 401 of the federal CWA (33 USC 1251) is administered by the State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Boards (RWQCBs). Section 401 requires that prior to any federal permit or license, any activity, including river or stream crossings during road, pipeline, or transmission line construction, which may result in discharges into waters of the United States, must be certified by the applicable RWQCB. The SWRCB has conditionally certified 14 nationwide permits and denied 38 without prejudice. This certification ensures that the proposed activity does not violate federal water quality standards. The SCAG region lies within the jurisdiction of five RWQCBs:

- Colorado River Basin
- Lahontan
- Los Angeles
- Santa Ana
- San Diego

Marine Mammal Protection Act of 1972 (MMPA)

The MMPA (16 USC 31) protects all marine mammals, including cetaceans (whales, dolphins, and porpoises), otarids (seals and sea lions), phocids (true seals), odobenids (walruses; *Odobenus rosmarus*), sirenians (manatees and dugongs), sea otters (*Enhydra lutra*), and polar bears (*Ursus maritimus*) within the waters of the United States. The MMPA prohibits the "take" of marine mammals without a permit, with certain exceptions. The definition of "take" under the MMPA is consistent with that of the federal ESA. The MMPA is managed by the federal government. The National Marine Fisheries Service is responsible for managing cetaceans, otariids, and phocids. The USFWS is responsible for managing odobenids, sirenians, sea otters, and polar bears.

Marine Protection, Research, and Sanctuaries Act of 1972 (MPRSA)

The MPRSA (Public Law 92-532), also known as the Ocean Dumping Act, prohibits the dumping of material into the ocean that would unreasonably degrade or endanger human health or the marine environment. Ocean dumping cannot occur unless a permit is issued under the MPRSA. In the case of dredged material, the decision to issue a permit is made by the USACE, using the U.S. Environmental Protection Agency's (EPA) environmental criteria and subject to EPA's concurrence.

Emergency Wetlands Resources Act of 1986 (EWRA)

The objective of the EWRA (16 USC 3901–3932), dated November 10, 1986, is to promote the conservation of wetlands and help fulfill obligations contained in various migratory bird treaties. Under the EWRA, the USFWS must provide leadership and take action to:

- Intensify cooperative efforts to manage and conserve wetlands

- Intensify efforts to protect wetlands

Bald and Golden Eagle Protection Act (BGEPA)

The purpose of the federal BGEPA (16 USC 668–668c, as amended) that is administered by the USFWS protects bald (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*), their nests, eggs, and parts.[2] The BGEPA states that no person shall take, possess, sell, purchase, barter, offer for sale, purchase or barter, transport, export, or import any bald or golden eagle alive or dead, or any part, nest, or egg without a valid permit to do so. The BGEPA prohibits the "take" of bald and golden eagles unless pursuant to regulations. Take is defined by the BGEPA as an action "to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb."

In addition to immediate impacts, this definition covers impacts that result from human-caused alterations initiated around a previously used nest site during a time when eagles were not present. Permits are issued to Native Americans to possess eagle feathers for religious purposes, and salvaged eagle carcasses can be sent to the National Eagle Repository in Colorado, where they are redistributed to Native Americans. Although the bald eagle was removed from the Endangered Species List in June 2007, it is still federally protected under the BGEPA and MBTA described above. In addition, the *National Bald Eagle Management Guidelines* were published in conjunction with delisting by the USFWS in May 2007 to provide provisions to continue to protect bald eagles from harmful actions and impacts.

Under the BGEPA, a final rule was published in May 2008 in the *Federal Register* that proposed authorization for take of bald eagles for those with existing authorization under the federal ESA where the bald eagle is covered in an HCP or the golden eagle is covered as a non-listed species.[3] The final rule also established a new permit category to provide expedited permits to entities authorized to take bald eagles through Section 7 Incidental Take Permits.

Wetlands – Executive Order Number 11990

Executive Order (EO) 11990 was issued in May 1977, as a furtherance of the National Environmental Policy Act (NEPA) providing protection of wetlands. Pursuant to the EO, all new construction should be designed to the greatest extent possible to avoid long- and short-term adverse impacts that would lead to the destruction or the modification of wetlands, in order to preserve and enhance the natural and beneficial values of wetlands. The procedures require the determination of whether or not the proposed project will be in or will affect wetlands. If so, a wetlands assessment must be prepared that describes the alternatives considered. Federal agencies, such as the Federal Highway Administration (FHWA), cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds that: (1) there is no practicable alternative to the construction and (2) the proposed project includes all practicable measures to minimize harm.

2 U.S. Fish and Wildlife Service (USFWS). 2007. National Bald Eagle Management Guidelines. May. Available at: https://www.fws.gov/southdakotafieldoffice/NationalBaldEagleManagementGuidelines.pdf, accessed January 23, 2019.

3 Federal Register. 2008. Notices. 73(98): 29075–84. May.

Invasive Species – Executive Order Number 13112

This EO was signed by President Clinton on February 3, 1999. It serves to prevent activities that may promote the introduction and spread of invasive species. The order states that federal agencies whose actions

"may affect the status of invasive species shall … use relevant programs and authorities to … prevent the introduction of invasive species … detect and respond rapidly to and control populations of such species in a cost-effective and environmentally sound manner…monitor invasive species populations accurately and reliably … provide for restoration of native species and habitat conditions in ecosystems that have been invaded."

In order to implement EO 13112, the FHWA has established guidance to prevent the introduction and spread, and promote the control, of invasive plant species on highway rights-of-way. Under EO 13112, federal agencies are prohibited from authorizing, funding, or carrying out actions that are likely to promote or result in the introduction or spread of invasive species unless all feasible measures to minimize the impacts have been analyzed and considered.

National Environmental Policy Act

NEPA is implemented by regulations (40 Code of Federal Regulations [CFR] § 1500 *et seq*.), which require careful consideration of the harmful effects of federal actions or plans, including projects that receive federal funds, if they may have a significant adverse effect on the environment. NEPA mandates that all federal agencies carry out their regulations, policies, and programs in accordance with NEPA's policies of environmental protection. NEPA encourages the protection of all aspects of the environment and requires federal agencies to utilize a systematic, interdisciplinary approach to agency decision-making that will ensure the integrated use of natural sciences such as geology. While NEPA compliance is not required for the Plan, NEPA compliance will be required for transportation improvement projects that will be financed using federal funds. Some development projects (such as low-income housing) also use federal funds and are subject to NEPA. The regulations also require projects requiring NEPA review to seek to avoid or minimize adverse effects of proposed actions, and restore and enhance environmental quality as much as possible.

The Council on Environmental Quality (CEQ) oversees NEPA, and the EPA carries out administrative aspects of the NEPA process. NEPA mandates that the federal government shall give appropriate consideration to potential adverse environmental impacts of their major actions, including impacts to biological resources.

State

Section 1600 of the State Fish and Game Code, Lake or Streambed Alteration

All diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake in California are subject to the regulatory authority of the CDFW pursuant to Sections 1600 through 1603 of the California Fish and Game Code (FGC) and require preparation of a Streambed Alteration Agreement. Pursuant to 14 CCR § 1.72, a stream is defined as a "body of water that flows at least periodically, or intermittently, through a bed or channel having banks and supporting fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported

riparian vegetation." Altered or artificial waterways valuable to fish and wildlife are subject to CDFW jurisdiction. CDFW also has jurisdiction over dry washes that carry water ephemerally during storm events.

Section 2080 of the State Fish and Game Code, California Endangered Species Act (California ESA)

The California ESA prohibits the take of listed species except as otherwise provided in state law. Unlike the federal ESA, the California ESA applies the take prohibitions to species petitioned for listing (state candidates). State lead agencies are required to consult with the CDFW to ensure that any actions undertaken by the lead agency are not likely to jeopardize the continued existence of any state-listed species or result in destruction or degradation of required habitat. CDFW is authorized to enter into Memoranda of Understanding (MOUs) with individuals, public agencies, universities, zoological gardens, and scientific or educational institutions to import, export, take, or possess listed species for scientific, educational, or management purposes.

Pursuant to Section 2081 of the California FGC, the CDFW may authorize individuals or public agencies to import, export, take, or possess, any state-listed endangered, threatened, or candidate species. These otherwise prohibited acts may be authorized through permits or MOUs if:

- The take is incidental to an otherwise lawful activity.
- The impacts of the authorized take are minimized and fully mitigated.
- The permit is consistent with any regulations adopted pursuant to any recovery plan for the species.
- The applicant ensures adequate funding to implement the measures required by CDFW.

CDFW shall make this determination based on available scientific information and shall include consideration of the ability of the species to survive and reproduce.

Sections 2800 through 2840 of the State Fish and Game Code, Natural Community Conservation Planning Act

Section 2800 through 2840 of the State Fish and Game Code provides a mechanism to conserve natural communities on an ecosystem level while accommodating compatible land use. Specifically, it is used to provide comprehensive management and conservation of multiple wildlife species and the natural communities in which they occur.

Sections 3503 and 3503.5 of the State Fish and Game Code, Resident and Migratory Birds

Sections 3503 and 3503.5 of the State Fish and Game Code provide regulatory protection to resident and migratory birds and all birds of prey within the State of California, including the regulation of the taking of nests and eggs, unless otherwise provided for by the State Fish and Game Code. Specifically, it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, or destroy the nest or eggs of any bird of prey, except as otherwise provided.

Sections 3511, 4700, 5050, and 5515 of the State Fish and Game Code, Fully Protected Species

The classification of fully protected was the state's initial effort to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish, amphibians and reptiles, birds, and mammals. Most of the species on these lists have subsequently been listed under the state and/or federal ESA. Sections 3511, 4700, 5050 and 5515 of the Fish and Game Code state that fully protected species (birds, mammals, fish, reptiles, amphibians) or parts thereof may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock.

Title 14, § 460 of the California Code of Regulations

The regulations of take of furbearing mammals are established within the California Code of Regulations (CCR), Title 14, Division 1 (Subdivision 2), Chapter 5. Take is prohibited for several furbearing mammals under Title 14, § 460 of the CCR, including, but not limited to, desert kit fox (*Vulpes macrotis arsipus*) and red fox (*Vulpes vulpes*). Title 14 § 460 is supported by Sections 200, 202, 203, and 4009.5 of the State FGC.

California Porter-Cologne Water Quality Control Act (1969, amended 2019)

Pursuant to the California Porter-Cologne Water Quality Control Act (California Water Code, Division 7), the State Water Resources Control Board is granted ultimate authority over water quality policy for the State of California. The RWQCBs oversee water quality at the local and regional levels, and regulate pollutant and nuisance discharges into waters of the state. Waters of the state are defined as any surface water or groundwater, including saline waters, within the boundaries of the state. Before allowing discharges that may affect the quality of waters of the state, a Report of Waste Discharge must be filed with the RWQCB.

California Wild and Scenic Rivers Act (1972)

The objective of the California Wild and Scenic Rivers Act of 1972 (Public Resources Code [PRC] 5093.50) is the preservation of certain rivers, together with their immediate environments, which possess extraordinary scenic, recreational, fishery, or wildlife values. The Act provides permanent protection for some of the state's most outstanding free flowing rivers and prohibits actions such as the construction of dams or other harmful instream activities, except to serve local needs.

California Coastal Act (1976, amended 2019)

Through the California Coastal Act (PRC Division 20), the California Coastal Commission has unusually broad authority to regulate development in the Coastal Zone. A permit is required for any project that might change the intensity of land use in the Coastal Zone including projects that would require a building or grading permit from the city or county, major vegetation clearing, or subdividing. The coastal zone generally extends three miles seaward and about 1,000 yards inland. However, important and generally undeveloped areas where there can be considerable impact on the coastline from inland development, the coastal zone extends to a maximum of five miles inland from mean high tide line. In developed urban areas, the coastal zone extends substantially less than 1,000 yards inland.

California Native Plant Protection Act (1977)

The California Native Plant Protection Act (Fish and Game Code Section 1900–1913) includes measures to preserve, protect, and enhance rare and endangered native plants. The list of native plants afforded protection pursuant to the Native Plant Protection Act includes those listed as rare and endangered under the California ESA. The Native Plant Protection Act provides limitations by stating "no person will import into this State, or take, possess, or sell within this State" any rare or endangered native plant, except in compliance with provisions of the act. Individual landowners are required to notify the CDFW at least 10 days in advance of changing land uses to allow the CDFW to salvage any rare or endangered native plant material.

California Desert Native Plant Act (1981)

The main purpose of the Desert Native Plant Act (Food and Agriculture Code Division 23) is to preserve and enhance desert native plants by protecting certain species from unlawful harvesting on both public and privately-owned lands. The list of desert native plants afforded protection pursuant to the Desert Native Plant Act includes species within the Mojave Desert portions of Los Angeles, San Bernardino, and Riverside Counties. The Desert Native Plant Act provides limitations that no person will harvest, transport, or be in possession of certain native desert plants without authorization (i.e., valid permit or wood receipt). Authorization for take of native desert plants can be obtained through the sheriff or commissioner of the county where harvesting will occur and is subject to county-designated fees.

Natural Community Conservation Planning Act of 1991, as Amended

The Natural Community Conservation Planning Act of 1991 (NCCP), as amended in 2003 (Fish and Game Code Section 2800-2835) established the Natural Community Conservation Planning program for the protection and perpetuation of the state's biological diversity. The CDFW established the program in order to conserve natural communities at the ecosystem level while accommodating compatible land use. An NCCP plan identifies and provides for the regional or area-wide protection of plants, animals, and their habitats, while allowing compatible and appropriate economic activity. The CDFW provides support, direction, and guidance to participants in order to ensure that NCCP plans are consistent with the state ESA.

State Senate Concurrent Resolution No. 17 – Relative to Oak Woodlands

The State Senate Concurrent Resolution No. 17, filed with the Secretary of State on September 1, 1989, states that any state agencies having land use planning duties and responsibilities shall assess the effects of their land use decisions or actions within any oak woodlands containing blue oak (*Quercus douglasii*), Engelmann oak (*Q. engelmannii*), valley oak (*Q. lobata*), or coast live oak (*Q. agrifolia*). The State Senate defines "oak woodland" as a five-acre circular area containing five or more oak trees per acre. This resolution requires that state agencies must preserve and protect native oak woodlands to the maximum extent feasible or provide for replacement plantings where blue, Engelmann, valley, or coast live oak are removed from oak woodlands.

State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State

The SWRCB adopted procedures as an amendment to the Water Quality Control Plan for Ocean Waters of California and the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California to establish a statewide wetland definition and procedures for discharges on April 2, 2019. The procedures consist of four major elements: 1) a wetland definition; 2) a framework for determining if a feature that meets the wetland definition is a water of the state; 3) wetland delineation procedures; and 4) procedures for the submittal, review and approval of applications for Water Quality Certifications and Waste Discharge Requirements for dredge or fill activities. In accordance with EO W-59-93, the procedures ensure that the SWRCB's regulation of dredge or fill activities will be conducted in a manner "to ensure no overall net loss and long-term net gain in the quantity, quality, and permanence of wetlands acreage and values.

State Wildlife Action Plan (SWAP)

Congress created the State and Tribal Wildlife Grants (STWG) program in 2000, recognizing the need to fund programs for the conservation of wildlife diversity.4 Congress mandated each state and territory to develop a SWAP by 2005 that provided a comprehensive wildlife conservation strategy to continue receiving federal funds through the STWG program. California's first SWAP was completed by the California Department of Fish and Game (now the CDFW) and approved by the USFWS in 2005. California's SWAP 2005 identified and targeted Species of Greatest Conservation Need (SGCN) and the critical habitats on which they depend. The STWG program requires SWAP updates at least every 10 years. CDFW has recently prepared SWAP 2015, which is the first comprehensive update of SWAP 2005.5 Currently under USFWS review for approval, the SWAP 2015 focuses on conservation of the wildlife resources of the nation's most biologically diverse state using an approach that is in harmony with both a growing human population and the need for resilience in the face of a changing climate. Employing an ecosystem approach to conserve and manage diverse habitats and species, SWAP 2015 provides a blueprint for actions necessary to address the highest priorities for conserving California's aquatic, marine, and terrestrial resources.

Local

In addition to federal and state regulations described above, general plans and municipal codes of counties and cities in the SCAG region may include conservation elements that identify biological resources, including mature trees and locally important species that are afforded special consideration.

County General Plans and Ordinances

Per state general plan guidelines, a county's general plan is required to contain a conservation element as well as an open space element. These elements are generally where discussions regarding biological resources can be found. Each county's general plan varies in level of detail and necessary measures to

4 U.S. Fish & Wildlife Services. Accessed 29 October 2015. State Wildlife Grant Program – Overview. Available at: http://wsfrprograms.fws.gov/Subpages/GrantPrograms/SWG/SWG.htm, accessed January 10, 2019.

5 California Department of Fish and Wildlife. 2015. California State Wildlife Action Plan 2015 Update: A Conservation Legacy for Californians. Available at: https://www.wildlife.ca.gov/SWAP/Final, accessed January 10, 2019.

preserve biological resources. The counties within the SCAG area may each have individual codes or ordinances protecting biological resources. A commonly occurring ordinance is a native tree protection or oak tree protection ordinance. These codes and ordinances generally have a limited scope, in this case the removal of specific tree species, which are afforded some level of protection.

IMPERIAL COUNTY

The Imperial County Code of Ordinances has established two codes related to biological resources (Chapter 12.44, Wildlife Protection, and Chapter 12.48 Wild Flowers and Trees). The Conservation and Open Space Element of the Imperial County General Plan has established one goal and two policies related to biological resources.6 The County's two codes, one goal, and two supporting policies relevant to the SCAG projects provide protection to wildlife, wild flowers and trees, as well as preservation of native plant communities and best restoration practices.

LOS ANGELES COUNTY

The Conservation and Natural Resources Element of the Los Angeles County General Plan 2035 Update has established two goals and 13 policies related to biological resources. Ten of the 13 policies are relevant to the SCAG projects.7 The two goals and eight supporting policies that apply to SCAG activities provide protection to natural habitats, special status species, sensitive plant communities, wildlife corridors, watersheds and other sensitive biological resources. They also act to discourage development in natural or biologically sensitive areas. In addition, the Los Angeles County Code of Ordinances has established an ordinance to protect native oak trees.

Los Angeles County has designated several areas containing sensitive biological resources as Significant Ecological Areas (SEAs). SEAs are areas that warrant special management because they contain biotic resources that are considered to be rare or unique; are critical to the maintenance of wildlife; represent relatively undisturbed areas of Los Angeles County Habitat Types; or serve as linkages. Any development within SEAs is subject to the discretion and policies of the Significant Ecological Areas Technical Advisory Committee (SEATAC).

ORANGE COUNTY

The Resources Element of the Orange County General Plan has established one goal and one policy related to biological resources.8 The one goal and one supporting policy relevant to SCAG projects provide protection to wildlife, plants, and vegetation communities.

6 Imperial County Planning and Development Services. 1993. Imperial County General Plan: Chapter 9: Conservation and Open Space Element. Pp. 47, 54. Available at: http://www.icpds.com/CMS/Media/Conservation-and-Open-Space-Element.pdf, accessed January 10, 2019.

7 Los Angeles County Department of Regional Planning. January 2014. Los Angeles County General Plan Public Review Draft: Chapter 9: Conservation and Natural Resources Element. P. 146. Available at: http://planning.lacounty.gov/assets/upl/project/gp_2035_Chapter9_2014.pdf, accessed January 10, 2019.

8 Orange County Land Use Planning and Subdivision Services. 2005. Orange County General Plan 2005: Chapter 6: Resources Element. P. VI-32. Available online at: http://ocplanning.net/civicax/filebank/blobdload.aspx?blobid=40235, accessed January 10, 2019.

RIVERSIDE COUNTY

The Riverside County Code of Ordinances has established one ordinance related to biological resources (No. 559, Section 1). The Open Space and Conservation Element of the Riverside County General Plan has established two objectives and eight policies related to biological resources.9 The one ordinance, two goals, and eight supporting policies relevant to the SCAG projects provide protection to native trees, native plant communities, critical habitat, sensitive habitats, sensitive species, and wildlife corridors. They also ensure continued participation and compliance with the County's Multi-Species Habitat Conservation Program (MSHCP) and the San Bernardino kangaroo rat (*Dipodomys merriami parvus*) Habitat Conservation Plan (HCP).

SAN BERNARDINO COUNTY

The San Bernardino County Development Code has established one code related to biological resources (Chapter 88.01.010(c)). The Conservation Element of the San Bernardino County General Plan has established one goal and six policies related to biological resources.10 The one code, two goals, and six supporting policies relevant to SCAG projects provide protection to native species, sensitive species and sensitive plant communities. They also warrant coordination with the appropriate resource management agencies and interested groups to maintain the County's biological resources.

VENTURA COUNTY

The Ventura County Code of Ordinances has established one ordinance related to biological resources. The Resources Element of the Ventura County General Plan has established one goal and two policies related to biological resources.[11] The one code, one goal, and six supporting policies relevant to SCAG projects provide protection to native trees, sensitive species, sensitive habitats, wildlife corridors, and locally important species/communities.

City General Plan and Ordinances

In accordance with Sections 6530(c) and (d) of the California Government Code, like the six counties in the SCAG region, all cities are required to have a conservation element and an open space element, as mandatory elements of their general plans. The conservation element provides goals and polices related to conservation, development, and utilization of natural resources including water and its hydraulic force, forests, soils, rivers and other waters, harbors, fisheries, wildlife, minerals, and other natural resources. One of the six required aspects of the open space element is for planning, conservation and management of open space for the preservation of natural resources, including habitat for fish and wildlife species; areas required for ecologic and other scientific study purposes; rivers, streams, bays and estuaries; and coastal beaches, lakeshores, banks of rivers and streams, and watershed lands. In addition, many of the

9 Riverside County Planning Department. November 2012. Riverside County General Plan 2025: Open Space and Conservation Element. P. OS-40. Available online at: http://www.riversideca.gov/planning/gp2025program/GP/12_Open_Space_and_Conservation_Element.pdf, accessed January 10, 2019.

10 San Bernardino County Land Use Services. 2007. San Bernardino County General Plan: Chapter 5: Conservation Element. P. V-13. Available online at: http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGP.pdf, accessed January 10, 2019.

11 Ventura County Planning and Development Services. 2016. Ventura County General Plan: Goals, Policies And Programs. P. 16. Available at: https://docs.vcrma.org/images/pdf/planning/plans/Goals-Policies-and-Programs.pdf, accessed January 10, 2019.

cities have ordinances related to protection, conservation and management of natural habitats, and associated plant and animal resources.

EXISTING CONDITIONS

Environmental Setting

The SCAG region encompasses an area of varied topography and diverse ecosystems. An ecosystem is the dynamic complex of plant and animal communities and their associated non-living environment. The region covers over 38,000 square miles across six counties, encompassing two mountain ranges, two deserts, and approximately 150 miles of coastline, with elevations ranging from -266 to more than 11,500 feet above mean seal level (msl). Due to the remarkable variation in the region's topography, climate, and landforms, the biological communities within the area are exceptionally diverse and call for a broad approach to their description.

The SCAG region primarily encompasses five United States Department of Agriculture (USDA) regionally defined Ecological Sections.12 These include:

Southern California Coast Section. This ecological region is bound to the west by the Pacific Ocean. This section has coastal terraces and low elevation ranges with alluvial lowlands. Plant communities are generally comprised of coastal sagebrush, sagebrush, chaparral, and western hardwood communities. This ecological region occurs in Ventura, Los Angeles and Orange Counties and a small portion of extreme southwestern Riverside County.

Southern California Mountain and Valley Section. Located generally immediately east of the Southern California Coast Section, this region has a landscape of moderate elevation and narrow ranges primarily vegetated with chaparral, chaparral-mountain scrub, western hardwoods, pine, and fir-spruce communities. This ecological section is present in every SCAG county.

Mojave Desert Section. Located primarily within the northeast portion of the SCAG region, this ecological section consists of short mountain ranges, basins, playas and dunes. Much of this ecological region is vegetated with creosote bush scrub and desert scrub, with pinyon-juniper and other communities within the large array of elevations within this wide section. The Mojave Desert comprises a large portion of San Bernardino County, and smaller portions of Los Angeles and Riverside Counties.

Colorado Desert Section. This area is largely a plain comprised of alluvial deposits associated with the Salton Sea in Imperial and Riverside Counties. Native vegetation is sparse creosote bush scrub and desert scrub communities, with a high concentration of agricultural lands.

Sonoran Desert Section. This area consists of desert plain interspersed with small low elevation mountain ranges primarily vegetated with creosote bush scrub and desert scrub plant communities. This section covers a large portion of eastern Imperial and Riverside Counties and the southeastern portion of San Bernardino County.

12 Descriptions of "Ecological Subregions: Sections of the Conterminous United States. 2017. General Technical Report WO-76B. United States Department of Agriculture, Forest Service. Available at: http://www.edc.uri.edu/atmt-dss/report_forecast/landscape_dynamics/SectionDescriptions.pdf. Accessed July 8, 2019.

Definitions

Definitions of terms used in the regulatory framework, characterization of baseline conditions, and impact analysis for biological resources are provided.

Critical Habitat: A designated area defined by the United States Fish and Wildlife Services (USFWS) as being important for the survival of species listed pursuant to the federal ESA. The USFWS evaluates the collection of the environmental conditions (i.e., plant communities, range, elevation, food source, etc.) essential to the continued conservation and preservation of each species listed as federally threatened and endangered.

Federally Listed Species: Species provided with special legal protection under the federal ESA. A federally listed endangered species is a species that is in danger of extinction throughout all or a significant portion of its range. A federally threatened species is one likely to become endangered in the absence of special protection or management efforts provided by the listing. A candidate species is one that is proposed by the federal government for listing as endangered or threatened.

Federal Wetlands: Defined by the USACE and the EPA as: "Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."13

Habitat Conservation Plans (HCPs): Required by the USFWS as part of an application for an "incidental take" permit for species listed pursuant to the federal ESA. HCPs describe the anticipated effects of the proposed taking, how the impacts will be minimized and mitigated, and how the HCP is to be funded.

Locally Important Species: Species that are not monitored by the resource agencies, but monitored by private organizations or local municipal governments. For the purposes of this EIR, locally important species include those plant species recognized by the California Native Plant Society (CNPS), a private organization dedicated to the conservation of native plants, as well as those recognized by the Audubon Society.

Natural Community Conservation Plan : Defined by CDFW as a plan for the conservation of natural communities that identifies and provides for the regional or area-wide protection and perpetuation of plants, animals, and their habitats.

Nursery Site: Considered habitat in which native wildlife may establish nests, maternity roosts, dens, or otherwise engage in breeding and/or the rearing of offspring.

Sensitive Plant Community: A native plant community listed on CDFW Natural Communities List as being rare within California or threatened by human actions.

Special Status Species: Species that have been afforded special recognition by federal, state, and/or local resource agencies or jurisdictions, or recognized resource conservation organizations. Special status wildlife species include those that are federally or state-listed as endangered, threatened, or candidate species pursuant to the federal ESA, the California ESA, or other regulations enforced by a federal or

13 U.S. Army Corps of Engineers. 1987. *Corps of Engineers Wetland Delineation Manual*. Vicksburg, MS.

state agency; or those species considered by the scientific community to be rare. For the purposes of this analysis, special status species include listed, sensitive, and locally important species.

Species of Special Concern (SSC): Species, subspecies, or distinct population of an animal (bird, mammal, fish, reptile, and amphibian) native to California that currently satisfies one or more of the following criteria: (a) is extirpated from the state or, in the case of birds, in its primary seasonal or breeding role; (b) is listed as federally, but not state-, threatened or endangered; (c) meets the state definition of threatened or endangered but has not formally been listed; (d) is experiencing, or formerly experienced, serious (noncyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for state-threatened or endangered status; (e) has naturally small populations exhibiting high susceptibility to risk from any factor(s), that if realized, could lead to declines that would qualify it for statethreatened or endangered status.

State-designated Sensitive Species: Species that are not listed by the state government as endangered, threatened, or candidate species but are categorized by the state as a species of special concern or fully protected species. A California species of special concern is defined by CDFW as being a wildlife species that has declining population levels, a limited range, and/or continuing threats that have made it vulnerable to extinction.

State-Listed Species: Species provided special legal protection under the California ESA. A state-listed endangered species is a species that is in danger of extinction throughout all or a significant portion of its range. A state-listed threatened species is one likely to become endangered in the absence of special protection or management efforts provided by the listing. A candidate species is one that is proposed by the federal or state government for listing as endangered or threatened.

State Streams: Defined by the California Fish and Game Code. A stream is defined as a body of water that flows at least periodically, or intermittently, through a bed or channel having banks and supporting fish or other aquatic life.

State Wetlands: Defined by the SWRCB as an area that, under normal circumstances, (1) has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation.

Waters of the United States: Surface waters such as navigable waters and their tributaries, all interstate waters and their tributaries, natural lakes, all wetlands adjacent to other waters, and all impoundments of these waters. On April 21, 2014, the EPA proposed to refine the definition of waters of the United States to include all tributaries of traditional navigable waters, interstate waters, territorial seas, and impoundments of such tributaries; wetlands adjacent to the foregoing; and waters other than wetlands that are adjacent to other jurisdictional waters.14

Wildlife Movement Corridors: Characterized as areas of habitat that are used by wildlife for the purpose of moving between locations.

14 Federal Register. 2014. Proposed Rules. 79(76). April. Available online at: http://www.gpo.gov/fdsys/pkg/FR-2014-04-21/pdf/2014-07142.pdf, accessed March 19, 2019.

Special - Status Species and Critical Habitat

Special-status species are generally defined as: (1) species listed as a candidate, threatened, or endangered under the federal or state ESA; (2) species considered rare or endangered under the CEQA; (3) plants considered "Rare, Threatened, or Endangered in California" by CNPS (Lists 1B and 2); (4) animal listed as "species of special concern" by the state; and (5) animals fully protected in California FGC.

Critical habitat is a specific geographic area(s) that is essential for the conservation of a threatened or endangered species and that may require special management and protection. Critical habitat is designated by the USFWS under the federal ESA and cannot be disturbed without permission from the USFWS and other federal agencies, depending on land ownership. The listing process for individual species may include designation of critical habitat. Critical habitat may include an area that is not currently occupied by the species but that may be needed for its recovery.

The following discussion is based on a background search of special-status species that are documented in the CNDDB, the CNPS Inventory of Rare and Endangered Plants, and the USFWS Endangered and Threatened species list. The background search was regional in scope and focused on the documented occurrences within the boundaries of the SCAG region. There are 63 federally or state-listed wildlife and 72 listed plant species with historical records located within the six counties of the SCAG region as well as over 5.5 million acres of designated critical habitat (Table 1).

Table 1. Summary of Special-Status Species and Designated Critical Habitat in the SCAG Region

County	Number Federally and State-Listed Wildlife Species	Number Federally and State-Listed Plant Species	Acres of Critical Habitat
Imperial	19	4	423,065
Los Angeles	37	30	108,574
Orange	22	11	27,833
Riverside	34	21	938,789
San Bernardino	32	24	3,673,963
Ventura	28	19	358,793
Entire SCAG Region	63	72	5,530,964

Source: California Department of Fish and Wildlife. 2019. Rarefind 5: A Database Application for the Use of the California Department of Fish and Game Natural Diversity Data Base. Sacramento, CA.

Every county within the SCAG region contains USFWS-designated critical habitat for listed species (Figure 1). Critical habitat for 46 of these ferally listed species has been established within the SCAG region (Table 2). San Bernardino, the largest county in the country, contains nearly 3,700,000 acres of designated critical habitat, or over 66% of the lands designated in the SCAG region. Both San Bernardino and Riverside each have designated habitat for 22 species, the most of any SCAG counties. Over 86% (4,685,378 acres) of all the Critical Habitat in the region is for desert tortoise (*Gopherus agassizii*) and this species represents the largest designated critical habitat in the four of the six SCAG counties in which it is present (San Bernardino, Riverside, Los Angeles, and Imperial Counties). Coastal California gnatcatcher (*Polioptila californica californica*) has the largest critical habitat in Orange County (with 19,000 acres, or nearly 67% of the designated lands in the County). California Condor (*Gymnogyps californianus*) has nearly 180,000 acres designated in Ventra County, or almost 50% of all critical habitat designated in the County. Each county has Designated Critical Habitat for a wide variety of species (including plants, amphibians, fish, reptiles, insects, crustaceans, birds, and mammals) and each county has a wide diversity of natural communities to support these species.

Figure 1. Designated Critical Habitat in the SCAG Region.

Table 2. Critical Habitat in the SCAG Region

Scientific Name	Common Name	Status	Acres	TAXONGROUP
Imperial				
Astragalus magdalenae var. peirsonii	Peirson's milk-vetch	FT, SE, CRPR: 1B.2	12,104.9	Plants
Xyrauchen texanus	Razorback sucker	FE, SE	3,643.6	Fish
Gopherus agassizii	Desert tortoise	FT, ST,	340,495.5	Reptiles
Coccyzus americanus	Yellow-billed Cuckoo	FT, SE,	16,925.3	Birds
Ovis canadensis nelsoni	Peninsular bighorn sheep	FE, ST,	49,896.2	Mammals
Total			423,065.4	
Los Angeles				
Astragalus brauntonii	Braunton's milk-vetch	FE, CRPR: 1B.1	1,205.7	Plants
Brodiaea filifolia	Thread-leaved brodiaea	FT, SE, CRPR: 1B.1	205.6	Plants
Navarretia fossalis	Spreading navarretia	FT, CRPR: 1B.1	176.2	Plants
Pentachaeta lyonii	Lyon's pentachaeta	FE, SE, CRPR: 1B.1	1,085.3	Plants
Glaucopsyche lygdamus palosverdesensis	Palos Verdes blue butterfly	FE	90.6	Insects
Catostomus santaanae	Santa Ana sucker	FT	2,233.5	Fish
Eucyclogobius newberryi	Tidewater goby	FE	73.4	Fish
Oncorhynchus (=Salmo) mykiss	Steelhead	FE	12.4	Fish
Anaxyrus californicus	Arroyo (=arroyo southwestern) toad	FE	4,800.3	Amphibians
Rana draytonii	California red-legged frog	FT	7,715.3	Amphibians
Rana muscosa	Mountain yellow-legged frog	FE, SE	4,482.5	Amphibians
Gopherus agassizii	Desert tortoise	FT, ST	36,488.0	Reptiles
Charadrius nivosus nivosus	Western snowy plover	FT	100.4	Birds
Empidonax traillii extimus	Southwestern willow flycatcher	FE, SE	3,408.9	Birds
Gymnogyps californianus	California condor	FE, SE	7,747.7	Birds
Polioptila californica californica	Coastal California gnatcatcher	FT	36,128.0	Birds
Vireo bellii pusillus	Least Bell's vireo	FE, SE	2,620.5	Birds
Total			108,574.3	
Orange				
Astragalus brauntonii	Braunton's milk-vetch	FE, CRPR: 1B.1	832.4	Plants
Brodiaea filifolia	Thread-leaved brodiaea	FT, SE, CRPR: 1B.1	1,038.6	Plants
Branchinecta sandiegonensis	San Diego fairy shrimp	FE	202.3	Crustaceans
Streptocephalus woottoni	Riverside fairy shrimp	FE	718.6	Crustaceans

Scientific Name	Common Name	Status	Acres	TAXONGROUP
Catostomus santaanae	Santa Ana sucker	FT	653.2	Fish
Eucyclogobius newberryi	Tidewater goby	FE	10.5	Fish
Oncorhynchus (=Salmo) mykiss	Steelhead	FE	6.7	Fish
Anaxyrus californicus	Arroyo (=arroyo southwestern) toad	FE	5,035.7	Amphibians
Charadrius nivosus nivosus	Western snowy plover	FT	513.3	Birds
Polioptila californica californica	Coastal California gnatcatcher	FT	18,821.9	Birds
Total			27,833.2	
Riverside				
Allium munzii	Munz's onion	FE, ST, CRPR: 1B.1	98.4	Plants
Ambrosia pumila	San Diego ambrosia	FE, CRPR: 1B.1	306.8	Plants
Astragalus lentiginosus var. coachellae	Coachella Valley milk-vetch	FE, CRPR: 1B.2	9,670.5	Plants
Berberis nevinii	Nevin's barberry	FE, SE, CRPR: 1B.1	5.3	Plants
Brodiaea filifolia	Thread-leaved brodiaea	FT, SE, CRPR: 1B.1	1,493.8	Plants
Ceanothus ophiochilus	Vail Lake ceanothus	FT, SE, CRPR: 1B.1	197.3	Plants
Navarretia fossalis	Spreading navarretia	FT, CRPR: 1B.1	6,342.3	Plants
Streptocephalus woottoni	Riverside fairy shrimp	FE	864.7	Crustaceans
Dinacoma caseyi	Casey's June Beetle	FE	594.0	Insects
Euphydryas editha quino (=E. e. wrighti)	Quino checkerspot butterfly	FE	22,023.4	Insects
Catostomus santaanae	Santa Ana sucker	FT	4,108.9	Fish
Xyrauchen texanus	Razorback sucker	FE, SE	3,759.0	Fish
Anaxyrus californicus	Arroyo (=arroyo southwestern) toad	FE	8,517.3	Amphibians
Rana muscosa	Mountain yellow-legged frog	FE, SE	1,512.3	Amphibians
Gopherus agassizii	Desert tortoise	FT, ST	748,600.6	Reptiles
Uma inornata	Coachella Valley fringe-toed lizard	FT, SE	11,789.0	Reptiles
Coccyzus americanus	Yellow-billed Cuckoo	FT, SE	16,296.3	Birds
Empidonax traillii extimus	Southwestern willow flycatcher	FE, SE	1,471.1	Birds
Polioptila californica californica	Coastal California gnatcatcher	FT	21,779.2	Birds
Vireo bellii pusillus	Least Bell's vireo	FE, SE	7,845.4	Birds
Dipodomys merriami parvus	San Bernardino Merriam's kangaroo rat	FE	5,565.2	Mammals
Ovis canadensis nelsoni	Peninsular bighorn sheep	FE, ST	65,948.3	Mammals
Total			938,789.0	
San Bernardino				

Scientific Name	Common Name	Status	Acres	TAXONGROUP
Arenaria ursina	Bear Valley sandwort	FT, CRPR: 1B.2	1,411.2	Plants
Astragalus albens	Cushenbury milk-vetch	FE, CRPR: 1B.1	4,366.3	Plants
Astragalus jaegerianus	Lane Mountain milk-vetch	FE, CRPR: 1B.1	14,166.8	Plants
Brodiaea filifolia	Thread-leaved brodiaea	FT, SE, CRPR: 1B.1	61.3	Plants
Castilleja cinerea	Ash-grey paintbrush	FT, CRPR: 1B.2	1,766.5	Plants
Erigeron parishii	Parish's daisy	FT, CRPR: 1B.1	4,420.7	Plants
Eriogonum kennedyi var. austromontanum	Southern mountain wild-buckwheat	FT, CRPR: 1B.2	902.7	Plants
Eriogonum ovalifolium var. vineum	Cushenbury buckwheat	FE, CRPR: 1B.1	6,953.4	Plants
Lesquerella kingii ssp. bernardina	San Bernardino Mountains bladderpod	FE, CRPR: 1B.1	1,025.5	Plants
Poa atropurpurea	San Bernardino bluegrass	FE, CRPR: 1B.2	1,414.5	Plants
Taraxacum californicum	California taraxacum	FE, CRPR: 1B.1	1,954.9	Plants
Catostomus santaanae	Santa Ana sucker	FT	2,335.4	Fish
Gila elegans	Bonytail chub	FE, SE	10,113.1	Fish
Xyrauchen texanus	Razorback sucker	FE, SE	1,763.5	Fish
Anaxyrus californicus	Arroyo (=arroyo southwestern) toad	FE	7,377.7	Amphibians
Rana muscosa	Mountain yellow-legged frog	FE, SE	2,288.2	Amphibians
Gopherus agassizii	Desert tortoise	FT, ST	3,559,794.7	Reptiles
Coccyzus americanus	Yellow-billed Cuckoo	FT, SE	5,793.3	Birds
Empidonax traillii extimus	Southwestern willow flycatcher	FE, SE	9,005.0	Birds
Polioptila californica californica	Coastal California gnatcatcher	FT	7,274.6	Birds
Vireo bellii pusillus	Least Bell's vireo	FE, SE	2,047.8	Birds
Dipodomys merriami parvus	San Bernardino Merriam's kangaroo rat	FE	27,725.3	Mammals
Total			3,673,962.6	
Ventura				
Astragalus brauntonii	Braunton's milk-vetch	FE, CRPR: 1B.1	1,259.9	Plants
Astragalus pycnostachyus var. lanosissimus	Ventura Marsh Milk-vetch	FE, SE, CRPR: 1B.1	219.6	Plants
Pentachaeta lyonii	Lyon's pentachaeta	FE, SE, CRPR: 1B.1	2,309.5	Plants
Branchinecta conservatio	Conservancy fairy shrimp	FE	46,425.9	Crustaceans
Branchinecta lynchi	Vernal pool fairy shrimp	FT	46,425.9	Crustaceans
Streptocephalus woottoni	Riverside fairy shrimp	FE	466.4	Crustaceans
Eucyclogobius newberryi	Tidewater goby	FE	363.7	Fish
Oncorhynchus (=Salmo) mykiss	Steelhead	FE	273.3	Fish
Anaxyrus californicus	Arroyo (=arroyo southwestern) toad	FE	5,073.0	Amphibians
Rana draytonii	California red-legged frog	FT	25,563.8	Amphibians

Scientific Name	Common Name	Status	Acres	TAXONGROUP
Charadrius nivosus nivosus	Western snowy plover	FT	847.8	Birds
Empidonax traillii extimus	Southwestern willow flycatcher	FE, SE	11,024.0	Birds
Gymnogyps californianus	California condor	FE, SE	179,810.6	Birds
Polioptila californica californica	Coastal California gnatcatcher	FT	36,887.3	Birds
Vireo bellii pusillus	Least Bell's vireo	FE, SE	1,788.6	Birds
Total			358,739.3	
Total All Counties			5,530,963.7	

State and Federally Listed Species

A search of relevant literature and databases for the six counties of the SCAG region was performed to develop a list of federally and state-listed species that could potentially occur in the SCAG region (Table 3; Figure 2) Literature and database records reviewed were:

- CNDDB (RareFind 5): administered by CDFW; Biogeographical Data Branch inventories the status and locations of rare plants, animals, and natural communities in California.
- CNPS online electronic Inventory of Rare and Endangered Vascular Plants of California
- Calflora, Information on wild California plants for conservation, education, and appreciation. http://www.calflora.org/.
- information about birds. http://ebird.org.

There are 135 listed species recorded in the region. These included federally listed threatened and endangered and state-listed threatened, endangered or rare species. Although only the third largest County in the region, Los Angeles had the greatest number of listed species with 70. The smallest County, Orange, had the lowest number of species with 34.

Figure 2. State and Federally Listed Species in the SCAG Region

Table 3. Federally and State Listed Species Reported in the SCAG Region.

Scientific Name	Common Name	Status	Counties Where Reported	Designated Critical Habitat (Acres)
Plants				
Acanthoscyphus parishii var. goodmanian	Cushenbury oxytheca	FE, CRPR: 1B.1	SB	ND
Acmispon argophyllus var. adsurgens	San Clemente Island bird's-foot trefoil	SE, CRPR: 1B.1	LA	ND
Acmispon dendroideus var. traskiae	San Clemente Island lotus	FT, SE, CRPR: 1B.3	LA	ND
Allium munzii	Munz's onion	FE, ST, CRPR: 1B.1	RIV	98
Ambrosia pumila	San Diego ambrosia	FE, CRPR: 1B.1	RIV	307
Arenaria paludicola	Marsh sandwort	FE, SE ,CRPR: 1B.1	LA, RIV, SB	ND
Astragalus albens	Cushenbury milk-vetch	FE, CRPR: 1B.1	SB	4,370
Astragalus brauntonii	Braunton's milk-vetch	FE, CRPR: 1B.1	LA, VEN, OR	3298
Astragalus jaegerianus	Lane Mountain milk-vetch	FE, CRPR: 1B.1	SB	14167
Astragalus lentiginosus var. coachellae	Coachella Valley milk-vetch	FE, CRPR: 1B.2	RIV	9671
Astragalus magdalenae var. peirsonii	Peirson's milk-vetch	FT, SE, CRPR: 1B.2	IMP	12105
Astragalus pyncnostachyus var. lanosissimus	Ventura Marsh milk-vetch	FE, SE, CRPR: 1B.1	LA, OR, VEN	220
Astragalus tener var. titi	Coastal dunes milk-vetch	FE, SE, CRPR: 1B.1	LA	ND
Astragalus traskiae	Trask's milkvetch	SR, CRPR: 1B.2	VEN	ND
Astragalus tricarinatus	Triple-ribbed milk vetch	FE, CRPR: 1B.2	RIV, SB	ND
Atriplex coronata var. notatior	San Jacinto valley crownscale	FE, CRPR: 1B.1	RIV	ND
Berberis nevinii	Nevin's barberry	FE, SE, CRPR: 1B.1	LA, RIV, SB	5.3
Berberis pinnata ssp. insularis	Island barberry	FE, SE, CRPR: 1B.2	VEN	ND
Boechera hoffmannii	Hoffmann's rockcress	FE, CRPR: 1B.1	VEN	ND
Brodiaea filifolia	Thread-leaved brodiaea		LA, OR, RIV, SB	2799
Castilleja cinerea	Ash-gray paintbrush	FT, CRPR: 1B.2	SB	1767
Castilleja gleasoni	Mt. Gleason paintbrush	SR, CRPR: 1B.2	LA	ND
Castilleja grisea	San Clemente Island paintbrush	FT, SE, CRPR: 1B.3	LA	ND
Ceanothus ophiochilus	Vail Lake ceanothus	FT, SE, CRPR: 1B.1	RIV	200
Cercocarpus traskiae	Catalina Island mountain-mohagany	FE, SE, CRPR: 1B.1	LA	ND
Chloropyron maritimum ssp. Maritimum	Salt marsh bird's-beak	FE, SE, CRPR: 1B.2	LA, OR, RIV, SB, VEN	ND
Chorizanthe parryi var. fernandina	San Fernando Valley spineflower	FPT, SE, CRPR: 1B.1	LA, OR, VEN	ND
Crocanthemum greenei	Island rush-rose	FT, CRPR: 1B.2	LA	ND
Croton wigginsii	Wiggins' croton	SR, CRPR: 2B.2	IMP	ND

Scientific Name	Common Name	Status	Counties Where Reported	Designated Critical Habitat (Acres)
Deinandra minthornii	Santa Susana tarplant	SR, CRPR: 1B.2	LA, VEN	ND
Deinandra mohavensis	Mojave tarplant	SE, CRPR: 1B.3	RIV, SB	ND
Delphinium hesperium ssp. Cuyamacae	Cuyamaca larkspur	SR, CRPR: 1B.2	RIV	ND
Delphinium variegatum ssp. Kinkiense	San Clemente Island larkspur	FE, SE, CRPR: 1B.1	LA	ND
Dithyrea maritima	Beach spectaclepod	ST, CRPR: 1B.1	LA, VEN	ND
Dodecahema leptoceras	Slender-horned spineflower	FE, SE, CRPR: 1B.1	LA, RIV, SB	ND
Dudleya cymosa ssp. Agourensis	Agoura Hills dudleya	FT, CRPR: 1B.2	LA, VEN	ND
Dudleya cymosa ssp. Marcescens	Marcescent dudleya	FT, SR, CRPR: 1B.2	LA, VEN	ND
Dudleya cymosa ssp. Ovatifolia	Santa Monica dudleya	FT, CRPR: 1B.1	LA	ND
Dudleya parva	Conejo dudleya	FT, CRPR: 1B.2	VEN	ND
Dudleya stolonifera	Laguna Beach dudleya	FT, ST, CRPR: 1B.1	OR	ND
Dudleya verityi	Verity''s dudleya	FT, CRPR: 1B.1	VEN	ND
Eremalche parryi ssp. Kernensis	Kern mallow	FE, CRPR: 1B.22	VEN	ND
Eremogone ursina	Big Bear Valley sandwort	FT, CRPR: 1B.2	SB	1411
Eriastrum densifolium ssp. Sanctorum	Santa Ana River woollystar	FE, SE, CRPR: 1B.1	OR, RIV, SB	ND
Erigeron parishii	Parish's daisy	FT, CRPR: 1B.1	RIV, SB	4,420
Eriogonum crocatum	Conejo buckwheat	SR, CRPR: 1B.2	VEN	ND
Eriogonum grande var. timorum	San Nicolas Island buckwheat	SE, CRPR: 1B.1	VEN	ND
Eriogonum kennedyi var. austromontanum	Southern Mountain buckwheat	FT, CRPR: 1B.2	SB	ND
Eriogonum ovalifolium var. vineum	Cushenbury buckwheat	FE, CRPR: 1B.1	SB	6,950
Eriogonum thornei	Thorne's buckwheat	SE, CRPR: 1B.2	SB	ND
Eryngium aristulatum var. parishii	San Diego button celery	FE, SE, CRPR: 1B.1	IMP, RIV, LA, OR	ND
Galium angustifolium ssp. Borregoense	Borrego bedstraw	SR, CRPR: 1B.3	IMP	ND
Galium catalinense ssp. Acrispum	San Clemente Island bedstraw	SE, CRPR: 1B.3	LA	ND
Helianthus niveus ssp. Tephrodes	Algodones Dune's sunflower	SE, CRPR: 1B.2	IMP	ND
Ivesia callida	Tahquitz ivesia	SR, CRPR: 1B.3	RIV	ND
Lithophragma maximum	San Clemente Island woodland star	FE, SE, CRPR: 1B.1	LA	ND
Malacothamnus clementinus	San Clemente Island bush mallow	FE, SE, CRPR: 1B.1	LA	ND
Malacothrix squalida	Island malacothrix	FE, CRPR: 1B.1	VEN	ND
Nasturtium gambelii	Gambel's water cress	FE, ST, CRPR: 1B.1	LA, OR, SB	ND
Navarretia fossalis	Spreading navarretia	FT, CRPR: 1B.1	LA, RIV	6,519

Scientific Name	Common Name	Status	Counties Where Reported	Designated Critical Habitat (Acres)
Orcuttia californica	California orcutt grass	FE, SE, CRPR: 1B.1	LA, RIV, VEN, OR	ND
Packera ganderi	Gander's ragwort	SR, CRPR: 1B.2	RIV	ND
Pentachaeta lyonii	Lyon's pentachaeta	FE, SE, CRPR: 1B.1	LA, VEN	3,580
Physaria kingii ssp. Bernardina	San Bernardino Mountains bladderpod	FE, CRPR: 1B.1	SB	1,026
Poa atropurpurea	San Bernardino blue grass	FE, CRPR: 1B.2	SB	1,415
Sibara filifolia	Santa Cruz Island rock cress	FE, CRPR: 1B.1	LA	ND
Sidalcea hickmanii ssp. parishii	Parish's checkerbloom	SR, CRPR: 1B.2	SB	ND
Sidalcea pedata	Bird-foot checkerbloom	FE, SE, CRPR: 1B.1	SB	ND
Taraxacum californicum	California dandelion	FE, CRPR: 1B.1	SB	1,955
Thelypodium stenopetalum	Slender-petaled thelypodium	FE, SE, CRPR: 1B.1	SB	ND
Verbesina dissita	Big-leaved crownbeard	FT, ST, CRPR: 1B.1	OR	ND
Crustaceans				
Branchinecta conservation	Conservancy fairy shrimp	FE	VEN	46,430
Branchinecta lynchi	Vernal pool fairy shrimp	FT	LA, RIV	46,430
Branchinecta sandiegonensis	San Diego fairy shrimp	FE	RIV, OR	200
Streptocephalus woottoni	Riverside fairy shrimp	FE	LA, OR, RIV	2,050
Insects				
Dinacoma caseyi	Casey's June beetle	FE	RIV	594
Euphilotes battoides allyni	El Segundo blue butterfly	FE	LA	
Euphydryas editha quino	Quino checkerspot butterfly	FE	SB, LA, RIV, OR	22,023
Euproserpinus euterpe	Kern primrose sphinx moth	FT	VEN	ND
Glaucopsyche lygdamus palosverdesensis	Palos Verdes blue butterfly	FE	LA	91
Rhaphiomidas terminatus abdominalis	Delhi sands flower-loving fly	FE	RIV, SB	ND
Fish				
Catostomus santaanae	Santa Ana sucker	FT	LA, VEN, OR, RIV, SB	9,360
Cyprinodon macularius	Desert pupfish	FE, SE	IMP, RIV	ND
Eucyclogobius newberryi	Tidewater goby	FE	LA, OR, VEN	448
Gasterosteus aculeatus williamsoni	Unarmored threespine stickleback	FE, SE	LA, VEN, SB	ND
Gila elegans	Bonytail	FE, SE	IMP, SB	10,113
Oncorhynchus mykiss irideus	Southern steelhead – southern California DPS	FE	LA, OC, VEN, RIV	292
Ptychocheilus lucius	Colorado pikeminnow	FE,SE	IMP, SB	ND
Siphateles bicolor mohavensis	Mohave tui chub	FE,SE	SB, LA	ND
Xyrauchen texanus	Razorback sucker	FE,SE	IMP, RIV, SB	9,166

Scientific Name	Common Name	Status	Counties Where Reported	Designated Critical Habitat (Acres)
Amphibians				
Anaxyrus californicus	Arroyo toad	FE	LA, VEN, OR, RIV, SB	30,800
Batrachoseps major aridus	Desert slender salamander	FE, SE	RIV	ND
Rana boylii	Foothill yellow-legged frog	SCT	VEN, LA, SB	
Rana draytonii	California red-legged frog	FT	LA, RIV, SB, VEN	33,279
Rana muscosa	Southern mountain yellow-legged frog	FE, SE	LA, SB, RIV	8,280
Reptiles				
Charina umbratica	Southern rubber boa	ST	VEN, RIV, SB	ND
Chelonia mydas	Green turtle	FT	LA, OR	ND
Coleonyx switaki	Barefoot gecko	ST	IMP	ND
Gambelia sila	Blunt-nosed leopard lizard	FE, SE	VEN	ND
Gopherus agassizii	Desert tortoise	FT, ST	IMP, SB, LA, RIV	4,685,740
Uma inornata	Coachella Valley fringe-toed lizard	FT, SE	RIV	11,790
Birds				
Agelaius tricolor	Tricolored blackbird	ST	LA, OR, RIV, SB, VEN	ND
Artemisiospiza belli clementeae	San Clemente sage sparrow	FT	LA	ND
Buteo swainsoni	Swainson's hawk	ST	LA, OR, RIV, SB	ND
Charadrius alexandrinus nivosus	Western snowy plover	FT	IMP, LA, OR, RIV, SB, VEN	1,400
Coccyzus americanus occidentalis	Western yellow-billed cuckoo	FT, SE	IMP, LA, RIV, SB, VEN, OR	39,015
Colaptes chrysoides	Gilded flicker	SE	IMP, RIV, SB	ND
Empidonax traillii extimus	Southwestern willow flycatcher	FE, SE	IMP, LA, OR, RIV, SB, VEN	24,980
Gymnogyps californianus	California condor	FE, SE	VEN, LA	187,558
Haliaeetus leucocephalus	Bald eagle	SE	IMP, LA, OR, RIV, SB	ND
Lanius ludovicianus mearnsi	San Clemente loggerhead shrike	FE	LA	ND
Laterallus jamaicensis coturniculus	California black rail	ST	IMP, LA, OR, RIV, SB, VEN	ND
Melanerpes uropygialis	Gila woodpecker	SE	IMP, RIV, SB	ND
Micrathene whitneyi	Elf owl	SE	IMP, RIV, SB	ND
Passerculus sandwichensis beldingi	Belding's savannah sparrow	SE	LA, OR, VEN	ND
Polioptila californica californica	Coastal California gnatcatcher	FT	LA, VEN, OR, RIV, SB	120,891
Rallus obsoletus levipes	Light-footed Ridegway's clapper rail	FE, SE	OR, VEN	ND
Rallus obsoletus yumanensis	Yuma clapper rail	FE, ST	IMP, RIV, SB	ND

Scientific Name	Common Name	Status	Counties Where Reported	Designated Critical Habitat (Acres)
Riparia riparia	Bank swallow	ST	LA, OR, VEN	ND
Sterna antillarum browni	California least tern	FE, SE	LA, OR, VEN	ND
Synthliboramphus scrippsi	Scripps's murrelet	FC, ST	LA	ND
Vireo bellii arizonae	Arizona Bell's vireo	SE	IMP, RIV, SB	ND
Vireo bellii pusillus	Least Bell's vireo	FE, SE	IMP, LA, OR, VEN, RIV, SB	14,300
Mammals				
Ammospermophilus nelsoni	Nelson's antelope squirrel	ST	LA, VEN	ND
Arctocephalus townsendi	Guadalupe fur-seal	FT, ST	VEN	ND
Canis lupus	Gray wolf	FE, SE	SB	ND
Dipodomys merriami parvus	San Bernardino kangaroo rat	FE	LA, RIV, SB	33,290
Dipodomys stephensi	Stephen's kangaroo rat	FE, ST	RIV, SB	ND
Enhydra lutris nereis	Southern sea otter	FT	VEN	ND
Ovis canadensis nelson pop. 2	Peninsular bighorn sheep DPS	FE, ST	IMP, RIV	115,845
Perognathus longimembris pacificus	Pacific pocket mouse	FE	LA, OR	ND
Urocyon littoralis catalinae	Santa Catalina Island fox	FT, ST	LA	ND
Urocyon littoralis clementae	San Clemente Island fox	ST	LA	ND
Urocyon littoralis dickeyi	San Nicolas Island fox	ST	VEN	ND
Xerospermophilus mohavensis	Mohave ground squirrel	ST	LA, SB	ND

NOTE:

California Native Plant Society: California Rare Plant Rank (CRPR) 1B = Plants Rare, Threatened, or Endangered in California and Elsewhere; FC = Federal Candidate; FE = Federal Endangered; FT = Federal Threatened; SE = State Endangered; FPT = Fedreal Proposed Threatened; SR = State Rare; SCT= State Candidate Threatened; SB = San Bernardino County; LA = Los Angeles County; RIV = Riverside County; VEN = Ventura County; OR = Orange County; IMP = Imperial County; ND = none designated.

Sensitive Wildlife Species

A query of the CNDDB was performed to develop a list of sensitive wildlife species recognized by the CDFW as California SSC, or species that are tracked by the CNDDB that could potentially occur in the SCAG region. In addition to the federally and state-listed wildlife species described above, there are 233 sensitive wildlife species with historic records located within the SCAG region (Table 4; Figure 3).15 Of these sensitive wildlife species, Riverside and San Bernardino Counties had the highest diversity of species observed (both with over 21% of the total recorded for the SCAG region), followed closely by Los Angeles County (with over 20% of the wildlife recorded), and then Imperial, Orange, and Ventura Counties (with a range of 12–13% of the recorded observations).

15 California Department of Fish and Wildlife. 2019. *Rarefind 5: A Database Application for the Use of the California Department of Fish and Game Natural Diversity Data Base*. Sacramento, CA. Available online at: https://www.wildlife.ca.gov/Data/CNDDB/Maps-and-Data. Accessed July 9, 2019.

Figure 3. Sensitive Wildlife Species Reported in the SCAG Region

Table 4. Sensitive Wildlife Species Reported in the SCAG Region

Scientific Name	Common Name	Status	Counties Reported
Crustaceans			
Linderiella santarosae	Santa Rosa Plateau fairy shrimp	CSA	RIV
Mollusks			
Assiminea infima	Badwater snail	CSA	SB
Eremarionta immaculata	white desertsnail	CSA	RIV
Eremarionta morongoana	Morongo (=Colorado) desertsnail	CSA	RIV, SB
Eremarionta rowelli bakerensis	Baker's desertsnail	CSA	SB
Eremarionta rowelli mccoiana	California Mccoy snail	CSA	RIV
Haplotrema catalinense	Santa Catalina lancetooth	CSA	LA
Helminthoglypta ayresiana sanctaecrucis	Ayer's snail	CSA	VEN
Helminthoglypta mohaveana	Victorville shoulderband	CSA	SB
Helminthoglypta taylori	Westfork shoulderband	CSA	SB
Helminthoglypta traskii traskii	Trask shoulderband	CSA	VEN
Micrarionta feralis	San Nicolas islandsnail	CSA	VEN
Micrarionta gabbi	San Clemente islandsnail	CSA	LA
Micrarionta opuntia	Pricklypear islandsnail	CSA	VEN
Pristiloma shepardae	Shepard's snail	CSA	LA
Radiocentrum avalonense	Catalina mountainsnail	CSA	LA
Sterkia clementina	San Clemente Island blunt-top snail	CSA	LA, VEN
Tryonia imitator	Mimic tryonia (=California brackishwater snail)	CSA	LA, OR, VEN
Xerarionta intercisa	Horseshoe snail	CSA	LA
Xerarionta redimita	Wreathed cactussnail	CSA	LA
Arachnids			
Calileptoneta oasa	Andreas Canyon leptonetid spider	CSA	RIV
Socalchemmis gertschi	Gertsch's socalchemmis spider	CSA	LA
Socalchemmis icenoglei	Icenogle's socalchemmis spider	CSA	RIV
Texella kokoweef	Kokoweef Crystal Cave harvestman	CSA	SB
Insects			
Aglaothorax longipennis	Santa Monica shieldback katydid	CSA	LA
Ammopelmatus kelsoensis	Kelso jerusalem cricket	CSA	SB
Anomala carlsoni	Carlson's dune beetle	CSA	IMP
Anomala hardyorum	Hardy's dune beetle	CSA	IMP

Scientific Name	Common Name	Status	Counties Reported
Belostoma saratogae	Saratoga Springs belostoman bug	CSA	SB
Bombus caliginosus	obscure bumble bee	CSA	RIV, SB
Bombus crotchii	Crotch bumble bee	CSA	IMP, LA, OR, RIV, SB, VEN
Bombus morrisoni	Morrison bumble bee	CSA	LA, SB
Bombus occidentalis	western bumble bee	CSA	IMP, SB
Brennania belkini	Belkin's dune tabanid fly	CSA	LA
Callophrys mossii hidakupa	San Gabriel Mountains elfin butterfly	CSA	LA, SB
Carolella busckana	Busck's gallmoth	CSA	LA, RIV, SB
Ceratochrysis bradleyi	Bradley's cuckoo wasp	CSA	RIV
Ceratochrysis longimala	Desert cuckoo wasp	CSA	RIV, VEN
Cicindela gabbii	western tidal-flat tiger beetle	CSA	LA, OR
Cicindela hirticollis gravida	sandy beach tiger beetle	CSA	LA, OR, VEN
Cicindela latesignata latesignata	western beach tiger beetle	CSA	LA, OR
Cicindela senilis frosti	senile tiger beetle	CSA	LA, OR, RIV, VEN
Cicindela tranquebarica viridissima	greenest tiger beetle	CSA	RIV
Coelus globosus	globose dune beetle	CSA	LA, OR, VEN
Danaus plexippus pop. 1	monarch - California overwintering population	CSA	LA, OR, VEN
Diplectrona californica	California diplectronan caddisfly	CSA	LA, SB
Euchloe hyantis andrewsi	Andrew's marble butterfly	CSA	SB
Eucosma hennei	Henne's eucosman moth	CSA	LA
Glaresis arenata	Kelso Dunes scarab glaresis beetle	CSA	SB
Halictus harmonius	haromonius halictid bee	CSA	RIV, SB
Hedychridium argenteum	Riverside cuckoo wasp	CSA	RIV
Hydroporus simplex	simple hydroporus diving beetle	CSA	SB
Lepismadora algodones	Algodones sand jewel beetle	CSA	IMP
Macrobaenetes kelsoensis	Kelso giant sand treader cricket	CSA	SB
Macrobaenetes valgum	Coachella giant sand treader cricket	CSA	RIV
Melitta californica	California mellitid bee	CSA	IMP, RIV
Miloderes nelsoni	Nelson's miloderes weevil	CSA	SB
Minymischa ventura	Ventura cuckoo wasp	CSA	VEN
Oliarces clara	cheeseweed owlfly (cheeseweed moth lacewing)	CSA	IMP, RIV, SB
Onychobaris langei	Lange's El Segundo Dune weevil	CSA	LA

Scientific Name	Common Name	Status	Counties Reported
Panoquina errans	wandering (=saltmarsh) skipper	CSA	LA, OR, VEN
Paranomada californica	California cuckoo bee	CSA	SB
Parnopes borregoensis	Borrego parnopes cuckoo wasp	CSA	SB
Pelocoris shoshone	Amargosa naucorid bug	CSA	SB
Plebejus saepiolus aureolus	San Gabriel Mountains blue butterfly	CSA	LA, SB
Plebulina emigdionis	San Emigdio blue butterfly	CSA	LA, SB
Polyphylla erratica	Death Valley June beetle	CSA	SB
Pseudocotalpa andrewsi	Andrew's dune scarab beetle	CSA	IMP
Psychomastax deserticola	desert monkey grasshopper	CSA	SB
Rhaphiomidas terminatus terminatus	El Segundo flower-loving fly	CSA	LA
Rhopalolemma robertsi	Roberts' rhopalolemma bee	CSA	RIV, SB
Stenopelmatus cahuilaensis	Coachella Valley jerusalem cricket	CSA	RIV
Trigonoscuta brunnotesselata	brown tassel trigonoscuta weevil	CSA	SB
Trigonoscuta dorothea dorothea	Dorothy's El Segundo Dune weevil	CSA	LA, OR
Trimerotropis occidentiloides	Santa Monica grasshopper	CSA	LA, VEN
Euproserpinus euterpe	Kern primrose sphinx moth	CSA	VEN
Fish			
Catostomus latipinnis	flannelmouth sucker	CSA	SB
Cyprinodon nevadensis amargosae	Amargosa pupfish	SSC	SB
Cyprinodon nevadensis nevadensis	Saratoga Springs pupfish	SSC	SB
Gila orcuttii	arroyo chub	SSC	LA, OR, RIV, SB, VEN
Rhinichthys osculus ssp. 1	Amargosa Canyon speckled dace	SSC	SB
Rhinichthys osculus ssp. 3	Santa Ana speckled dace	SSC	LA, OR, RIV, SB
Amphibians			
Rana boylii	foothill yellow-legged frog	SSC	LA, SB, VEN
Batrachoseps gabrieli	San Gabriel slender salamander	CSA	LA, SB
Batrachoseps pacificus	Channel Islands slender salamander	CSA	VEN
Ensatina eschscholtzii croceater	yellow-blotched salamander	CSA	LA
Ensatina eschscholtzii klauberi	large-blotched salamander	CSA	LA, RIV, SB
Incilius alvarius	Sonoran desert toad	SSC	IMP, SB
Lithobates pipiens	northern leopard frog	SSC	IMP, OR, RIV
Lithobates yavapaiensis	lowland leopard frog	SSC	IMP, RIV
Scaphiopus couchii	Couch's spadefoot	SSC	IMP, RIV

Scientific Name	Common Name	Status		Counties Reported
Spea hammondii	western spadefoot		SSC	LA, OR, RIV, SB, VEN
Taricha torosa	Coast Range newt		SSC	LA, OR, RIV, VEN, SB
Reptiles				
Anniella pulchra	northern California legless lizard		SSC	LA, VEN
Anniella sp.	California legless lizard		SSC	LA, VEN
Anniella stebbinsi	southern California legless lizard		SSC	LA, OR, RIV, SB, VEN
Arizona elegans occidentalis	California glossy snake		SSC	IMP, LA, OR, RIV, SB, VEN
Aspidoscelis hyperythra	orange-throated whiptail		CSA	OR, RIV, SB
Aspidoscelis tigris stejnegeri	coastal whiptail		SSC	LA, OR, RIV, SB, VEN
Coleonyx variegatus abbotti	San Diego banded gecko		SSC	RIV, SB
Crotalus ruber	red-diamond rattlesnake		SSC	IMP, LA, OR, RIV, SB
Diadophis punctatus modestus	San Bernardino ringneck snake		CSA	LA, RIV, SB, VEN
Diadophis punctatus regalis	regal ringneck snake		SSC	SB
Emys marmorata	western pond turtle		SSC	LA, OR, RIV, SB, VEN
Heloderma suspectum cinctum	banded Gila monster		SSC	IMP, RIV, SB
Kinosternon sonoriense	Sonoran mud turtle	SSC		IMP, RIV
Lampropeltis zonata (parvirubra)	California mountain kingsnake (San Bernardino population)	CSA		LA, RIV, SB
Lampropeltis zonata (pulchra)	California mountain kingsnake (San Diego population)	CSA		LA, OR
Phrynosoma blainvillii	coast horned lizard	SSC		LA, OR, RIV, SB, VEN
Phrynosoma mcallii	flat-tailed horned lizard	SSC		IMP, RIV
Plestiodon skiltonianus interparietalis	Coronado skink	CSA		RIV
Salvadora hexalepis virgultea	coast patch-nosed snake	SSC		OR, RIV, SB, VEN
Thamnophis hammondii	two-striped gartersnake	SSC		LA, OR, RIV, SB, VEN
Thamnophis sirtalis pop. 1	south coast gartersnake	SSC		VEN
Uma notata	Colorado Desert fringe-toed lizard	SSC		IMP
Uma scoparia	Mojave fringe-toed lizard	SSC		RIV, SB

Scientific Name	Common Name	Status	Counties Reported
Birds			
Accipiter cooperii	Cooper's hawk	CSA	IMP, LA, OR, RIV, SB, VEN
Aimophila ruficeps canescens	southern California rufous-crowned sparrow	CSA	LA, OR, RIV, SB, VEN
Ammodramus savannarum	grasshopper sparrow	SSC	LA, OR
Aquila chrysaetos	golden eagle	CFP	IMP, LA, OR, RIV, SB, VEN
Ardea alba	great egret	CSA	IMP, RIV
Ardea herodias	great blue heron	CSA	IMP, OR, RIV
Artemisiospiza belli belli	Bell's sage sparrow	CSA	LA, RIV, SB, VEN
Asio flammeus	short-eared owl	SSC	IMP, LA
Asio otus	long-eared owl	SSC	OR, RIV, SB
Athene cunicularia	burrowing owl	SSC	IMP, LA, OR, RIV, SB, VEN
Baeolophus inornatus	oak titmouse	CSA	SB
Buteo regalis	ferruginous hawk	CSA	IMP, LA, OR, RIV, VEN
Campylorhynchus brunneicapillus sandiegensis	coastal cactus wren	SSC	LA, OR, RIV
Cardinalis cardinalis	northern cardinal	CSA	RIV, SB
Charadrius montanus	mountain plover	SSC	IMP, LA, RIV, SB
Circus hudsonius	northern harrier	SSC	OR, RIV
Coturnicops noveboracensis	yellow rail	SSC	LA, OR, RIV, SB
Cypseloides niger	black swift	SSC	LA, RIV, SB
Dendragapus fuliginosus howardi	Mount Pinos sooty grouse	SSC	VEN
Egretta thula	snowy egret	CSA	RIV
Elanus leucurus	white-tailed kite	CFP	LA, OR, RIV, SB, VEN
Eremophila alpestris actia	California horned lark	CSA	LA, OR, RIV, SB, VEN
Falco columbarius	merlin	CSA	IMP, LA, RIV, SB
Falco mexicanus	prairie falcon	CSA	IMP, LA, RIV, SB, VEN
Falco peregrinus anatum	American peregrine falcon	CFP	LA, OR, VEN
Campylorhynchus brunneicapillus sandiegensis	coastal cactus wren	SSC	LA, OR, RIV
Gelochelidon nilotica	gull-billed tern	SSC	IMP, RIV
Hydroprogne caspia	Caspian tern	CSA	IMP
Icteria virens	yellow-breasted chat	SSC	IMP, LA, OR, RIV, SB, VEN
Ixobrychus exilis	least bittern	SSC	IMP, RIV

Scientific Name	Common Name	Status	Counties Reported
Junco hyemalis caniceps	gray-headed junco	CSA	IMP, RIV, SB
Lanius ludovicianus	loggerhead shrike	SSC	IMP, LA, RIV, SB
Larus californicus	California gull	CSA	IMP
Melospiza melodia graminea	Channel Island song sparrow	SSC	LA
Myiarchus tyrannulus	brown-crested flycatcher	CSA	IMP, RIV, SB
Nycticorax nycticorax	black-crowned night heron	CSA	RIV
Oceanodroma homochroa	ashy storm-petrel	SSC	LA, VEN
Oreothlypis luciae	Lucy's warbler	SSC	IMP, SB
Oreothlypis virginiae	Virginia's warbler	CSA	SB
Pandion haliaetus	osprey	CSA	OR, RIV, SB
Pelecanus occidentalis californicus	California brown pelican	CFP	IMP, VEN
Phalacrocorax auritus	double-crested cormorant	CSA	VEN
Piranga flava	hepatic tanager	CSA	SB
Piranga rubra	summer tanager	SSC	IMP, RIV, SB
Plegadis chihi	white-faced ibis	CSA	IMP, LA, RIV
Polioptila melanura	black-tailed gnatcatcher	CSA	IMP, RIV, SB
Progne subis	purple martin	SSC	RIV
Psiloscops flammeolus	flammulated owl	CSA	RIV
Pyrocephalus rubinus	vermilion flycatcher	SSC	IMP, RIV, SB
Rynchops niger	black skimmer	SSC	IMP, OR, RIV
Setophaga petechia	yellow warbler	SSC	IMP, LA, OR, RIV, SB, VEN
Setophaga petechia sonorana	Sonoran yellow warbler	SSC	IMP, RIV, SB
Spinus lawrencei	Lawrence's goldfinch	CSA	RIV
Toxostoma bendirei	Bendire's thrasher	SSC	RIV, SB
Toxostoma crissale	Crissal thrasher	SSC	IMP, RIV, SB
Toxostoma lecontei	Le Conte's thrasher	SSC	IMP, LA, RIV, SB
Vireo vicinior	gray vireo	SSC	SB
Xanthocephalus xanthocephalus	yellow-headed blackbird	SSC	RIV
Mammals			
Antrozous pallidus	pallid bat	SSC	IMP, LA, OR, RIV, SB, VEN
Chaetodipus californicus femoralis	Dulzura pocket mouse	SSC	OR, RIV, VEN
Chaetodipus fallax fallax	northwestern San Diego pocket mouse	SSC	LA, OR, RIV, SB
Chaetodipus fallax pallidus	pallid San Diego pocket mouse	SSC	IMP, LA, RIV, SB
Choeronycteris mexicana	Mexican long-tongued bat	j	OR, VEN

Scientific Name	Common Name	Status	Counties Reported
Corynorhinus townsendii	Townsend's big-eared bat	SSC	IMP, LA, RIV, SB, VEN
Dipodomys merriami collinus	Earthquake Merriam's kangaroo rat	CSA	RIV
Erethizon dorsatum	North American porcupine	CSA	SB
Euderma maculatum	spotted bat	SSC	LA, RIV, SB
Eumops perotis californicus	western mastiff bat	SSC	IMP, LA, OR, RIV, SB, VEN
Glaucomys oregonensis californicus	San Bernardino flying squirrel	SSC	RIV, SB
Lasionycteris noctivagans	silver-haired bat	CSA	LA, SB
Lasiurus blossevillii	western red bat	SSC	LA, OR
Lasiurus cinereus	hoary bat	CSA	IMP, LA, OR, RIV, SB, VEN
Lasiurus xanthinus	western yellow bat	SSC	IMP, LA, OR, RIV, SB
Leptonycteris yerbabuenae	lesser long-nosed bat	SSC	SB
Lepus californicus bennettii	San Diego black-tailed jackrabbit	SSC	LA, RIV, SB
Lontra canadensis sonora	southwestern river otter	SSC	SB
Macrotus californicus	California leaf-nosed bat	SSC	IMP, LA, RIV, SB, VEN
Microtus californicus mohavensis	Mohave river vole	SSC	SB
Microtus californicus stephensi	south coast marsh vole	SSC	LA, OR, VEN
Myotis ciliolabrum	western small-footed myotis	CSA	IMP, LA, SB, VEN
Myotis evotis	long-eared myotis	CSA	LA, SB
Myotis occultus	Arizona Myotis	SSC	IMP, RIV
Myotis thysanodes	fringed myotis	CSA	LA, RIV, SB, VEN
Myotis velifer	cave myotis	SSC	IMP, RIV, SB
Myotis volans	long-legged myotis	CSA	LA, SB, VEN
Myotis yumanensis	Yuma myotis	CSA	IMP, LA, OR, RIV, SB
Neotamias panamintinus acrus	Kingston Mountain chipmunk	CSA	SB
Neotamias speciosus callipeplus	Mount Pinos chipmunk	CSA	VEN
Neotamias speciosus speciosus	lodgepole chipmunk	CSA	LA, RIV, SB
Neotoma albigula venusta	Colorado Valley woodrat	CSA	IMP, RIV, SB
Neotoma lepida intermedia	San Diego desert woodrat	SSC	LA, OR, RIV, SB, VEN
Nyctinomops femorosaccus	pocketed free-tailed bat	SSC	IMP, LA, OR, RIV, SB
Nyctinomops macrotis	big free-tailed bat	SSC	IMP, LA, OR, RIV
Onychomys torridus ramona	southern grasshopper mouse	SSC	IMP, LA, OR, RIV, SB
Ovis canadensis nelsoni	desert bighorn sheep	CFP	IMP, LA, RIV, SB

Scientific Name	Common Name	Status	Counties Reported
Perognathus alticola alticola	white-eared pocket mouse	SSC	SB
Perognathus alticola inexpectatus	Tehachapi pocket mouse	SSC	LA, VEN
Perognathus inornatus	San Joaquin Pocket Mouse	CSA	LA, VEN
Perognathus longimembris bangsi	Palm Springs pocket mouse	SSC	IMP, RIV
Perognathus longimembris brevinasus	Los Angeles pocket mouse	SSC	LA, RIV, SB
Perognathus longimembris internationalis	Jacumba pocket mouse	SSC	RIV
Peromyscus maniculatus anacapae	Anacapa Island deer mouse	SSC	VEN
Puma concolor browni	Yuma mountain lion	SSC	IMP
Sigmodon arizonae plenus	Colorado River cotton rat	SSC	IMP, RIV, SB
Sigmodon hispidus eremicus	Yuma hispid cotton rat	SSC	IMP
Sorex ornatus salicornicus	southern California saltmarsh shrew	SSC	LA, OR, VEN
Sorex ornatus willetti	Santa Catalina shrew	SSC	LA
Taxidea taxus	American badger	SSC	IMP, LA, OR, RIV, SB, VEN
Xerospermophilus tereticaudus chlorus	Palm Springs round-tailed ground squirrel	SSC	RIV

NOTE:

SSC = California Species of Special Concern; CFP = California Fully Protected; CSA* = California Special Animal; SB = San Bernardino County; LA = Los Angeles County; RIV = Riverside County; VEN = Ventura County; OR = Orange County; IMP = Imperial County. * California Special Animal (CSA) is a general term that refers to all of the taxa the CNDDB is interested in tracking, regardless of their legal or protection status. The Department of Fish and Wildlife considers the taxa on this list to be those of greatest conservation need. For those species with statuses identified by USFWS and/or CDFW, the status is noted. Those species included on the list due to identification by other governmental agencies and/or non-governmental conservation organizations are listed as CSA.

SOURCE:

California Department of Fish and Wildlife. 2019. Rarefind 5: A Database Application for the Use of the California Department of Fish and Game Natural Diversity Data Base. Sacramento, CA.

Rare and Locally Important Plants

A search of the CNDDB and the CNPS Rare Plant Inventory was performed to develop a list of rare and locally important plants that could potentially occur in the SCAG region. In addition to the federally and state-listed plant species described above, there are 449 locally important plant species with historic records located within the SCAG region as shown in (Table 5, Figure 4).

The greatest number, representing over 36% of 449 species recorded, where found in San Bernardino County, with 20% in Los Angeles and Riverside Counties, and less than 10% of the diversity in Orange, Imperial and Ventura Counties.

Table 5. Rare and Locally Important Plants Reported in the SCAG Region

Scientific Name	Common Name	Status	Counties Where Reported
Abronia villosa var. aurita	chaparral sand-verbena	1B.1	IMP, OR, RIV, SB

Scientific Name	Common Name	Status	Counties Where Reported
Abutilon parvulum	dwarf abutilon	2B.3	SB
Acanthoscyphus parishii var. abramsii	Abrams' oxytheca	1B.2	VEN
Acanthoscyphus parishii var. cienegensis	Cienega Seca oxytheca	1B.3	SB
Acleisanthes longiflora	angel trumpets	2B.3	RIV
Acleisanthes nevadensis	desert wing-fruit	2B.1	SB
Acmispon argyraeus var. multicaulis	scrub lotus	1B.3	SB
Acmispon argyraeus var. notitius	Providence Mountains lotus	1B.3	SB
Acmispon haydonii	pygmy lotus	1B.3	IMP, RIV
Ageratina herbacea	desert ageratina	2B.3	SB
Aliciella ripleyi	Ripley's aliciella	2B.3	SB
Aliciella triodon	coyote gilia	2B.2	SB
Allium atrorubens var. atrorubens	Great Basin onion	2B.3	SB
Allium howellii var. clokeyi	Mt. Pinos onion	1B.3	LA, SB, VEN
Allium marvinii	Yucaipa onion	1B.2	RIV, SB
Allium nevadense	Nevada onion	2B.3	SB
Almutaster pauciflorus	alkali marsh aster	2B.2	RIV, SB
Ambrosia monogyra	singlewhorl burrobrush	2B.2	RIV, SB
Androstephium breviflorum	small-flowered androstephium	2B.2	RIV, SB
Anomobryum julaceum	slender silver moss	4.2	LA
Antennaria marginata	white-margined everlasting	2B.3	SB
Aphanisma blitoides	aphanisma	1B.2	LA, OR, VEN
Arctomecon merriamii	white bear poppy	2B.2	SB
Arctostaphylos catalinae	Santa Catalina Island manzanita	1B.2	LA
Arctostaphylos glandulosa ssp. gabrielensis	San Gabriel manzanita	1B.2	LA, SB
Arctostaphylos rainbowensis	Rainbow manzanita	1B.1	RIV
Arenaria lanuginosa var. saxosa	rock sandwort	2B.3	SB
Argyrochosma limitanea ssp. limitanea	southwestern false cloak-fern	2B.1	SB
Asclepias nyctaginifolia	Mojave milkweed	2B.1	SB
Astragalus allochrous var. playanus	playa milk-vetch	2B.2	SB
Astragalus bernardinus	San Bernardino milk-vetch	1B.2	RIV, SB
Astragalus cimae var. cimae	Cima milk-vetch	1B.2	SB
Astragalus didymocarpus var. milesianus	Miles' milk-vetch	1B.2	VEN

Scientific Name	Common Name	Status	Counties Where Reported
Astragalus hornii var. hornii	Horn's milk-vetch	1B.1	SB
Astragalus insularis var. harwoodii	Harwood's milk-vetch	2B.2	IMP, RIV, SB
Astragalus lentiginosus var. antonius	San Antonio milk-vetch	1B.3	LA, SB
Astragalus lentiginosus var. sierrae	Big Bear Valley milk-vetch	1B.2	SB
Astragalus leucolobus	Big Bear Valley woollypod	1B.2	LA, RIV, SB
Astragalus nevinii	San Clemente Island milk-vetch	1B.2	LA
Astragalus pachypus var. jaegeri	Jaeger's milk-vetch	1B.1	RIV
Astragalus preussii var. laxiflorus	Lancaster milk-vetch	1B.1	LA, RIV
Astragalus preussii var. preussii	Preuss' milk-vetch	2B.1	SB
Astragalus sabulonum	gravel milk-vetch	2B.2	IMP, RIV
Astragalus tidestromii	Tidestrom's milk-vetch	2B.2	SB
Astrolepis cochisensis ssp. cochisensis	scaly cloak fern	2B.3	SB
Atriplex coulteri	Coulter's saltbush	1B.2	LA, OR, SB, VEN
Atriplex pacifica	south coast saltscale	1B.2	LA, OR, VEN
Atriplex parishii	Parish's brittlescale	1B.1	LA, OR, RIV, SB
Atriplex serenana var. davidsonii	Davidson's saltscale	1B.2	LA, OR, RIV, VEN
Ayenia compacta	California ayenia	2B.3	IMP, RIV, SB
Baccharis malibuensis	Malibu baccharis	1B.1	LA, OR, VEN
Bahia neomexicana	many-flowered bahia	2B.3	SB
Berberis fremontii	Fremont barberry	2B.3	SB
Berberis harrisoniana	Kofa Mountain barberry	1B.2	SB
Bergerocactus emoryi	golden-spined cereus	2B.2	LA
Blepharidachne kingii	King's eyelash grass	2B.3	SB
Boechera dispar	pinyon rockcress	2B.3	RIV, SB
Boechera johnstonii	Johnston's rockcress	1B.2	RIV
Boechera lincolnensis	Lincoln rockcress	2B.3	RIV, SB
Boechera parishii	Parish's rockcress	1B.2	SB
Boechera peirsonii	San Bernardino rockcress	1B.2	SB
Boechera shockleyi	Shockley's rockcress	2B.2	SB
Botrychium ascendens	upswept moonwort	2B.3	SB
Botrychium crenulatum	scalloped moonwort	2B.2	LA, SB

Scientific Name	Common Name	Status	Counties Where Reported
Bouteloua trifida	three-awned grama	2B.3	SB
Brodiaea kinkiensis	San Clemente Island brodiaea	1B.2	LA
Brodiaea orcuttii	Orcutt's brodiaea	1B.1	RIV
Brodiaea santarosae	Santa Rosa Basalt brodiaea	1B.2	RIV
Bursera microphylla	little-leaf elephant tree	2B.3	IMP, RIV
Calliandra eriophylla	pink fairy-duster	2B.3	IMP, RIV
Calochortus clavatus var. gracilis	slender mariposa-lily	1B.2	LA, VEN
Calochortus fimbriatus	late-flowered mariposa-lily	1B.3	LA, VEN
Calochortus palmeri var. munzii	San Jacinto mariposa-lily	1B.2	RIV
Calochortus palmeri var. palmeri	Palmer's mariposa-lily	1B.2	LA, RIV, SB, VEN
Calochortus plummerae	Plummer's mariposa-lily	4.2	LA, OR, RIV, SB, VEN
Calochortus striatus	alkali mariposa-lily	1B.2	LA, SB
Calochortus weedii var. intermedius	intermediate mariposa-lily	1B.2	LA, OR, RIV, SB
Calyptridium pygmaeum	pygmy pussypaws	1B.2	SB
Calystegia felix	lucky morning-glory	1B.1	LA, RIV, SB
Calystegia peirsonii	Peirson's morning-glory	4.2	LA
Camissoniopsis guadalupensis ssp. clementina	San Clemente Island evening-primrose	1B.2	LA
Canbya candida	white pygmy-poppy	4.2	LA, SB
Carex comosa	bristly sedge	2B.1	SB
Carex occidentalis	western sedge	2B.3	LA, RIV, SB
Carnegiea gigantea	saguaro	2B.2	IMP, SB
Castela emoryi	Emory's crucifixion-thorn	2B.2	IMP, RIV, SB
Castilleja hololeuca	island white-felted paintbrush	1B.2	VEN
Castilleja lasiorhyncha	San Bernardino Mountains owl's-clover	1B.2	RIV, SB
Caulanthus lemmonii	Lemmon's jewelflower	1B.2	VEN
Caulanthus simulans	Payson's jewelflower	4.2	RIV
Centromadia parryi ssp. australis	southern tarplant	1B.1	LA, OR, VEN
Centromadia pungens ssp. laevis	smooth tarplant	1B.1	LA, RIV, SB
Chaenactis carphoclinia var. peirsonii	Peirson's pincushion	1B.3	IMP
Chaenactis glabriuscula var. orcuttiana	Orcutt's pincushion	1B.1	LA, OR, VEN
Chaenactis parishii	Parish's chaenactis	1B.3	RIV

Scientific Name	Common Name	Status	Counties Where Reported
Chenopodium littoreum	coastal goosefoot	1B.2	LA
Chloropyron tecopense	Tecopa bird's-beak	1B.2	SB
Chorizanthe blakleyi	Blakley's spineflower	1B.3	VEN
Chorizanthe parryi var. parryi	Parry's spineflower	1B.1	LA, RIV, SB
Chorizanthe polygonoides var. longispina	long-spined spineflower	1B.2	OR, RIV
Chorizanthe xanti var. leucotheca	white-bracted spineflower	1B.2	RIV, SB
Chylismia arenaria	sand evening-primrose	2B.2	IMP, RIV, SB
Cirsium arizonicum var. tenuisectum	desert mountain thistle	1B.2	SB
Cirsium occidentale var. compactum	compact cobwebby thistle	1B.2	LA
Cladium californicum	California saw-grass	2B.2	LA, RIV, SB
Clarkia xantiana ssp. parviflora	Kern Canyon clarkia	4.2	LA
Claytonia lanceolata var. peirsonii	Peirson's spring beauty	3.1	SB
Clinopodium chandleri	San Miguel savory	1B.2	OR, RIV
Colubrina californica	Las Animas colubrina	2B.3	IMP, RIV
Comarostaphylis diversifolia ssp. diversifolia	summer holly	1B.2	OR
Constancea nevinii	Nevin's woolly sunflower	1B.3	LA
Cordylanthus parviflorus	small-flowered bird's-beak	2B.3	SB
Coryphantha alversonii	Alverson's foxtail cactus	4.3	RIV, SB
Coryphantha chlorantha	desert pincushion	2B.1	SB
Coryphantha vivipara var. rosea	viviparous foxtail cactus	2B.2	SB
Crossosoma californicum	Catalina crossosoma	1B.2	LA
Cryptantha clokeyi	Clokey's cryptantha	1B.2	LA, SB
Cryptantha traskiae	Trask's cryptantha	1B.1	LA, VEN
Cryptantha wigginsii	Wiggins' cryptantha	1B.2	LA, RIV
Cuscuta obtusiflora var. glandulosa	Peruvian dodder	2B.2	LA, SB
Cylindropuntia munzii	Munz's cholla	1B.3	IMP, RIV
Cymopterus deserticola	desert cymopterus	1B.2	LA, SB
Cymopterus gilmanii	Gilman's cymopterus	2B.3	SB
Cymopterus multinervatus	purple-nerve cymopterus	2B.2	RIV, SB
Delphinium parryi ssp. blochmaniae	dune larkspur	1B.2	VEN
Delphinium scaposum	bare-stem larkspur	2B.3	SB

Scientific Name	Common Name	Status	Counties Where Reported
Delphinium umbraculorum	umbrella larkspur	1B.3	VEN
Delphinium variegatum ssp. thornei	Thorne's royal larkspur	1B.1	LA
Dendromecon harfordii var. rhamnoides	south island bush-poppy	3.1	LA
Dieteria canescens var. ziegleri	Ziegler's aster	1B.2	RIV
Digitaria californica var. californica	Arizona cottontop	2B.3	IMP, SB
Diplacus mohavensis	Mojave monkeyflower	1B.2	SB
Diplacus traskiae	Santa Catalina Island monkeyflower	1A	LA
Dissanthelium californicum	California dissanthelium	1B.2	LA
Ditaxis claryana	glandular ditaxis	2B.2	IMP, RIV, SB
Ditaxis serrata var. californica	California ditaxis	3.2	RIV
Draba saxosa	Southern California rock draba	1B.3	RIV
Drymocallis cuneifolia var. cuneifolia	wedgeleaf woodbeauty	1B.1	SB
Drymocallis cuneifolia var. ewanii	Ewan's woodbeauty	1B.3	LA
Dryopteris filix-mas	male fern	2B.3	SB
Dudleya abramsii ssp. affinis	San Bernardino Mountains dudleya	1B.2	SB
Dudleya blochmaniae ssp. blochmaniae	Blochman's dudleya	1B.1	LA, OR, VEN
Dudleya cymosa ssp. crebrifolia	San Gabriel River dudleya	1B.2	LA
Dudleya densiflora	San Gabriel Mountains dudleya	1B.1	LA
Dudleya multicaulis	many-stemmed dudleya	1B.2	LA, OR, RIV, SB
Dudleya virens ssp. hassei	Catalina Island dudleya	1B.2	LA
Dudleya virens ssp. insularis	island green dudleya	1B.2	LA, VEN
Dudleya virens ssp. virens	bright green dudleya	1B.2	LA
Dudleya viscida	sticky dudleya	1B.2	OR, RIV
Echinocereus engelmannii var. howei	Howe's hedgehog cactus	1B.1	SB
Elymus salina	Salina Pass wild-rye	2B.3	SB
Enneapogon desvauxii	nine-awned pappus grass	2B.2	SB
Eremogone congesta var. charlestonensis	Charleston sandwort	1B.3	SB
Eremothera boothii ssp. boothii	Booth's evening-primrose	2B.3	RIV, SB
Eremothera boothii ssp. intermedia	Booth's hairy evening-primrose	2B.3	SB
Eriastrum harwoodii	Harwood's eriastrum	1B.2	IMP, RIV, SB
Eriastrum rosamondense	Rosamond eriastrum	1B.1	LA

Scientific Name	Common Name	Status	Counties Where Reported
Erigeron oxyphyllus	wand-like fleabane daisy	2B.3	SB
Erigeron uncialis var. uncialis	limestone daisy	1B.2	SB
Erigeron utahensis	Utah daisy	2B.3	SB
Eriodictyon angustifolium	narrow-leaved yerba santa	2B.3	SB
Eriogonum bifurcatum	forked buckwheat	1B.2	SB
Eriogonum contiguum	Reveal's buckwheat	2B.3	SB
Eriogonum evanidum	vanishing wild buckwheat	1B.1	RIV, SB
Eriogonum giganteum var. formosum	San Clemente Island buckwheat	1B.2	LA
Eriogonum kennedyi var. alpigenum	southern alpine buckwheat	1B.3	LA, SB, VEN
Eriogonum microthecum var. johnstonii	Johnston's buckwheat	1B.3	LA, SB
Eriogonum microthecum var. lacus-ursi	Bear Lake buckwheat	1B.1	SB
Eriogonum umbellatum var. juniporinum	juniper sulphur-flowered buckwheat	2B.3	SB
Erioneuron pilosum	hairy erioneuron	2B.3	SB
Eriophyllum mohavense	Barstow woolly sunflower	1B.2	LA, SB
Erysimum insulare	island wallflower	1B.3	VEN
Erythranthe exigua	San Bernardino Mountains monkeyflower	1B.2	SB
Erythranthe purpurea	little purple monkeyflower	1B.2	SB
Eschscholzia minutiflora ssp. twisselmannii	Red Rock poppy	1B.2	SB
Eucnide rupestris	annual rock-nettle	2B.2	IMP
Euphorbia abramsiana	Abrams' spurge	2B.2	IMP, RIV, SB
Euphorbia arizonica	Arizona spurge	2B.3	IMP, RIV
Euphorbia exstipulata var. exstipulata	Clark Mountain spurge	2B.1	SB
Euphorbia jaegeri	Orocopia Mountains spurge	1B.1	RIV, SB
Euphorbia misera	cliff spurge	2B.2	LA, OR, RIV
Euphorbia parryi	Parry's spurge	2B.3	SB
Euphorbia platysperma	flat-seeded spurge	1B.2	IMP, RIV, SB
Fimbristylis thermalis	hot springs fimbristylis	2B.2	LA, SB
Frasera albomarginata var. albomarginata	desert green-gentian	2B.2	SB
Frasera albomarginata var. induta	Clark Mountain green-gentian	1B.2	SB
Fritillaria ojaiensis	Ojai fritillary	1B.2	VEN

Scientific Name	Common Name	Status	Counties Where Reported
Funastrum crispum	wavyleaf twinvine	2B.2	RIV
Galium angustifolium ssp. jacinticum	San Jacinto Mountains bedstraw	1B.3	RIV
Galium californicum ssp. primum	Alvin Meadow bedstraw	1B.2	RIV, SB
Galium catalinense ssp. catalinense	Santa Catalina Island bedstraw	1B.3	LA
Galium grande	San Gabriel bedstraw	1B.2	LA
Galium hilendiae ssp. kingstonense	Kingston Mountains bedstraw	1B.3	SB
Galium proliferum	desert bedstraw	2B.2	SB
Galium wrightii	Wright's bedstraw	2B.3	SB
Gambelia speciosa	showy island snapdragon	1B.2	LA
Gentiana fremontii	Fremont's gentian	2B.3	SB
Geothallus tuberosus	Campbell's liverwort	1B.1	RIV
Geraea viscida	sticky geraea	2B.2	IMP
Gilia leptantha ssp. leptantha	San Bernardino gilia	1B.3	SB
Githopsis diffusa ssp. filicaulis	Mission Canyon bluecup	3.1	RIV
Glossopetalon pungens	pungent glossopetalon	1B.2	SB
Graphis saxorum	Baja rock lichen	3	LA
Grimmia vaginulata	vaginulate grimmia	1B.1	SB
Grusonia parishii	Parish's club-cholla	2B.2	RIV, SB
Harpagonella palmeri	Palmer's grapplinghook	4.2	LA, OR, RIV
Hazardia cana	San Clemente Island hazardia	1B.2	LA
Hedeoma drummondii	Drummond's false pennyroyal	2B.2	SB
Helianthus inexpectatus	Newhall sunflower	1B.1	LA
Helianthus nuttallii ssp. parishii	Los Angeles sunflower	1A	LA, OR, SB
Herissantia crispa	curly herissantia	2B.3	IMP
Hesperocyparis forbesii	Tecate cypress	1B.1	OR, RIV
Heuchera hirsutissima	shaggy-haired alumroot	1B.3	RIV
Heuchera maxima	island alumroot	1B.2	VEN
Heuchera parishii	Parish's alumroot	1B.3	RIV, SB
Horkelia cuneata var. puberula	mesa horkelia	1B.1	LA, OR, RIV, SB, VEN
Horkelia wilderae	Barton Flats horkelia	1B.1	SB
Hulsea californica	San Diego sunflower	1B.3	RIV

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Hulsea mexicana	Mexican hulsea	2B.3	IMP
Hulsea vestita ssp. pygmaea	pygmy hulsea	1B.3	SB
Hymenopappus filifolius var. eriopodus	hairy-podded fine-leaf hymenopappus	2B.3	SB
Hymenoxys odorata	bitter hymenoxys	2B.1	IMP, RIV, SB
Imperata brevifolia	California satintail	2B.1	IMP, LA, OR, RIV, SB, VEN
Ipomopsis effusa	Baja California ipomopsis	2B.1	IMP
Ipomopsis tenuifolia	slender-leaved ipomopsis	2B.3	IMP
Isocoma menziesii var. decumbens	decumbent goldenbush	1B.2	LA, OR, VEN
Ivesia argyrocoma var. argyrocoma	silver-haired ivesia	1B.2	SB
Ivesia jaegeri	Jaeger's ivesia	1B.3	SB
Ivesia patellifera	Kingston Mountains ivesia	1B.3	SB
Jaffueliobryum raui	Rau's jaffueliobryum moss	2B.3	RIV, SB
Jaffueliobryum wrightii	Wright's jaffueliobryum moss	2B.3	RIV, SB
Juncus interior	inland rush	2B.2	SB
Juncus luciensis	Santa Lucia dwarf rush	1B.2	RIV
Juncus nodosus	knotted rush	2B.3	SB
Koeberlinia spinosa var. tenuispina	slender-spined all thorn	2B.2	IMP, RIV
Lasthenia glabrata ssp. coulteri	Coulter's goldfields	1B.1	LA, OR, RIV, SB, VEN
Lavatera assurgentiflora ssp. assurgentiflora	island mallow	1B.1	VEN
Lavatera assurgentiflora ssp. glabra	southern island mallow	1B.1	LA
Layia heterotricha	pale-yellow layia	1B.1	VEN
Lepechinia cardiophylla	heart-leaved pitcher sage	1B.2	OR, RIV
Lepechinia rossii	Ross' pitcher sage	1B.2	LA, VEN
Lepidium virginicum var. robinsonii	Robinson's pepper-grass	4.3	LA, OR, RIV, SB, VEN
Leptosiphon floribundus ssp. hallii	Santa Rosa Mountains leptosiphon	1B.3	RIV
Leptosiphon pygmaeus ssp. pygmaeus	pygmy leptosiphon	1B.2	LA
Lewisia brachycalyx	short-sepaled lewisia	2B.2	LA, SB
Lilium parryi	lemon lily	1B.2	LA, RIV, SB
Linanthus bernardinus	Pioneertown linanthus	1B.2	SB
Linanthus concinnus	San Gabriel linanthus	1B.2	LA, SB
Linanthus jaegeri	San Jacinto linanthus	1B.2	RIV

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Linanthus killipii	Baldwin Lake linanthus	1B.2	SB
Linanthus maculatus ssp. emaculatus	Jacumba Mountains linanthus	1B.1	IMP
Linanthus maculatus ssp. maculatus	Little San Bernardino Mtns. linanthus	1B.2	RIV, SB
Linanthus orcuttii	Orcutt's linanthus	1B.3	RIV, SB
Linum puberulum	plains flax	2B.3	SB
Lithospermum incisum	plains stoneseed	2B.3	SB
Loeflingia squarrosa var. artemisiarum	sagebrush loeflingia	2B.2	LA, SB
Lomatium insulare	San Nicolas Island lomatium	1B.2	LA, VEN
Lonicera subspicata var. subspicata	Santa Barbara honeysuckle	1B.2	LA
Lupinus albifrons var. medius	Mountain Springs bush lupine	1B.3	IMP
Lupinus guadalupensis	Guadalupe Island lupine	4.2	LA
Lupinus paynei	Payne's bush lupine	1B.1	LA, VEN
Lupinus peirsonii	Peirson's lupine	1B.3	LA
Lycium brevipes var. hassei	Santa Catalina Island desert-thorn	3.1	LA, OR
Lycium exsertum	Arizona desert-thorn	2B.1	SB
Lycium parishii	Parish's desert-thorn	2B.3	IMP, SB
Lycium verrucosum	San Nicolas Island desert-thorn	1A	VEN
Lyonothamnus floribundus ssp. aspleniifolius	Santa Cruz Island ironwood	1B.2	LA
Lyonothamnus floribundus ssp. floribundus	Santa Catalina Island ironwood	1B.2	LA
Malacothamnus davidsonii	Davidson's bush-mallow	1B.2	LA, VEN
Malacothamnus parishii	Parish's bush-mallow	1A	SB
Malacothrix foliosa ssp. crispifolia	wavy-leaved malacothrix	1B.2	VEN
Malacothrix junakii	Junak's malcothrix	1B.1	VEN
Malacothrix similis	Mexican malacothrix	2A	VEN
Malaxis monophyllos var. brachypoda	white bog adder's-mouth	2B.1	RIV, SB
Malperia tenuis	brown turbans	2B.3	IMP
Mammillaria grahamii var. grahamii	Graham fishhook cactus	2B.2	SB
Marina orcuttii var. orcuttii	California marina	1B.3	RIV
Matelea parvifolia	spear-leaf matelea	2B.3	IMP, RIV, SB
Maurandella antirrhiniflora	violet twining snapdragon	2B.3	SB
Meesia uliginosa	broad-nerved hump moss	2B.2	RIV

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Menodora scabra var. scabra	rough menodora	2B.3	SB
Menodora spinescens var. mohavensis	Mojave menodora	1B.2	SB
Mentzelia hirsutissima	hairy stickleaf	2B.3	IMP
Mentzelia polita	polished blazing star	1B.2	SB
Mentzelia pterosperma	wing-seed blazing star	2B.2	SB
Mentzelia puberula	Darlington's blazing star	2B.2	IMP, RIV, SB
Mentzelia tricuspis	spiny-hair blazing star	2B.1	IMP, RIV, SB
Mentzelia tridentata	creamy blazing star	1B.3	SB
Mielichhoferia shevockii	Shevock's copper moss	1B.2	RIV
Mirabilis coccinea	red four o'clock	2B.3	SB
Monarda pectinata	plains bee balm	2B.3	SB
Monardella australis ssp. jokerstii	Jokerst's monardella	1B.1	RIV, SB
Monardella boydii	Boyd's monardella	1B.2	SB
Monardella eremicola	Clark Mountain monardella	1B.3	SB
Monardella hypoleuca ssp. hypoleuca	white-veined monardella	1B.3	LA, VEN
Monardella hypoleuca ssp. intermedia	intermediate monardella	1B.3	OR, RIV
Monardella linoides ssp. oblonga	Tehachapi monardella	1B.3	LA, VEN
Monardella macrantha ssp. hallii	Hall's monardella	1B.3	LA, OR, RIV, SB
Monardella nana ssp. leptosiphon	San Felipe monardella	1B.2	RIV
Monardella pringlei	Pringle's monardella	1A	RIV, SB
Monardella robisonii	Robison's monardella	1B.3	RIV, SB
Monardella sinuata ssp. gerryi	Gerry's curly-leaved monardella	1B.1	VEN
Muhlenbergia alopecuroides	wolftail	2B.2	SB
Muhlenbergia appressa	appressed muhly	2B.2	LA, RIV, SB
Muhlenbergia arsenei	tough muhly	2B.3	SB
Muhlenbergia californica	California muhly	4.3	LA, SB
Muhlenbergia fragilis	delicate muhly	2B.3	SB
Muhlenbergia pauciflora	few-flowered muhly	2B.3	SB
Munroa squarrosa	false buffalo-grass	2B.2	SB
Munzothamnus blairii	Blair's munzothamnus	1B.2	LA
Myosurus minimus ssp. apus	little mousetail	3.1	RIV

Scientific Name	Common Name	Status	Counties Where Reported
Myriopteris wootonii	Wooton's lace fern	2B.3	SB
Nama demissa var. covillei	Coville's purple mat	1B.3	SB
Nama dichotoma var. dichotoma	forked purple mat	2B.3	SB
Nama stenocarpa	mud nama	2B.2	IMP, LA, OR, RIV
Navarretia ojaiensis	Ojai navarretia	1B.1	LA, VEN
Navarretia peninsularis	Baja navarretia	1B.2	LA, SB, VEN
Navarretia prostrata	prostrate vernal pool navarretia	1B.1	LA, OR, RIV, SB
Navarretia setiloba	Piute Mountains navarretia	1B.1	LA
Nemacaulis denudata var. denudata	coast woolly-heads	1B.2	LA, OR
Nemacaulis denudata var. gracilis	slender cottonheads	2B.2	IMP, RIV, SB
Nemacladus secundiflorus var. robbinsii	Robbins' nemacladus	1B.2	LA, VEN
Nolina cismontana	chaparral nolina	1B.2	LA, OR, RIV, VEN
Oenothera cavernae	cave evening-primrose	2B.1	SB
Oenothera longissima	long-stem evening-primrose	2B.2	SB
Opuntia basilaris var. brachyclada	short-joint beavertail	1B.2	LA, SB
Opuntia wigginsii	Wiggins' cholla	3.3	IMP, SB
Opuntia xcurvispina	curved-spine beavertail	2B.2	SB
Oreonana vestita	woolly mountain-parsley	1B.3	LA, SB
Orobanche parishii ssp. brachyloba	short-lobed broomrape	4.2	LA, VEN
Orobanche valida ssp. valida	Rock Creek broomrape	1B.2	LA, SB, VEN
Oxytropis oreophila var. oreophila	rock-loving oxytrope	2B.3	LA, SB
Packera bernardina	San Bernardino ragwort	1B.2	SB
Palafoxia arida var. gigantea	giant spanish-needle	1B.3	IMP
Panicum hirticaule ssp. hirticaule	roughstalk witch grass	2B.1	IMP, RIV, SB
Parnassia cirrata var. cirrata	San Bernardino grass-of-Parnassus	1B.3	LA, SB
Pediomelum castoreum	Beaver Dam breadroot	1B.2	SB
Pellaea truncata	spiny cliff-brake	2B.3	SB
Penstemon albomarginatus	white-margined beardtongue	1B.1	SB
Penstemon bicolor ssp. roseus	rosy two-toned beardtongue	1B.1	SB
Penstemon calcareus	limestone beardtongue	1B.3	SB
Penstemon californicus	California beardtongue	1B.2	OR, RIV

Scientific Name	Common Name	Status	Counties Where Reported
Penstemon fruticiformis var. amargosae	Amargosa beardtongue	1B.3	SB
Penstemon pseudospectabilis ssp. pseudospectabilis	desert beardtongue	2B.2	IMP, RIV, SB
Penstemon stephensii	Stephens' beardtongue	1B.3	SB
Penstemon thompsoniae	Thompson's beardtongue	2B.3	SB
Penstemon utahensis	Utah beardtongue	2B.3	SB
Pentachaeta aurea ssp. allenii	Allen's pentachaeta	1B.1	OR
Perideridia parishii ssp. parishii	Parish's yampah	2B.2	SB
Petalonyx linearis	narrow-leaf sandpaper-plant	2B.3	IMP, RIV, SB
Petalonyx thurberi ssp. gilmanii	Death Valley sandpaper-plant	1B.3	SB
Phacelia anelsonii	Aven Nelson's phacelia	2B.3	SB
Phacelia barnebyana	Barneby's phacelia	2B.3	SB
Phacelia coerulea	sky-blue phacelia	2B.3	SB
Phacelia floribunda	many-flowered phacelia	1B.2	LA
Phacelia keckii	Santiago Peak phacelia	1B.3	OR, RIV
Phacelia mustelina	Death Valley round-leaved phacelia	1B.3	SB
Phacelia parishii	Parish's phacelia	1B.1	SB
Phacelia perityloides var. jaegeri	Jaeger's phacelia	1B.3	SB
Phacelia pulchella var. gooddingii	Goodding's phacelia	2B.2	SB
Phacelia stellaris	Brand's star phacelia	1B.1	LA, OR, RIV, SB
Phaseolus filiformis	slender-stem bean	2B.1	RIV
Phlox dolichantha	Big Bear Valley phlox	1B.2	SB
Pholisma sonorae	sand food	1B.2	IMP
Pholistoma auritum var. arizonicum	Arizona pholistoma	2B.3	IMP, SB
Physalis lobata	lobed ground-cherry	2B.3	SB
Physaria chambersii	Chambers' physaria	2B.3	SB
Pilostyles thurberi	Thurber's pilostyles	4.3	IMP
Plagiobothrys parishii	Parish's popcornflower	1B.1	LA, SB
Poliomintha incana	frosted mint	2A	SB
Polygala acanthoclada	thorny milkwort	2B.3	RIV, SB
Polygala intermontana	intermountain milkwort	2B.1	SB
Potentilla multijuga	Ballona cinquefoil	1A	LA

Scientific Name	Common Name	Status	Counties Where Reported
Potentilla rimicola	cliff cinquefoil	2B.3	RIV
Prunus eremophila	Mojave Desert plum	1B.2	SB
Pseudognaphalium leucocephalum	white rabbit-tobacco	2B.2	LA, OR, RIV, SB, VEN
Pseudorontium cyathiferum	Deep Canyon snapdragon	2B.3	RIV
Psorothamnus fremontii var. attenuatus	narrow-leaved psorothamnus	2B.3	SB
Puccinellia parishii	Parish's alkali grass	1B.1	SB
Puccinellia simplex	California alkali grass	1B.2	LA, SB
Pyrrocoma uniflora var. gossypina	Bear Valley pyrrocoma	1B.2	SB
Quercus dumosa	Nuttall's scrub oak	1B.1	LA, OR, VEN
Ribes divaricatum var. parishii	Parish's gooseberry	1A	LA, SB
Ribes viburnifolium	Santa Catalina Island currant	1B.2	LA
Robinia neomexicana	New Mexico locust	2B.3	SB
Rosa woodsii var. glabrata	Cushenbury rose	1B.1	SB
Sagittaria sanfordii	Sanford's arrowhead	1B.2	SB, VEN
Saltugilia latimeri	Latimer's woodland-gilia	1B.2	RIV, SB
Salvia greatae	Orocopia sage	1B.3	IMP, RIV
Sanvitalia abertii	Abert's sanvitalia	2B.2	SB
Schoenus nigricans	black bog-rush	2B.2	SB
Sclerocactus johnsonii	Johnson's bee-hive cactus	2B.2	SB
Scleropogon brevifolius	burro grass	2B.3	SB
Scrophularia villosa	Santa Catalina figwort	1B.2	LA
Scutellaria bolanderi ssp. austromontana	southern mountains skullcap	1B.2	LA, RIV, SB
Selaginella eremophila	desert spike-moss	2B.2	IMP, RIV
Senecio aphanactis	chaparral ragwort	2B.2	LA, OR, RIV, SB, VEN
Senna covesii	Cove's cassia	2B.2	IMP, RIV, SB
Sibaropsis hammittii	Hammitt's clay-cress	1B.2	RIV
Sidalcea malviflora ssp. dolosa	Bear Valley checkerbloom	1B.2	SB
Sidalcea neomexicana	salt spring checkerbloom	2B.2	LA, OR, RIV, SB, VEN
Sidotheca emarginata	white-margined oxytheca	1B.3	RIV
Silene krantzii	Krantz's catchfly	1B.2	SB
Sisyrinchium longipes	timberland blue-eyed grass	2B.2	SB

Scientific Name	Common Name	Status	Counties Where Reported
Solanum wallacei	Wallace's nightshade	1B.1	LA
Spermolepis gigantea	desert scaleseed	2B.1	RIV
Spermolepis lateriflora	western bristly scaleseed	2A	LA
Sphaeralcea rusbyi var. eremicola	Rusby's desert-mallow	1B.2	RIV, SB
Sphaerocarpos drewei	bottle liverwort	1B.1	RIV
Sphenopholis obtusata	prairie wedge grass	2B.2	RIV, SB
Stemodia durantifolia	purple stemodia	2B.1	RIV
Stipa arida	Mormon needle grass	2B.3	SB
Stipa divaricata	small-flowered rice grass	2B.3	SB
Streptanthus bernardinus	Laguna Mountains jewelflower	4.3	RIV, SB
Streptanthus campestris	southern jewelflower	1B.3	IMP, LA, RIV, SB, VEN
Stylocline masonii	Mason's neststraw	1B.1	LA
Stylocline sonorensis	mesquite neststraw	2A	RIV
Suaeda esteroa	estuary seablite	1B.2	LA, OR, VEN
Symphyotrichum defoliatum	San Bernardino aster	1B.2	IMP, LA, OR, RIV, SB
Symphyotrichum greatae	Greata's aster	1B.3	LA, SB, VEN
Tetracoccus dioicus	Parry's tetracoccus	1B.2	OR, RIV
Teucrium cubense ssp. depressum	dwarf germander	2B.2	IMP, RIV
Teucrium glandulosum	desert germander	2B.3	SB
Texosporium sancti-jacobi	woven-spored lichen	3	LA, RIV, VEN
Thelypteris puberula var. sonorensis	Sonoran maiden fern	2B.2	LA, RIV, SB
Thysanocarpus rigidus	rigid fringepod	1B.2	LA, RIV, SB
Tidestromia eliassoniana	Eliasson's woolly tidestromia	2B.2	IMP, SB
Tortella alpicola	alpine crisp-moss	2B.3	SB
Tortula californica	California screw moss	1B.2	LA, RIV, VEN
Trichocoronis wrightii var. wrightii	Wright's trichocoronis	2B.1	RIV
Trichostema austromontanum ssp. compactum	Hidden Lake bluecurls	1B.1	RIV
Tripterocalyx micranthus	small-flowered sand-verbena	2B.2	SB
Triteleia clementina	San Clemente Island triteleia	1B.2	LA
Viola pinetorum ssp. grisea	grey-leaved violet	1B.3	LA, SB, VEN
Wislizenia refracta ssp. palmeri	Palmer's jackass clover	2B.2	RIV

Scientific Name	Common Name	Status	Counties Where Reported
Wislizenia refracta ssp. refracta	jackass-clover	2B.2	RIV, SB
Woodsia plummerae	Plummer's woodsia	2B.3	SB
Xylorhiza cognata	Mecca-aster	1B.2	RIV
Xylorhiza orcuttii	Orcutt's woody-aster	1B.2	IMP
Astragalus traskiae	Trask's milk-vetch	1B.2	VEN
Castilleja gleasoni	Mt. Gleason paintbrush	1B.2	LA
Croton wigginsii	Wiggins' croton	2B.2	IMP
Deinandra minthornii	Santa Susana tarplant	1B.2	LA, VEN
Delphinium hesperium ssp. cuyamacae	Cuyamaca larkspur	1B.2	RIV
Eriogonum crocatum	conejo buckwheat	1B.2	VEN
Galium angustifolium ssp. borregoense	Borrego bedstraw	1B.3	IMP
Ivesia callida	Tahquitz ivesia	1B.3	RIV
Packera ganderi	Gander's ragwort	1B.2	RIV
Sidalcea hickmanii ssp. parishii	Parish's checkerbloom	1B.2	SB

California Native Plant Society: California Rare Plant Rank (CRPR) 1A = Plants Presumed Extinct in California; CRPR: 1B = Plants Rare, Threatened, or Endangered in California and Elsewhere; 2 = Plants Rare, Threatened, or Endangered in Claifornia, But More Common Elsewhere; 3 = Plants About Which We Need More Information; 4 = Plants of Limited Distribution. SB = San Bernardino County; LA = Los Angeles County; RIV = Riverside County; VEN = Ventura County; OR = Orange County; IMP = Imperial County.

SOURCE:*Department of Fish and Game Natural Diversity Data Base*. Sacramento, CA.

California Native Plant Society, Rare Plant Program. 2015. *Inventory of Rare and Endangered Plants*. Online edition, v8-02. Sacramento, CA.

Figure 4. Rare and Locally Important Plants Reported in the SCAG Region

Riparian and State Sensitive Plant Communities

The six counties within the SCAG region contain nearly 23 million acres of open space (Figure 5). These vacant lands include the region's national forests, state parks, military installations, other public lands, and various private holdings. Much of the open space in the region has been left in its natural state, however many non-native species have transformed what was once native habitat. The CNDDB identifies approximately 318,000 acres as containing state-sensitive plant communities, those identified as critically imperiled, or vulnerable to extirpation. In addition, approximately 190,700 acres of riparian habitats have been included in the database. Riparian habitats in the SCAG region may fall under the jurisdiction of the CDFW and improvements within or in the vicinity of these habitats would require compliance with Section 1600 of the State FGC under which a Lake or Streambed Alteration Agreement would need to be obtained prior to the alteration of a state jurisdictional area.16

The CNDDB reported 45 special-status natural communities within the SCAG region (Table 6; Figure 6), however, this information was last recorded in 1993 and provides an incomplete picture of sensitive habitats in the SCAG region. Although there is no current comprehensive picture of state-sensitive plant communities and riparian habitat, it is highly likely that additional communities exist within the SCAG region. Therefore, it is important that individual projects consider sensitive communities and carefully examine project sites on a case-by-case basis.

Table 6. Riparian Habitat and State Sensitive Plant Communities Reported in the SCAG Region

Community Name	State Sensitivity Rank	Counties Where Reported	Acres Reported in SCAG Region	Type
Active Desert Dunes	S2.2	IMP	2,233.43	Dune
Alkali Seep	S2.1	SB	4.90	Herbaceous
Amargosa River	SNR	SB	559.60	Inland Waters
Arizonan Woodland	S1.2	SB	337.44	Woodland
California Walnut Woodland	S2.1	LA, OR, SB, VEN	16,539.64	Woodland
Canyon Live Oak Ravine Forest	S3.3	LA, OR, RIV, SB, VEN	5,535.07	Riparian
Cismontane Alkali Marsh	S1.1	VEN	30.77	Marsh
Coastal and Valley Freshwater Marsh	S2.1	RIV, SB, VEN	551.18	Marsh
Crucifixion Thorn Woodland	S1.2	IMP, SB	96.20	Woodland
Desert Fan Palm Oasis Woodland	S3.2	IMP, RIV, SB	43,404.16	Riparian
Island Cherry Forest	S2.1	LA	1,796.05	Forest
Island Ironwood Forest	S2.1	LA	2,318.79	Forest
Mainland Cherry Forest	S1.1	LA	72.97	Forest
Maritime Succulent Scrub	S1.1	LA, VEN	69.96	Scrub
Mesquite Bosque	S2.1	IMP, RIV, SB	11,282.02	Riparian
Mojave Mixed Steppe	S2.2	SB	18.47	Scrub
Mojave Riparian Forest	S1.1	LA, SB	3,295.07	Riparian

16 SCAG. 2015. 2016 Regional Transportation Plan/ Sustainable Communities Strategy (RTP/SCS) Draft Program Environmental Impact Report. December.

Community Name	State Sensitivity Rank	Counties Where Reported	Acres Reported in SCAG Region	Type
Mojave Yucca Scrub and Steppe	S3.2	SB	87.77	Scrub
Open Engelmann Oak Woodland	S2.2	LA	869.98	Woodland
Pebble Plains	S1.1	SB	3,835.93	Herbaceous
Riversidian Alluvial Fan Sage Scrub	S1.1	LA, OR, RIV, SB	27,826.55	Scrub
Sonoran Cottonwood Willow Riparian Forest	S1.1	IMP, RIV	1,822.44	Riparian
Southern California Arroyo Chub/Santa Ana Sucker Stream	SNR	LA, OR, RIV, SB	5,836.97	Inland Waters
Southern California Coastal Lagoon	SNR	LA, VEN	19.93	Inland Waters
Southern California Steelhead Stream	SNR	LA, VEN	3,024.59	Inland Waters
Southern California Threespine Stickleback Stream	SNR	LA, SB, VEN	2,194.15	Inland Waters
Southern Coast Live Oak Riparian Forest	S4	LA, OR, RIV, SB, VEN	22,980.83	Riparian
Southern Coastal Bluff Scrub	S1.1	LA, VEN	1,029.44	Scrub
Southern Coastal Salt Marsh	S2.1	LA, OR, VEN	4,960.63	Marsh
Southern Cottonwood Willow Riparian Forest	S3.2	LA, OR, RIV, SB, VEN	18,389.95	Riparian
Southern Dune Scrub	S1.1	LA, OR, VEN	9,482.65	Dune
Southern Foredunes	S2.1	LA, OR, VEN	1,203.32	Dune
Southern Interior Basalt Flow Vernal Pool	S1.2	RIV	586.65	Herbaceous
Southern Interior Cypress Forest	S2.1	OR, RIV	2,977.96	Forest
Southern Mixed Riparian Forest	S2.1	LA, OR, RIV, SB, VEN	4,447.21	Riparian
Southern Riparian Forest	S4	LA, RIV, SB, VEN	554.03	Riparian
Southern Riparian Scrub	S3.2	LA, OR, RIV, SB, VEN	11,378.30	Riparian
Southern Sycamore Alder Riparian Woodland	S4	LA, OR, RIV, SB, VEN	61,958.67	Riparian
Southern Willow Scrub	S2.1	LA, OR, RIV, SB, VEN	5,697.12	Riparian
Stabilized and Partially Stabilized Desert Dunes	S3.2	IMP	2,233.43	Dune
Transmontane Alkali Marsh	S2.1	IMP, SB	243.06	Marsh
Valley Needlegrass Grassland	S3.1	LA, OR, RIV, VEN	16,805.86	Herbaceous
Valley Oak Woodland	S2.1	LA, VEN	12,399.50	Woodland
Walnut Forest	S1.1	LA, VEN	401.94	Forest
Wildflower Field	S2.2	LA	6,592.07	Herbaceous

Note:
S1 Critically Imperiled — Critically imperiled in the state because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state.
S2 Imperiled — Imperiled in the state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state.
S3 **Vulnerable** — Vulnerable in the state due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.
S4Apparently Secure — Uncommon but not rare; some cause for long-term concern due to declines or other factors
SNR **Unranked** — State conservation status not yet assessed.
SB = San Bernardino County; LA = Los Angeles County; RIV = Riverside County; VEN = Ventura County; OR = Orange County; IMP = Imperial County.
Source: California Department of Fish and Wildlife. 2019. BIOS. Available online at: https://www.wildlife.ca.gov/data/cnddb/maps-and-data#43018410-cnddb-quickview-tool, accessed July 8, 2019.

Figure 5. Land Use Reported in the SCAG Region

Figure 6. Riparian Habitat and State Sensitive Plant Communities Reported in the SCAG Region

Since 1993 CDFW and CNPS, have been classifying vegetation types using the new state standards, as outlined in the Manual of California Vegetation, updated in the second edition of the Manual17. These new state standards are being utilized in the classification of Sensitive Natural Communities throughout California that are currently being evaluated using NatureServe's Heritage Methodology, the same system used to assign state rarity ranks for sensitive plant communities in the CNDDB18. Natural Communities with ranks of S1-S3 are considered Sensitive Natural Communities that should be addressed during the CEQA process.

As of 2018, about half of California has been mapped and classified according to this standard; much of southern California has not yet been classified. Table 7 provides the Vegetation Classification and Mapping Program's current list of vegetation Alliances with State Rarity Ranks of S1-S3 that occur within the USDA Ecological Sections (Southern California Coast, Southern California Mountains and Valleys, Mojave Desert, Colorado Desert, Sonoran Desert) found in the SCAG region. Some of these sections overlap portions of counties outside of the SCAG Region (primarily portions of San Diego and Santa Barbara Counties). Although this data is incomplete, it is highly likely that these or additional Sensitive Natural Communities may occur in the footprint of future projects in the SCAG region. Therefore, it is important that individual projects evaluate Sensitive Natural Communities in their analyses.

Table 7. Sensitive Natural Communities Within The SCAG Region

Alliance Scientific name	Common name	State rarity
Abies concolor Dry	Dry White Fir forest	S3
Abronia latifolia - Ambrosia chamissonis	Dune mat	S3
Achnatherum hymenoides	Indian rice grass grassland	S1.2
Achnatherum speciosum	Desert needlegrass grassland	S2.2
Adenostoma fasciculatum - Salvia apiana	Chamise - white sage chaparral	S3
Agave deserti	Desert agave scrub	S3.2
Allenrolfea occidentalis	Iodine bush scrub	S3.2
Alopecurus geniculatus	Water foxtail meadows	S3?
Amphipappus fremontii - Salvia funerea	Fremont's chaffbush - woolly sage scrub	S3
Anemopsis californica - Helianthus nuttallii - Solidago spectabilis	Yerba mansa - Nuttall's sunflower - Nevada goldenrod alkaline wet meadows	S2
Arbutus menziesii	Madrone forest	S3.2
Arctostaphylos (crustacea, tomentosa)	Brittle leaf - woolly leaf manzanita chaparral	S3
Arctostaphylos pungens - Arctostaphylos pringlei	Pointleaf manzanita - pink-bract manzanita chaparral	S3
Arctostaphylos (purissima, rudis)	Burton Mesa chaparral	S1.2
Argentina egedii	Pacific silverweed marshes	S2
Aristida purpurea	Purple three-awn meadows	S3?

17 Sawyer, J.O., T. Keeler-Wolf, and J. M. Evens. 2009. A Manual of California Vegetation, Second Edition. California NativePlantSociety,Sacramento,CA.

18 California Department of Fish and Wildlife. 2019. Natural Communities. Sacramento, CA. Available online at: https://www.wildlife.ca.gov/Data/VegCAMP/Natural-Communities, accessed June 28, 2019

Alliance Scientific name	Common name	State rarity
Artemisia nova	Black sagebrush scrub	S3.2
Artemisia rothrockii	Rothrockâ€™s sagebrush	S3
Arthrocnemum subterminale	Parishâ€™s glasswort patches	S2
Atriplex parryi	Parry's saltbush scrub	S3
Baccharis emoryi - Baccharis sergiloides	Emory's and Broom baccharis scrub	S3
Betula occidentalis	Water birch thicket	S2.2
Bolboschoenus maritimus	Salt marsh bulrush marshes	S3
Bromus carinatus - Elymus glaucus	California brome - blue wildrye prairie	S3
Bursera microphylla	Elephant tree stands	S1.2
Calocedrus decurrens	Incense cedar forest	S3.2
Carex douglasii	Douglasâ€™ sedge meadows	S2?
Carex heteroneura	Different-nerve sedge patches	S3?
Carex integra	Small-fruited sedge meadows	S2?
Carex luzulina	Woodland sedge fens	S2?
Carex (pansa, praegracilis)	Sand dune sedge swaths	S3?
Carnegiea gigantea - Parkinsonia microphylla - Prosopis velutina	Saguaro - foothill palo verde - velvet mesquite desert scrub	S2.2
Castela emoryi	Crucifixion thorn stands	S1.1
Ceanothus greggii	Cup leaf ceanothus chaparral	S3
Ceanothus (oliganthus, tomentosus)	Hairy leaf - woolly leaf ceanothus chaparral	S3
Ceanothus papillosus	Wart leaf ceanothus chaparral	S3
Ceanothus verrucosus	Wart-stemmed ceanothus chaparral	S2
Centromadia (pungens)	Tar plant fields	S2
Chilopsis linearis - Psorothamnus spinosus	Desert-willow - smoketree wash woodland	S3
Chrysolepis sempervirens	Bush chinquapin chaparral	S3.3
Coreopsis gigantea	Giant coreopsis scrub	S3
Cressa truxillensis - Distichlis spicata	Alkali weed - salt grass playas and sinks	S2
Cylindropuntia bigelovii	Teddy bear cholla patches	S3
Deinandra clementina - Eriogonum giganteum	Island tar plant - Saint Catherine's lace scrub	S2
Deinandra fasciculata	Clustered tarweed fields	S2
Dicoria canescens - Abronia villosa - Panicum urvilleanum	Mojave-Sonoran desert dunes	S3.2
Diplacus aurantiacus	Bush monkeyflower scrub	S3?
Dudleya greenei - Dudleya spp. Succulent Scrub	Greene's live-forever - live-forever species succulent scrub	S1
Encelia (actonii, virginensis) - Viguiera reticulata	Acton's and Virgin River brittle brush - net-veined goldeneye scrub	S3
Encelia californica - Eriogonum cinereum	California brittle bush - Ashy buckwheat scrub	S3
Ephedra funerea	Death Valley joint fir scrub	S3
Ericameria palmeri	Palmerâ€™s goldenbush scrub	S3?

Alliance Scientific name	Common name	State rarity
Ericameria paniculata	Black-stem rabbitbrush scrub	S3
Eriodictyon crassifolium	Thick leaf yerba santa scrub	S3
Eriogonum arborescens - Eriogonum grande	Island Buckwheat scrub	S3
Eriogonum wrightii - Eriogonum heermannii - Buddleja utahensis	Wright's buckwheat - Heermann's buckwheat - Utah butterfly-bush scrub	S3
Fallugia paradoxa	Apache plume scrub	S3
Frankenia salina	Alkali heath marsh	S3
Grindelia (camporum, stricta)	Gum plant patches	S2
Gutierrezia sarothrae - Gutierrezia microcephala	Snakeweed scrub	S3
Hazardia squarrosa	Sawtooth golden bush scrub	S3
Hesperocyparis forbesii	Tecate cypress stands	S2.2
Hesperocyparis sargentii	Sargent cypress woodland	S3.2
Hesperocyparis stephensonii	Cuyamaca cypress stands	S1
Hordeum brachyantherum	Meadow barley patches	S2
Isocoma menziesii	Menzies's golden bush scrub	S3
Juglans californica	California walnut groves	S3.2
Juncus (oxymeris, xiphioides)	Iris-leaf rush seeps	S2?
Juniperus osteosperma	Utah juniper woodland	S3.2
Keckiella antirrhinoides	Bush penstemon scrub	S3
Koeberlinia spinosa	Crown-of-thorns stands	S1.1
Krascheninnikovia lanata	Winterfat scrubland	S3
Lepidospartum squamatum	Scale broom scrub	S3
Leymus cinereus - Leymus triticoides	Ashy ryegrass - creeping ryegrass turfs	S3
Leymus condensatus	Giant wild rye grassland	S3
Leymus mollis	Sea lyme grass patches	S2
Lupinus chamissonis - Ericameria ericoides	Silver dune lupine - mock heather scrub	S3
Lycium californicum	California desert-thorn scrub	S3
Menodora spinescens	Spiny menodora scrub	S3
Monolopia (lanceolata) - Coreopsis (calliopsidea)	Monolopia - leafy-stemmed tickseed fields	S3
Muhlenbergia rigens	Deer grass beds	S2?
Nolina (bigelovii, parryi)	Nolina scrub	S2.2
Opuntia littoralis - Opuntia oricola - Cylindropuntia prolifera	Coast prickly pear scrub	S3
Pinus edulis	Two-needle pinyon stands	S2?
Pinus flexilis	Limber pine woodland	S3.2
Pinus muricata - Pinus radiata	Bishop pine - Monterey pine forest	S3.2
Pinus quadrifolia	Parry pinyon woodland	S2
Pinus torreyana	Torrey pine woodland	S1.2
Platanus racemosa	California sycamore woodlands	S3

Alliance Scientific name	Common name	State rarity
Pleuraphis jamesii	James's galleta shrub-steppe	S2.2
Pleuraphis rigida	Big galleta shrub-steppe	S2.2
Pluchea sericea	Arrow weed thickets	S3.3
Poa secunda	Curly blue grass grassland	S3?
Populus fremontii	Fremont cottonwood forest	S3.2
Populus tremuloides	Aspen groves	S3.2
Populus trichocarpa	Black cottonwood forest	S3
Prosopis glandulosa - Prosopis velutina - Prosopis pubescens	Mesquite thickets	S3
Prunus fremontii	Desert apricot scrub	S3
Prunus virginiana	Choke cherry thickets	S2?
Pseudotsuga macrocarpa	Bigcone Douglas fir forest	S3.2
Purshia stansburiana	Stansbury cliff rose scrub	S3.2
Purshia tridentata	Bitter brush scrub	S3
Quercus chrysolepis (shrub)	Canyon live oak chaparral	S3
Quercus dumosa - Quercus pacifica	Coastal sage and Island scrub oak chaparral	S3
Quercus engelmannii	Engelmann oak woodland	S3
Quercus lobata	Valley oak woodland	S3
Quercus palmeri	Palmer oak chaparral	S2?
Quercus tomentella - Lyonothamnus floribundus	Island live oak - Catalina ironwood woodland	S3
Quercus turbinella	Sonoran live oak scrub	S1.3
Rhus integrifolia	Lemonade berry scrub	S3
Rhus trilobata - Crataegus rivularis - Forestiera pubescens	Basket bush - river hawthorn - desert olive patches	S3.2?
Ribes quercetorum	Oak gooseberry thickets	S2?
Rosa californica	California rose briar patches	S3
Ruppia (cirrhosa, maritima)	Ditch-grass or widgeon-grass mats	S2
Salix gooddingii	Black willow thickets	S3
Salix laevigata	Red willow thickets	S3
Salix lucida	Shining willow groves	S3.2
Salvia apiana	White sage scrub	S3
Sambucus nigra	Blue elderberry stands	S3
Sarcocornia pacifica (Salicornia depressa)	Pickleweed mats	S3
Schoenoplectus (acutus, californicus)	Hardstem and California bulrush marshes	S3
Schoenoplectus americanus	American bulrush marsh	S3.2
Selaginella bigelovii	Bushy spikemoss mats	S3
Sesuvium verrucosum	Western sea-purslane marshes	S2.2?
Simmondsia chinensis	Jojoba scrub	S3?
Spartina foliosa	California cordgrass marsh	S3.2
Sporobolus airoides - Muhlenbergia asperifolia - Spartina gracilis	Alkali sacaton - scratchgrass - alkali cordgrass alkaline wet meadow	S2

Alliance Scientific name	Common name	State rarity
Stuckenia (pectinata) - Potamogeton spp.	Pondweed mats	S3?
Suaeda moquinii	Bush seepweed scrub	S3
Tetracoccus hallii	Hallâ€™s shrubby-spurge patches	S1.1
Umbellularia californica	California bay forest	S3
Venegasia carpesioides	Canyon sunflower scrub	S3
Vitis arizonica - Vitis girdiana	Wild grape shrubland	S3
Washingtonia filifera	California fan palm oasis	S3.2
Xylococcus bicolor	Mission manzanita chaparral	S3
Yucca brevifolia	Joshua tree woodland	S3.2
Ziziphus obtusifolia	Graythorn patches	S2?

S1 Critically Imperiled — Critically imperiled in the state because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state.

S2 Imperiled — Imperiled in the state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state.

S3 Vulnerable — Vulnerable in the state due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.

Entries marked with ? indicate reliminary or more information required

Source: CNPS. 2019. A Manual of California Vegetation On-line. Available at: http://vegetation.cnps.org/search Accessed June 25, 2019

Federally Protected Wetlands and Waterways

Current National Wetlands Inventory19 maps and U.S. Geological Service (USGS) blue-line drainage data for the six-county SCAG region were reviewed for potential wetlands and waterways subject to protection under Section 404 of the CWA and coastal areas subject to Section 10 of the Rivers and Harbors Act. Wetlands and waterways potentially subject to the jurisdiction of the USACE were determined to be present within each of the six counties in the SCAG region (Table 8; Table 9). The analysis of federally protected wetlands and waterways in this section is based on existing data; individual projects within the SCAG region would be required to complete a formal jurisdictional delineation pursuant to USACE Corps requirements.

Table 8. Federally Protected Wetlands and Waterways Reported n the SCAG Region.

Wetland Type	National Wetlands Inventory (Acres)
Imperial County	
Freshwater Emergent Wetland	4, 250
Freshwater Forested/Shrub Wetland	10, 560
Freshwater Pond	1, 720

19 U.S. Fish and Wildlife Service. *National Wetlands Inventory Map*. Available at: https://www.fws.gov/wetlands/data/Mapper.html, accessed January 14, 2019.

Wetland Type	National Wetlands Inventory (Acres)
Lake	198, 250
Other	3, 890
Riverine	12, 270
Total	**230, 940**
Los Angeles County	
Estuarine and Marine Deepwater	840
Estuarine and Marine Wetland	1, 240
Freshwater Emergent Wetland	2, 200
Freshwater Forested/Shrub Wetland	10, 790
Freshwater Pond	4, 820
Lake	18, 870
Other	760
Riverine	21, 010
Total	**60, 550**
Orange County	
Estuarine and Marine Deepwater	560
Estuarine and Marine Wetland	1, 650
Freshwater Emergent Wetland	970
Freshwater Forested/Shrub Wetland	4, 110
Freshwater Pond	1, 420
Lake	2, 320
Other	<10
Riverine	5, 450
Total	**16, 490**
Riverside County	
Freshwater Emergent Wetland	7, 690
Freshwater Forested/Shrub Wetland	13, 850
Freshwater Pond	3, 140
Lake	67, 660
Other	640
Riverine	23, 650
Total	**116, 630**
San Bernardino County	
Freshwater Emergent Wetland	4, 870
Freshwater Forested/Shrub Wetland	9, 940
Freshwater Pond	5, 920
Lake	238, 780
Other	1, 580
Riverine	99, 200
Total	**360, 290**

Wetland Type	National Wetlands Inventory (Acres)
Ventura County	
Estuarine and Marine Deepwater	880
Estuarine and Marine Wetland	2, 730
Freshwater Emergent Wetland	2, 740
Freshwater Forested/Shrub Wetland	10, 280
Freshwater Pond	940
Lake	4, 130
Other	1, 240
Riverine	8, 850
Total	**31, 780**

Source: U.S. Fish and Wildlife Service. National Wetlands Inventory. Available online at: https://www.fws.gov/wetlands/data/Mapper.html, accessed January 15, 2019.

Table 9. Federally Protected Waterways under Rivers and Harbors Act Report in the SCAG Region.

Major River or Lake in the SCAG Region	Acres in the SCAG Region	Linear Miles in the SCAG Region
Imperial County		
Salton Sea	190, 390	—
Los Angeles County		
Castaic Lake	2, 230	—
Morris Reservoir	280	—
Puddingstone Reservoir	240	—
Pyramid Lake	1, 180	—
San Gabriel Reservoir	520	—
Los Angeles River	—	50
San Gabriel River	—	60
Santa Clara River	—	40
Orange County		
Irvine Lake	450	—
San Gabriel River	—	<10
Santa Ana River	—	30
Riverside County		
Diamond Valley Lake	4, 060	—
Lake Elsinore	3, 310	—
Lake Matthews	2, 670	—

Major River or Lake in the SCAG Region	Acres in the SCAG Region	Linear Miles in the SCAG Region
Perris Reservoir	1, 920	—
Salton Sea	42, 540	—
Skinner Reservoir	790	—
Vail Lake	260	—
Santa Ana River	—	20
Santa Margarita River	—	<10
San Bernardino County		
Big Bear Lake	2, 690	—
Lake Arrowhead	740	—
Silverwood Lake	910	—
Santa Ana River	—	40
Ventura County		
Lake Casitas	2, 450	—
Lake Piru	1, 220	—
Santa Clara River	—	40
Total	**258, 840**	**294.00**

Source: U.S. Geological Survey. National Hydrography Dataset. Available online at: https://www.usgs.gov/core-science-systems/ngp/national-hydrography/about-national-hydrography-products, accessed January 15, 2019.

Wildlife Movement Corridors

Wildlife movement corridors, or habitat linkages, are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations. Such linkages may serve a local purpose, such as providing a linkage between foraging and denning areas, or they may be regional in nature providing migratory paths from the ocean to the mountains. Some habitat linkages may serve as migration corridors, wherein animals periodically move away from an area and then subsequently return. Others may be important as dispersal corridors for young animals. A group of habitat linkages in an area can form a wildlife corridor network.20 The presence of viable and sustainable wildlife corridor networks may also be critical to the survival of some species as habitat conditions and landscapes are altered due to climate change.

The California Department of Transportation (Caltrans) and CDFW commissioned the California Essential Habitat Connectivity Project to assess essential habitat connectivity across the state and show, at a course scale, large areas that are important to maintaining wildlife movement and ecological

20 Ventura County Resource Management Agency (VCRMA). 2018. Habitat Connectivity and Wildlife Movement Corridors. Available online at: https://vcrma.org/habitat-connectivity-and-wildlife-movement-corridors, accessed January 15, 2019.

function.21. A large portion of the SCAG region includes many natural landscape blocks, accounting for nearly 12 million acres that support high native wildlife biodiversity with a significant wildlife connectivity network (Figure 7; Table 10) 22. These large and intact blocks are connected by over 4.5 million acres of corridors that are highly (Class 4 and 5) permeable (i.e., beneficial) to wildlife movement (Table 11). A large portion of these landscape blocks and essential connectivity areas are spread through eastern Imperial, Riverside, and San Bernardino Counties. Ventura County has the relatively largest proportion of landscape blocks and essential connectivity areas by county acreage. Large portions of the mountainous parts of Los Angeles County provide a critical linkage between habitat blocks from Riverside and Imperial County to the east and Ventura County to the west. Orange County has limited essential connectivity habitat and habitat blocks, located mostly in the eastern end of the county, but these provide connectivity to San Diego County to the south.

Table 10. Natural Landscap Blocks by County in the SCAG Regiosn

Imperial	970,349
Los Angeles	798,033
Orange	135,339
Riverside	2,511,657
San Bernardino	6,802,998
Ventura	701,830
Grand Total	**11,920,206**

Table 11. Essential Connectivity Areas by County in the SCAG Region

	Imperial	Los Angeles	Orange	Riverside	San Bernardino	Ventura	Total
Class 5 - Most Permeable	394,207	111,066		557,892	1,242,680	212,235	2,518,081
Class 4	273,106	97,594		415,568	1,032,493	192,853	2,011,616
Class 3	240,108	90,913		359,093	836,737	164,840	1,691,691
Class 2	235,033	99,768		371,260	873,269	98,451	1,677,781
Class 1 - Least Permeable	187,009	103,135	1,382	351,703	880,552	74,106	1,597,888
Total	**1,329,463**	**502,477**	**1,382**	**2,055,517**	**4,865,731**	**742,486**	**9,497,056**

21 California Department of Fish and Wildlife. 2019. BIOS Connectivity Viewer. Available online at: https://apps.wildlife.ca.gov/bios/ accessed July 8, 2019

22 Natural Landscape Blocks - California Essential Habitat Connectivity (CEHC). 2017. California Department of Fish and Game, Sacramento, CA. Available online at: https://map.dfg.ca.gov/metadata/ds0621.html?5.77.14, accessed July 9, 2019.

Figure 7. Essential Habitat Connectivity and Natural Landscape Blocks within the SCAG Region

Barriers to wildlife movement exist throughout the SCAG region, including large areas of urban development and multilane freeways that cut off regional movement for migratory and resident species alike. These barriers can affect all species from large mammals to small insects and can lead to significant degradation of ecosystem function and plant community composition. Conservation, protection, and enhancement of these intact Natural Landscape Blocks and Essential Connectivity Areas should be considered in project development to maintain or improve the viability of wildlife movement networks' and natural community stability. A notable example of wildlife corridor enhancement is the wildlife crossing planned through the State Route 101 Freeway at Liberty Canyon Road in Agoura Hills. The development of this crossing will help facilitate mountain lion and other terrestrial wildlife movement through a major regional freeway, opening a corridor and reducing the risk of motor vehicle collisions with wildlife.

In addition to these essential cooridors, major rivers, creeks, and streams often serve as nursery sites for fish, amphibian, and invertebrate species. These important features can facilitate movement between landscape blocks. Over 182,000 acres of these riparian wildlife connections have been mapped in the SCAG region (Table 12; see Figure 7).

Table 12. Potential Riparian Connections in the SCAG Region

Riparian Connections (Acres)	
Imperial	33,546
Los Angeles	34,015
Orange	5,774
Riverside	21,526
San Bernardino	56,144
Ventura	31,359

Habitat Conservation Plans and Natural Community Conservation Plans

An HCP is a planning document that is required as part of an application for an incidental take permit. HCPs describe the anticipated effects of the proposed taking, how the impacts will be minimized and mitigated, and how the HCP is to be funded. An NCCP is defined by CDFW as a plan for the conservation of natural communities that identifies and provides for the regional or area-wide protection and perpetuation of plants, animals, and their habitats. The HCPs and NCCPs in the SCAG region range from county, multi-county or municipality-wide natural resource planning efforts, to land-owner specific plans (Table 13). Data from CDFW and USFWS show 26 plans with durations of 16–80 years providing conservation efforts over nearly three million acres in the SCAG region. As a group, these plans provide protection for multiple species by conserving habitats, identifying locations for future mitigation efforts, providing conservation guidance and practices, and preserving important wildlife linkages.

Table 13. HCP's and NCCP'S in the Region

HCP/NCCP	County					
	Imperial	Los Angeles	Orange	Riverside	San Bernardino	Ventura*
AgCon Oro Grande North Mine Pit					X	

HCP/NCCP	County					
	Imperial	Los Angeles	Orange	Riverside	San Bernardino	Ventura*
Angelus Block					X	
Assessment District 161				X		
California Department of Corrections Statewide Electrified Fence Project	X	X		X	X	
Central Coastal NCCP/HCP			X			
City of Rancho Palos Verdes NCCP		X				
Coachella Valley Fringe-Toed Lizard				X		
Coachella Valley MSHCP				X		
Copper Mountain College HCP					X	
Cushenbury San & Gravel					X	
El Sobrante Landfill HCP				X		
High Desert Power Project					X	
Imperial Irrigation District NCCP/HCP	X					
Joshua Tree Campground					X	
Lower Colorado River Multiple Species Habitat Conservation Plan (MSHCP)	X			X		
Newhall Farms HCP		X				X
Orange County Central/Coastal NCCP/HCP			X			
Orange County Southern Subregion HCP			X			
Orange County Transportation Authority NCCP/HCP			X			
Palos Verdes Peninsula NCCP/HCP		X				
San Diego County Water Authority NCCP/HCP				X		
Shell Oil Company/Metropolitan Water District of Southern California HCP			X			
Town of Apple Valley MSHCP					X	
West Valley HCP					X	
Western Riverside County MSHCP				X		

Source: California Department of Fish and Wildlife. 2017. Summary of Natural Community Conservation Plans (NCCP). October. Available online at: https://www.wildlife.ca.gov/Conservation/Planning/NCCP/Plans, accessed March 19, 2019.

US Fish and Wildlife Service. 2017. ECOS Environmental Conservation Online System. Available online at https://ecos.fws.gov/ecp0/conservationPlan/region/summary?region=8&type=HCP. Accessed July 8, 2019.

Regional Conservation Investment Strategies/Local Conservation Plans

The Regional Conservation Investment Strategy (RCIS) Program encourages public agencies to develop regional conservation planning documents to help local native species populations by protecting,

restoring, creating, and reconnecting their habitats23 The goal of the RCIS is to achieve regional conservation outcomes through investments in conservation and mitigation that support regional conservation priorities. Public agencies and other entities can protect natural resources in their regions, for their ecological values and for the ecosystem services they provide to their communities. This is a non-regulatory and voluntary program.

RCIS include conservation and habitat enhancement strategies that advance the conservation of native species, habitat. These plans also provide nonbinding and voluntary guidance for the prioritization of conservation priorities, investments in ecological resource conservation sources, or identification of locations for compensatory mitigation.

In the SCAG region there are two RCIS's currently in development: The Antelope Valley RCIS in northeastern Los Angeles County and the San Bernardino County RCIS in Southwestern San Bernardino County. These two draft plans are in process, but may be finalized sometime after 2020. The Antelope Valley RCIS proponent is the Desert and Mountain Conservation Authority and the San Bernardino County RCIS proponent is the San Bernardino County Transportation Authority. Although these, nor any other plans been finalized in the region, RCIS be considered as part of the mitigation strategy for transportation projects in the region.

Local Policies and Ordinances

The SCAG region spans six counties and 191 cities, each of which has a General Plan with policies related to biological resources. The State of California General Plan Guidelines dictate that all cities and counties in the state of California are required to include conservation and open-space elements within their general plans. With the exception of Orange County, each county within the SCAG region has ordinances regulating the removal of native trees and plants (Table 14).

23 Regional Conservation Investment Strategies Program. 2018. California Department of Fish and Game, Sacramento, CA. Available online at: https://www.wildlife.ca.gov/conservation/planning/regional-conservation, accessed June 28, 2019.

Table 14. County Policies and Ordinanaces Relevant to the SCAG Region

County	County Policies and Ordinances
Imperial[1]	Imperial County Code of Ordinances Chapter 12.48 Wild Flowers and Trees, Imperial County General Plan
Los Angeles[2]	Los Angeles County Oak Tree Ordinance, Los Angeles County General Plan
Orange[3]	No applicable county tree ordinances exist, Orange County General Plan
Riverside[4]	Riverside County Ordinance No. 559 Regulating the Removal of Trees, County of Riverside General Plan
San Bernardino[5]	San Bernardino County Development Code Chapter 88.01, Plant Protection and Management, County of San Bernardino General Plan
Ventura[6]	Ventura County Tree Protection Ordinance, Ventura County General Plan

SOURCE:

[1] Imperial County Planning and Development Services. 1993. *Imperial County General Plan: Chapter 9: Conservation and Open Space Element.* Pp. 47, 54. Available at: http://www.icpds.com/CMS/Media/Conservation-and-Open-Space- Element.pdf

[2] Los Angeles County Department of Regional Planning. January 2014. *Los Angeles County General Plan Public Review Draft: Chapter 9: Conservation and Natural Resources Element.* P. 146. Available at: http://planning.lacounty.gov/assets/upl/project/gp_2035_Chapter9_2014.pdf

[3] Orange County Land Use Planning and Subdivision Services. 2005. *Orange County General Plan 2005: Chapter 6: Resources Element.* P. VI-32. Available at: http://ocplanning.net/civicax/filebank/blobdload.aspx?blobid=40235

[4] Riverside County Planning Department. November 2012. *Riverside County General Plan 2025: Open Space and Conservation Element.* P. OS-40. Available at: http://www.riversideca.gov/planning/gp2025program/GP/12_Open_Space_and_Conservation_Element.pdf

[5] San Bernardino County Land Use Services. 2007. San Bernardino County General Plan: Chapter 5: Conservation Element. P. V-13. Available at: http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGP.pdf

[6] Ventura County Planning and Development Services. March 2015. *Ventura County General Plan: goals, policies and programs.* P. 16. Available at: : https://docs.vcrma.org/images/pdf/planning/plans/Goals-Policies-and-Programs.pdf

In addition to the county regulations for the six counties described above, General Plans and municipal codes of each of the 191 individual cities in the SCAG region include Conservation Elements that identify biological resources, including mature trees and locally important species that are afforded special consideration. Conservation elements of city plans and municipal codes may also include requirements for permits and mitigation in the planning process for sensitive biological resources such as listed, sensitive or candidate species, riparian or State-sensitive natural communities, wetlands or waters of the United States, and wildlife corridors and native nursery sites. Any project within the SCAG region would need to demonstrate compliance with conservation elements of applicable city and county general plans.

APPENDIX 3.5

Cultural Resources Technical Report

DRAFT Cultural Resources Technical Report for the 2020–2045 Regional Transportation Plan and Sustainable Communities Strategy for the Southern California Association of Governments

SEPTEMBER 2019

PREPARED FOR

Impact Sciences

PREPARED BY

SWCA Environmental Consultants

DRAFT CULTURAL RESOURCES TECHNICAL REPORT FOR THE 2020–2045 REGIONAL TRANSPORTATION PLAN AND SUSTAINABLE COMMUNITIES STRATEGY FOR THE SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS

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CONTENTS

Introduction **1**

Regulatory Setting **3**

Federal 3

Antiquities Act of 1906 3

Historic Sites Act of 1935 3

U.S. Department of Transportation Act of 1966 (Section 4[f]) 3

National Historic Preservation Act of 1966 3

Archeology and Historic Preservation: Secretary of the Interior Standards and Guidelines 5

Archaeological and Historic Preservation Act of 1974 6

Archaeological Resources Protection Act of 1979 6

American Indian Religious Freedom Act 6

Native American Graves Protection and Repatriation Act of 1990 6

State 7

California Implementation of Federally and State-Mandated Historic Preservation Program 7

California Environmental Quality Act 9

California Coastal Act 10

California Health and Safety Code, Section 7050 and Sections 18950 through 18961 10

California Penal Code Section 622 – Destruction of Historical Properties 10

California Public Resources Code, Sections 5024, 5024.5, 5025, 5028, 5097.5, 5097.9, and 5097.98-99 10

Senate Bill 18 – Traditional Tribal Cultural Places 11

Assembly Bill 52 11

Executive Order B-10-11 12

Local 12

County General Plans 12

City General Plans and Ordinances 13

Cultural Context **13**

Prehistoric 13

Horizon I: Early Man (ca. 10,000–6,000 BC) 14

Horizon II: Milling Stone (6,000–3,000 BC) 14

Horizon III: Intermediate (3,000 BC–AD 500) 14

Horizon IV: late Prehistoric (AD 500–Historic Contact) 14

Protohistoric 15

Historic 16

Spanish Period (1769–1821) 16

Mexican Period (1822–1848) 16

American Period (1848–Present) 17

Existing Conditions **18**

Cultural Resources 18

Federal Registers 19

State Registers 20

Native American Sacred Sites 21

Human Remains 24

Thresholds of Significance ..... **Error! Bookmark not defined.**

Methods ..... **Error! Bookmark not defined.**

Impact Analysis ..... **Error! Bookmark not defined.**
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Impact CUL-2: Potential to cause a substantial adverse change in the significance of an archaeological resource, pursuant to CEQA Guidelines Section 15064.5. ..... **Error! Bookmark not defined.**
Impact CUL-3: Potential to disturb human remains, including those interred outside of formal cemeteries, including Native American Sacred Sites. ..... **Error! Bookmark not defined.**
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Cumulative Impacts ..... **Error! Bookmark not defined.**
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Impact CUL-3: Potential to disturb human remains, including those interred outside of formal cemeteries, including Native American Sacred Sites. ..... **Error! Bookmark not defined.**
Impact TCR-1: Potential to cause a substantial adverse change in the significance of a tribal cultural resource. ..... **Error! Bookmark not defined.**
Mitigation Measures ..... **Error! Bookmark not defined.**
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Impact CUL-2: Potential to cause a substantial adverse change in the significance of an archaeological resource, pursuant to CEQA Guidelines Section 15064.5. ..... **Error! Bookmark not defined.**
Impact CUL-3: Potential to disturb human remains, including those interred outside of formal cemeteries, including Native American Sacred Sites. ..... **Error! Bookmark not defined.**
Impact TCR-1: Potential to cause a substantial adverse change in the significance of a tribal cultural resource. ..... **Error! Bookmark not defined.**
Level of Significance After Mitigation ..... **Error! Bookmark not defined.**
Impact CUL-1: Potential to cause a substantial adverse change in the significance of a historical resource, including archaeological resources. ..... **Error! Bookmark not defined.**
Impact CUL-2: Potential to cause a substantial adverse change in the significance of an archaeological resource, pursuant to CEQA Guidelines Section 15064.5. ..... **Error! Bookmark not defined.**
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Impact TCR-1: Potential to cause a substantial adverse change in the significance of a tribal cultural resource. ..... **Error! Bookmark not defined.**
References Cited **26**

Attachments

Attachment A. National Register of Historic Places Listed in the SCAG Region

Attachment B. National Historic Landmarks Listed in the SCAG Region
Attachment C. California State Historical Landmarks Listed by Historical Period
Attachment D. California Historic Places in the SCAG Region
Attachment E. Native American Heritage Commission Sacred Lands File Search Results

Figures

Figure 1. Map of the SCAG Region Showing County Boundaries. 2

Tables

Table 1. County Policies and Ordinances Relevant to the SCAG Region 12
Table 2. Archaeological Resources Listed in the CHRIS 19
Table 3. National Register of Historic Places Properties within SCAG Region 19
Table 4. National Historic Landmarks within the SCAG Region 20
Table 5. California Historical Landmarks within the SCAG Region 20
Table 6. California Points of Historical Interest within the SCAG Region 20
Table 7. Sacred Lands Recorded by the NAHC in the SCAG Region Listed by County 24
Table 8. Formal Cemeteries in the SCAG Region Listed by County 24

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INTRODUCTION

The Southern California Association of Governments (SCAG) is the lead California Environmental Quality Act (CEQA) agency for the proposed 2020-2045 Regional Transportation Plan and Sustainable Communities Strategy (2020 RTP/SCS, Connect SoCal or the Plan). As the lead agency, SCAG has determined to prepare a Program Environmental Impact Report (PEIR) for the 2020 RTP/SCS.

SCAG is a federally designated Metropolitan Planning Organization (MPO) under Title 23, United States Code (USC) 134(d)(1). The SCAG region consists of six counties (Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties) and 191 cities (Figure 1). The 2020 RTP/SCS is a regional planning document updated every four years for the SCAG region. The 2020 RTP/SCS will outline the region's goals and policies for meeting current and future mobility needs, provide a foundation for transportation decisions by local, regional and state officials that are ultimately aimed at achieving a coordinated and balanced transportation system. The 2020 RTP/SCS will also identify the region's transportation needs and issues, recommended actions, programs, and a list of projects to address the needs consistent with adopted regional policies and goals, and document the financial resources needed to implement the 2020 RTP/SCS. It is important to note that SCAG does not implement individual projects in the RTP, as they will be implemented by local and state jurisdictions, and other agencies. SCAG has already initiated the development of the 2020 RTP/SCS and is working closely with county transportation commissions (CTCs) to compile a regional transportation project list that will build upon the list identified in the 2016 RTP/SCS (SCAG 2016). This report builds on the analysis and reproduces sections from the 2016 PEIR where appropriate.

In accordance with California Government Code §65080(b)(2)(B), the 2020 RTP/SCS will include a SCS, which details land use, housing and transportation strategies to reduce greenhouse gas (GHG) emissions from passenger vehicles (automobiles and light-duty trucks). SCAG's SCS is required to meet reduction targets for GHG emissions of 8 percent per capita by 2020 and 19 percent per capita by 2035 compared with 2005 emission levels, as set by the California Air Resources Board (ARB).

This report describes the current cultural resources within the region and evaluates the significance of the changes in cultural resources that would result from implementation of the proposed 2020 RTP/SCS. In addition, this report provides a framework of mitigation measures for subsequent, site-specific environmental review documents prepared by lead agencies to reduce identified impacts. Information sources utilized in this discussion include the Native American Heritage Commission (NAHC), National Park Service (NPS), California Office of Historic Preservation (OHP), and three of the OHP's Information Centers (ICs): Eastern Information Center (EIC), South Coastal Information Center (SCIC), South Central Coastal Information Center (SCCIC). Specific datasets utilized to characterize the existing conditions include the Sacred Lands File (SLF), National Historic Landmarks (NHLs), National Register of Historic Places (NRHP), California Historical Landmarks (CHLs), California Register of Historical Resources (CRHR), California Points of Historical Interest (CPHI), and the California Historical Resources Information System (CHRIS).

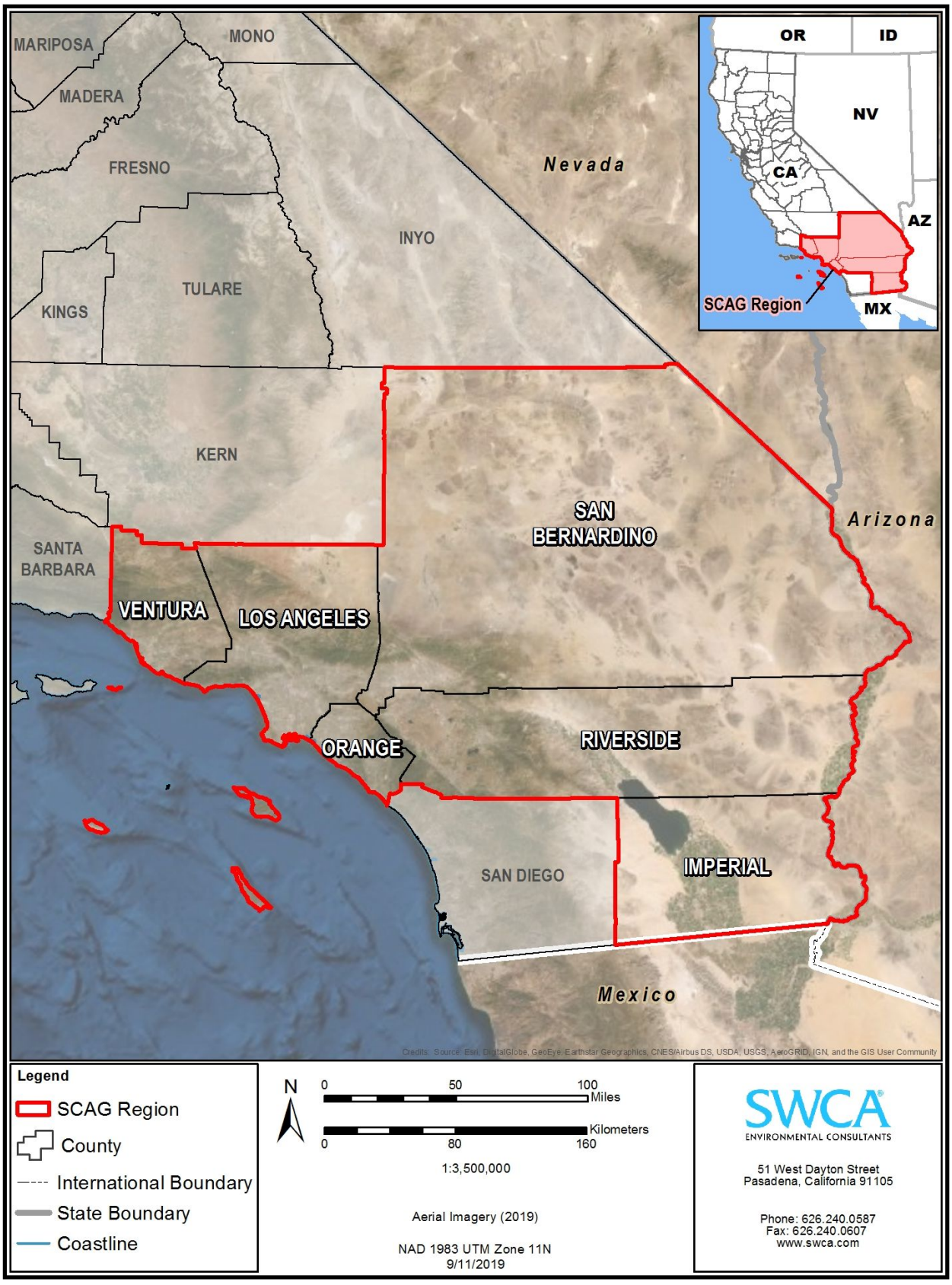

Figure 1. Map of the SCAG Region Showing County Boundaries.

REGULATORY SETTING

Federal

Antiquities Act of 1906

The Antiquities Act of 1906 was the first federal law to provide protection of historic and prehistoric resources located on federal land. This act prohibited destruction of antiquities on public land. It prohibited any excavation located on public land without permission of the appropriate Department Secretary. The Antiquities Act authorized the Secretaries of the Interior, Agriculture, and Army to grant permission to reputable institutions to conduct research (including excavation) to increase knowledge and the permanent preservation of antiquities in public museums. This act authorized the President to declare areas of federal lands as national monuments. Preservation of American Antiquities (43 Code of Federal Regulations [CFR] 3) implements the Antiquities Act. The Archaeological Resources Protection Act (ARPA) of 1979 clarified some of the mandates of the Antiquities Act and supersedes some portions of it. Criminal Acts and Penalties related to archaeological resources incorporated into ARPA, as was the requirement for a permit for the removal or destruction of Antiquities.

Historic Sites Act of 1935

The Historic Sites Act of 1935 established the national policy of preserving historic sites, buildings, and objects for public use. The implementation of this act established the Historic American Building Survey (HABS). This act gave the Secretary of the Interior the authority to preserve data on historic sites and to acquire and preserve archaeological and historic resources on federal land. The act provides for *the preservation of historic American sites, buildings, objects, and antiquities of national significance*. It refers to sites of *national significance* but was established as a public law and a code before the NHPA and NRHP defined *national significance* further.

U.S. Department of Transportation Act of 1966 (Section 4[f])

Section 4(f) of the U.S. Department of Transportation (USDOT) Act of 1966 prohibits the FTA and other USDOT agencies from using land from publicly owned parks, recreation areas (including recreational trails), wildlife and water fowl refuges, or public and private historic properties, unless there is no feasible and prudent alternative to that use and the action includes all possible planning to minimize harm to the property resulting from such a use.

National Historic Preservation Act of 1966

Section 106 of the NHPA states that federal agencies with direct or indirect jurisdiction over federally funded, assisted, or licensed undertakings must take into account the effect of the undertaking on any historic property that is included in or eligible for inclusion in the NRHP, and that the ACHP must be afforded an opportunity to comment, through a process outlined in the ACHP regulations, in 36 CFR 800, on such undertakings. The Section 106 process involves identification of significant historic resources within an "area of potential effect; determination if the undertaking will cause an adverse effect on historic resources; and resolution of those adverse effects through execution of a Memorandum of Agreement. In addition to the ACHP, interested members of the public, including individuals, organizations, and agencies (such as the OHP) are provided with opportunities to participate in the process.

NATIONAL REGISTER OF HISTORIC PLACES

The NRHP was established by the NHPA of 1966 as "an authoritative guide to be used by Federal, State, and local governments, private groups and citizens to identify the Nation's cultural resources and to indicate what properties should be considered for protection from destruction or impairment" (36 CFR 60.2). The NRHP recognizes properties that are significant at the national, state, and local levels. To be eligible for listing in the NRHP, a resource must be significant in American history, architecture, archaeology, engineering, or culture. Districts, sites, buildings, structures, and objects of potential significance must also possess integrity of location, design, setting, materials, workmanship, feeling, and association. A property is eligible for the NRHP if it is significant under one or more of the following criteria:

- **Criterion A:** It is associated with events that have made a significant contribution to the broad patterns of our history;
- **Criterion B:** It is associated with the lives of persons who are significant in our past;
- **Criterion C:** It embodies the distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components may lack individual distinction; and/or
- **Criterion D:** It has yielded, or may be likely to yield, information important in prehistory or history.

Ordinarily cemeteries, birthplaces, or graves of historic figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, and properties that are primarily commemorative in nature, are not considered eligible for the NRHP, unless they satisfy certain conditions. In general, a resource must be 50 years of age to be considered for the NRHP, unless it satisfies a standard of exceptional importance.

In addition to meeting these criteria, a property must retain historic integrity, which is defined in National Register Bulletin 15 as the "ability of a property to convey its significance" (NPS 1990). In order to assess integrity, the NPS recognizes seven aspects or qualities that, considered together, define historic integrity. To retain integrity, a property must possess several, if not all, of these seven qualities, which are defined in the following manner in National Register Bulletin 15:

1. **Location:** the place where the historic property was constructed or the place where the historic event occurred;
2. **Design:** the combination of elements that create the form, plan, space, structure, and style of a property;
3. **Setting:** the physical environment of a historic property;
4. **Materials:** the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property.
5. **Workmanship:** the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory;
6. **Feeling:** a property's expression of the aesthetic or historic sense of a particular period of time;
7. **Association:** the direct link between an important historic event or person and a historic property.

Procedures for listing a property in the NRHP are outlined in Procedures for State, Tribal, and Local Government Historic Preservation Programs (36 CFR 61) and in Determinations of Eligibility for Inclusion in the National Register (36 CFR 63). The Secretary of the Interior's Professional Qualifications Standards for who is allowed to conduct cultural resources studies and evaluations are outlined in 36 CFR 61.

Procedures for artifact curation are noted in Curation of Federally Owned and Administered Archeological Collections (36 CFR 79) for artifacts recovered under the authority of the Antiquities Act (16 USC 431- 433), the Reservoir Salvage Act (16 USC 469-469c), Section 110 of the NHPA (16 USC 470h-2), or the ARPA (16 USC 470aa-mm).

NATIONAL LANDMARKS PROGRAM

36 CFR 65 identifies and designates NHLs and encourages the long-range preservation of nationally significant properties that illustrate or commemorate the history and prehistory of the United States. The NPS administers the National Historic Landmarks Program on behalf of the Secretary of the Interior. Properties designated as NHLs are listed in the NRHP upon designation. All NHLs are NRHP Properties but not all NRHP Properties are NHLs. The criteria for designation as an NHL are similar to those for inclusion in the NRHP but are more stringent and have a greater emphasis on national significance. The Landmark Program Criterion 3, which does not have a counterpart in the NRHP regulations, applies to a resource that represents some *great idea or ideal of the American people*. Agencies should *to the maximum extent possible...minimize harm* to NHLs affected by undertakings.

Archeology and Historic Preservation: Secretary of the Interior Standards and Guidelines

As established by 36 CFR 67, one recognized method for generally avoiding adverse effects to historic properties is following the Secretary of the *Interior's Standards for Rehabilitation & Illustrated Guidelines for Rehabilitating Historic Buildings (Secretary's Standards)*. Created under Sections 101(f), (g), and (h), and Section 110 of the amended NHPA of 1966, the *Secretary's Standards* offer guidelines and approaches for preserving, maintaining, repairing, and replacing historical materials and features, as well as designing additions or making alterations. Guidance is also provided for new construction adjacent to historic properties, in order to avoid adverse impacts to neighboring properties through a change in setting and feeling. In this way, the *Secretary's Standards* outline common-sense approaches that allow for the retention of and/or sensitive changes to the distinctive materials and features that lend a historical resource its significance. These standards and guidelines are not regulatory in nature, nor do they set of interpret policy. Instead that serve as technical advice regarding archaeological and historic preservation procedures.

State CEQA Guidelines Section 15126.4(b)(1) states that a project determined to conform with the *Secretary's Standards* can generally be considered to be a project that will not cause material impairment to a historical resource. Nonconformance with the *Secretary's Standards,* however, does not uniformly result in material impairment to a historical resource, and some projects that do not comply with the *Secretary's Standards* do not cause a significant adverse impact. Project elements must be studied on a case-by-case basis, depending upon the resource and the reasons for its significance. However, projects that comply with the *Secretary's Standards* benefit from a regulatory presumption that they would have a less-than-significant adverse impact on historic resources.

Archaeological and Historic Preservation Act of 1974

The Archeological and Historic Preservation Act (AHPA) of 1974 augments requirements of the Historic Sites Act by requiring *the preservation of historical and archeological data (including relics and specimens)* that may be lost or destroyed by federal construction projects or federally licensed or assisted programs. This act requires data to be preserved even if a site is not preserved. It encourages in situ preservation but supports data recovery efforts for significant historic properties.

Archaeological Resources Protection Act of 1979

ARPA establishes that excavating, removing, damaging, altering, or defacing any archaeological resource more than 100 years of age, on public or American Indian lands, unless authorized by a permit, is a felony. This act was established to preserve and protect archaeological resources located on public and American Indian lands. Excavation or removal permits must be granted by the appropriate federal agency/land manager to qualified investigators, if the proposed work is anticipated to contribute to archaeological knowledge and is of public interest. Work on Indian lands requires separate American Indian approval. All materials recovered from public land are the property and responsibility of the United States. Collection of archaeological items from public lands is prosecuted as theft of government property. It prohibits the sale, purchase, exchange, transportation, receipt, or offering of any archaeological resource obtained in violation of any regulation or permit under the act or under any federal, state, or local law.

American Indian Religious Freedom Act

AIRFA establishes U.S. policy to protect and preserve American Indian, Eskimo, Aleut, and Native Hawaiian freedom to believe, express, and exercise traditional religions and ways. This includes access to religious sites and the freedom to worship through ceremonial and traditional rites. Federal agencies must determine if policy and procedure changes are needed to protect such rights and freedoms. The act is aligned with the First Amendment guarantee of religious freedom. It is not implemented with regulations.

Native American Graves Protection and Repatriation Act of 1990

The Native American Graves Protection and Repatriation Act (NAGPRA) of 1990 (25 USC 3001 et seq.) protects human remains, funerary objects, sacred objects, and items of cultural patrimony of indigenous peoples on federal lands. NAGPRA stipulates priorities for assigning ownership or control of such cultural items excavated or discovered on federal or tribal lands, or in the possession and control of an agency that has received federal funding.

NAGPRA also provides for the repatriation of human remains and associated items previously collected from federal lands and in the possession or control of a federal agency or federally funded repository. Implementing regulations are codified in 43 CFR Part 10. In addition to defining procedures for dealing with previously collected human remains and associated items, these regulations outline procedures for negotiating plans of action or comprehensive agreements for treatment of human remains and associated items encountered in intentional excavations, or inadvertent discoveries on federal or tribal lands.

This regulation (last amended March 21, 2007) provides a Plan of Action (POA) for NAGPRA. To prevent work stoppages that last 30 days each time cultural items (as defined by NAGPRA) are encountered, it allows the responsible federal agency to create a POA to follow if these cultural items (as defined by NAGPRA) are encountered. POAs require consultation with the *appropriate Indian tribe or Native Hawaiian organization with respect to tribal lands, if known or readily ascertainable, and, in the case of lands that have been selected by an Alaska Native Corporation or group organized pursuant to*

the Alaska Native Claims Settlement Act of 1971[43 USC 1601 et seq.], the appropriate corporation or group (25 USC 3002d).

State

California Implementation of Federally and State-Mandated Historic Preservation Program

The California OHP is responsible for administering federally and state mandated historic preservation programs to further the identification, evaluation, registration and protection of California's irreplaceable archaeological and historical resources under the direction of the State Historic Preservation Officer (SHPO), a gubernatorial appointee, and the State Historical Resources Commission.

OHP's responsibilities include:

- Identifying, evaluating, and registering historic properties;
- Ensuring compliance with federal and state regulatory obligations;
- Encouraging the adoption of economic incentives programs designed to benefit property owners; and
- Encouraging economic revitalization by promoting a historic preservation ethic through preservation education and public awareness and, most significantly, by demonstrating leadership and stewardship for historic preservation in California.

OHP reviews and comments on thousands of federally sponsored projects annually pursuant to Section 106 of the National Historic Preservation Act and state programs and projects pursuant to Sections 5024 and 5024.5 of the Public Resources Code (PRC). OHP also reviews and comments on local government and state projects pursuant to CEQA.

The purpose of OHP's project review program is to promote the preservation of California's heritage resources by ensuring that projects and programs carried out or sponsored by federal and state agencies comply with federal and state historic preservation laws and that projects are planned in ways that avoid any adverse effects to heritage resources. If adverse effects cannot be avoided, the OHP assists Lead Agencies in developing measures to minimize or mitigate such effects.

OHP administers the NRHP, the CRHR, the CHL, and the CPHI programs. Each program has different eligibility criteria and procedural requirements; all register nominations must be submitted to the Commission for review and approval.

NATIONAL REGISTER OF HISTORIC PLACES

Applications to nominate California properties to the NRHP are submitted to OHP for review and approval by the State Historic Resources Commission (SHRC). Authorized under the NHPA, the National Register is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect historic and archeological resources. The National Register is administered by the NPS, which is part of the U.S. Department of the Interior. Prior to forwarding Nomination Packages for consideration for the National Register, OHP must review the package and make a determination that it conforms to the guidelines published by NPS Bulletin 16A. If approved by the SHRC, the nomination is sent to the State Historic Preservation Officer for nomination to the National Register.

CALIFORNIA REGISTER OF HISTORICAL RESOURCES

Created in 1992 and implemented in 1998, the CRHR is "an authoritative guide in California to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change" (PRC Sections 21083.2 and 21084.1). Certain properties, including those listed in or formally determined eligible for listing in the NRHP and CHL numbered 770 and higher, are automatically included in the CRHR.

Other properties recognized under the CPHI program, identified as significant in historical resources surveys, or designated by local landmarks programs may be nominated for inclusion in the CRHR. According to PRC Section 5024.1(c), a resource, either an individual property or a contributor to a historic district, may be listed in the CRHR if the State Historical Resources Commission determines that it meets one or more of the following criteria, which are modeled on NRHP criteria:

- **Criterion 1:** It is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
- **Criterion 2:** It is associated with the lives of persons important in our past.
- **Criterion 3:** It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
- **Criterion 4:** It has yielded, or may be likely to yield, information important in history or prehistory.

Resources nominated to the CRHR must retain enough of their historic character or appearance to convey the reasons for their significance. Resources whose historic integrity does not meet NRHP criteria may still be eligible for listing in the CRHR.

CALIFORNIA HISTORICAL LANDMARKS

CHL are sites, buildings, features, or events that are of statewide significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value. The specific standards now in use were first applied in the designation of Landmark #770. CHL #770 and above are automatically listed in the CRHR.

To be designated as a CHL, a resource must meet at least one of the criteria listed below; have the approval of the property owner(s); be recommended by the State Historical Resources Commission; and be officially designated by the Director of California State Parks.

Criteria for Designation. To be eligible for designation as a Landmark, a resource must meet at least one of the following criteria:

- The first, last, only, or most significant of its type in the state or within a large geographic region (Northern, Central, or Southern California).
- Associated with an individual or group having a profound influence on the history of California.
- A prototype of, or an outstanding example of, a period, style, architectural movement or construction or is one of the more notable works or the best surviving work in a region of a pioneer architect, designer or master builder.

Effects of Designation:

- Limited protection: Environmental review may be required under CEQA if property is threatened by a project. Contact your local planning agency for more information.
- Local assessor may enter into contract with property owner for property tax reduction (Mills Act).
- Local building inspector must grant code alternative provided under State Historic Building Code. Registration will be recorded on the property deed.
- Automatic listing in CRHR.
- Bronze plaque at site (underwritten by local sponsor) ordered through OHP; highway directional sign available through local Department of Transportation (Caltrans) district office.

CALIFORNIA POINTS OF HISTORICAL INTEREST

If a site is primarily of local interest, it may meet the criteria for the CPHI program. California Points of Historical Interest are sites, buildings, features, or events that are of local (city or county) significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value. Points of Historical Interest designated after December 1997 and recommended by the State Historical Resources Commission are also listed in the California Register. No historical resource may be designated as both a Landmark and a Point. If a Point is subsequently granted status as a Landmark, the Point designation will be retired.

Criteria for Designation. To be eligible for designation as a Point of Historical Interest, a resource must meet at least one of the following criteria:

- The first, last, only, or most significant of its type within the local geographic region (City or County).
- Associated with an individual or group having a profound influence on the history of the local area.
- A prototype of, or an outstanding example of, a period, style, architectural movement or construction or is one of the more notable works or the best surviving work in the local region of a pioneer architect, designer or master builder.

Effects of Designation.

- Limited protection: Environmental review may be required under CEQA if property is threatened by a project. Contact your local planning agency for more information.
- Local assessor may enter into contract with property owner for property tax reduction (Mills Act).
- Local building inspector must grant code alternative provided under State Historic Building Code.
- Registration is recorded on property deed.
- A small enamel directional sign (no text) available through local Caltrans district office.
- Owner may place his or her own marker at the site.

California Environmental Quality Act

CEQA requires a lead agency to analyze whether historic and/or archaeological resources may be adversely affected by a proposed project. Under CEQA, a "project that may cause a substantial adverse change in the significance of a historic resource is a project that may have a significant effect on the

environment" (PRC Section 21084.1). Answering this question is a two-part process: first, the determination must be made as to whether the proposed project involves cultural resources. Second, if cultural resources are present, the proposed project must be analyzed for a potential "substantial adverse change in the significance" of the resource.

California Coastal Act

The California Coastal Act (CCA; PRC Sections 30000 et seq.) was enacted in 1976, four years after the Coastal Commission was created by Proposition 20. It requires the implementation of reasonable mitigations measures to protect archaeological resources as identified by the SHPO when development would adversely impact such resources.

California Health and Safety Code, Section 7050 and Sections 18950 through 18961

Section 7050 of the California Health and Safety Code, pursuant to Section 50907.9 of the PRC, empowers the NAHC to regulate Native American concerns regarding the excavation, treatment, and disposition of Native American cultural resources. These duties include, when applicable, the authorization to resolve disputes relating to the treatment and disposition of Native American human remains and such items as are associated with burials. Section 7050 requires the county coroner, if they have determined that the remains are not subject to their authority and recognizes or believes them to be those of a Native American, to contact the NAHC. Upon this notification of discovery, the NAHC notifies the Native American group or individual most likely descended (MLD) from the deceased.

California Penal Code Section 622 – Destruction of Historical Properties

Penal Code Section 622 establishes that the willful injury, disfiguration, defacement, or destruction of any object, thing, or site, of archaeological or historical interest or value, as a misdemeanor. This applies to resources situated on both private and public land. Furthermore, Section 622.5 sets the applicable penalties for any such damage or removal of cultural resources.

California Public Resources Code, Sections 5024, 5024.5, 5025, 5028, 5097.5, 5097.9, and 5097.98-99

In an effort to establish a state program to preserve historical resources, the California State Legislature enacted the California PRC sections 5024 and 5024.5. These sections require that all state agencies take actions to ensure the preservation of state-owned historical resources under their jurisdictions. This includes evaluation of resources for NRHP and CHL eligibility, maintain an up to date inventory of all eligible and listed resources to these registries, and managing resources so as to retain their historical characteristics.

Section 5025 of the California PRC established the need for state repositories dedicated to the preservation and restoration of artifacts related to the history of aviation within California and the United States. This included the designation of a state aviation museum.

Section 5028 of the PRC specifies that no structure that is listed on the NRHP, on the California Register of Historical Places, or on any local public register of historic places, and that has been damaged due to a natural disaster, including, but not limited to, an earthquake, fire, or flood, may be demolished, destroyed, or significantly altered, except for restoration to preserve or enhance its historical values, unless the

structure presents an imminent threat to the public of bodily harm or of damage to adjacent property, or unless the OHP determines, that the structure may be demolished, destroyed, or significantly altered.

PRC section 5097.5 defines the unauthorized disturbance or removal of archaeological, historical, or paleontological resources, situated on public land, as a misdemeanor. In addition, this section of the PRC prohibits the willful and knowing destruction of object of antiquity, without a permit, on public land, and creates criminal sanctions of such violations. It was amended in 1987 to require consultation with the California NAHC whenever Native American Graves are found, and to designate that the removal or possessions of remains or artifacts are felonies, punishable by law.

Section 5097.9 created the California NAHC with the purpose of making recommendations that can encourage private property owners to protect and preserve sacred places in a natural state and allow Native Americans appropriate access for ceremonial or spiritual practices. As part of their duties, the Commission is authorized to assist tribal members in obtaining similar access to sacred sites that are situated on public lands, as well as to assist State agencies in negotiations with federal agencies related to the protection of Native American sacred places located on federally administered lands within the borders of California.

PRC Sections 5097.98 through 5097.99 requires that the California NAHC must be consulted upon the discovery and identification of and Native American graves. Furthermore, these sections established that it is illegal to take or possess remains or artifacts taken from Native American graves after 1984. In addition, any violations of these sections that occur after January 1, 1988, are considered felonies, punishable by law.

Senate Bill 18 – Traditional Tribal Cultural Places

Signed into law in 2004, Senate Bill (SB) 18 requires that cities and counties notify and consult with California Native American tribes about proposed local land use planning decisions for the purpose of protecting traditional tribal cultural sites. Cities and counties must provide general and specific plan amendment proposals to California Native American tribes that the NAHC has identified as having traditional lands located within the city's boundaries. If requested by the Native American tribes, the city must also conduct consultations with the tribes prior to adopting or amending their general and specific plans.

Assembly Bill 52

Assembly Bill 52 of 2014 (AB 52) amended PRC Section 5097.94 and added PRC Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3.

AB 52 formalizes the lead agency–tribal consultation process, requiring the lead agency to initiate consultation with California Native American groups that are traditionally and culturally affiliated with the project, including tribes that may not be federally recognized. Lead agencies are required to begin consultation prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report.

Section 4 of AB 52 adds Sections 21074(a) and (b) to the PRC, which address tribal cultural resources and cultural landscapes. Section 21074(a) defines tribal cultural resources as one of the following:

1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:
   A. Included or determined to be eligible for inclusion in the CRHR.

B. Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.

2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

Section 1(a)(9) of AB 52 establishes that "a substantial adverse change to a tribal cultural resource has a significant effect on the environment." Effects on tribal cultural resources should be considered under CEQA. Section 6 of AB 52 adds Section 21080.3.2 to the PRC, which states that parties may propose mitigation measures "capable of avoiding or substantially lessening potential significant impacts to a tribal cultural resource or alternatives that would avoid significant impacts to a tribal cultural resource." Further, if a California Native American tribe requests consultation regarding project alternatives, mitigation measures, or significant effects to tribal cultural resources, the consultation shall include those topics (PRC Section 21080.3.2[a]). The environmental document and the mitigation monitoring and reporting program (where applicable) shall include any mitigation measures that are adopted (PRC Section 21082.3[a]).

Executive Order B-10-11

Executive Order B-10-11 establishes the states policy regarding Native American groups, including the recognition of their sovereign rights, and the states desire that all agencies subject to executive control is to encourage the communication and consultation with California Native tribes. Furthermore, in order to implement this policy, it created the position of Governor's Tribal Advisor as part of the Office of the Governor of California. This position was established to serve as the direct link between the Governor's Office and the numerous tribal governments regarding matters of policy, including legislation and regulation.

Local

County General Plans

In addition to federal and state regulations, cities and counties in the SCAG region may also provide regulatory protection and advisement regarding cultural resources (Table 1). California law requires that a general plan include seven elements (land use, open space, conservation, housing, circulation, noise, and safety). Many jurisdictions incorporate policies related to cultural and historical resources into the conservation element. Other jurisdictions choose to prepare a separate (optional) element dealing with cultural and/or historic preservation issues. Many jurisdictions also prepare ordinances addressing cultural resources and historic preservation.

Table 1. County Policies and Ordinances Relevant to the SCAG Region

County	County Policies and Ordinances
Imperial	Conservation and Open Space Element of General Plan Policy Numbers: One Policy, Section IV.B. Policies Specific to Archaeological Resources: No Policies Specific to Historic Resources: No

County	County Policies and Ordinances
Los Angeles	Chapter 9: Conservation and Natural Resources Element of General Plan Policy Numbers: C/NR 14.1 – C/NR 14.6 Policies Specific to Archaeological Resources: Yes, brief Polices Specific to Historic Resources: Yes, brief
Orange	Chapter Vi: Resources Element Policy Numbers: Goals 1.1 – 3.4 with multiple objectives and policies Policies Specific to Archaeological Resources: Yes, extensive Polices Specific to Historic Resources: Yes, extensive
Riverside	Chapter 5: Multipurpose Open Space Element of General Plan Policy Numbers: OS 19.1 – 19.10 Policies Specific to Archaeological Resources: Yes; OS 19.2-19.4 Polices Specific to Historic Resources: Yes; OS 19.5 – 19.7
San Bernardino	Cultural Resources Element of General Plan Policy Numbers: CR-1 – CR-2 Policies Specific to Archaeological Resources: Yes; CR-1.1, CR-2.3 Policies Specific to Historic Resources: Yes; CR-2.1, CR-2.2
Ventura	Chapter 1: Resources (Subchapter 1.8) of General Plan Policy Numbers: Goals 1.8.1.1-2, 1.8.2.1-6, and 1.8.3.1-3 Policies Specific to Archaeological Resources: Yes, Policy 1.8.2.4 Policies Specific to Historic Resources: Yes, Policy 1.8.2.6

City General Plans and Ordinances

In accordance with Sections 6530(c) and (d) of the California Government Code, like the six counties in the SCAG region, all cities are required to have a conservation element and an open space element, as mandatory elements of their general plans. Many city general plans have provisions for historic districts and protection of locally important cultural resources that may or may not meet the criteria for eligibility for listing in the NRHP or CRHR.

CULTURAL CONTEXT

A brief context statement is provided below. The cultural context is organized by three broad temporal-cultural periods: Prehistoric, Protohistoric, and Historic. The Prehistoric and Historic periods are further divided into chronological sequences. The Prehistoric period is discussed in terms of four "horizons" that were established in the mid-twentieth century and continue to be developed by archaeologists. The Prehistoric and Protohistoric periods are intended to reflect Native American history prior to Spanish presence in the SCAG region (Prehistoric period) and shortly after (Protohistoric period). The Prehistoric horizons are based primarily on archaeological data, whereas information from the Protohistoric period also includes oral history and historical records. The divisions within the Historic period are based strictly on the years of Spanish, Mexican, and American government administration. As a result, the Protohistoric period has some overlap with the Spanish period, the former being affiliated exclusively with Native Americans, the latter with Europeans or other non-Native Americans.

Prehistoric

In the last several decades, researchers have devised numerous prehistoric chronological sequences to aid in understanding cultural changes in southern California. Building on early studies and focusing on data

synthesis, Wallace (1955, 1978) developed a prehistoric chronology for the southern California coastal region that is still widely used today and is applicable to near-coastal and many inland areas. Four horizons are presented in Wallace's prehistoric sequence: Early Man, Milling Stone, Intermediate, and Late Prehistoric. The summary of prehistoric chronological sequences for southern California coastal and near-coastal areas presented below is a composite of information in Wallace (1955) and Warren (1968), as well as more recent studies using radiocarbon dates obtained by researchers in the last three decades, including Koerper and Drover (1983).

Horizon I: Early Man (ca. 10,000–6,000 BC)

The earliest accepted dates for archaeological sites on the southern California coast are from two of the northern Channel Islands, located off the coast of Santa Barbara. On San Miguel Island, Daisy Cave clearly establishes the presence of people in this area approximately 10,000 years ago (Erlandson 1991:105). On Santa Rosa Island, human remains have been dated from the Arlington Springs site to approximately 13,000 years ago (Johnson et al. 2002). Present-day Orange and San Diego counties contain several sites dating from 9,000 to 10,000 years ago (Byrd and Raab 2007:219; Macko 1998:41; Mason and Peterson 1994:55–57; Sawyer and Koerper 2006). Although the dating of these finds remains controversial, several sets of human remains from the Los Angeles Basin (e.g., "Los Angeles Man," "La Brea Woman," and the Haverty skeletons) apparently date to the Middle Holocene, if not earlier (Brooks et al. 1990; Erlandson et al. 2007:54).

Recent data from Horizon I sites indicate that the economy was a diverse mixture of hunting and gathering, with a major emphasis on aquatic resources in many coastal areas (e.g., Jones et al. 2002), and a greater emphasis on large-game hunting inland.

Horizon II: Milling Stone (6,000–3,000 BC)

Set during a drier climatic regime than the previous horizon, the Milling Stone horizon is characterized by subsistence strategies centered on collecting plant foods and small animals. The importance of the seed processing is apparent in the dominance of stone grinding implements in contemporary archaeological assemblages, namely milling stones (metates) and handstones (manos). Recent research indicates that Milling Stone horizon food procurement strategies varied in both time and space, reflecting divergent responses to variable coastal and inland environmental conditions (Byrd and Raab 2007:220).

Horizon III: Intermediate (3,000 BC–AD 500)

The Intermediate horizon is characterized by a shift toward a hunting and maritime subsistence strategy, along with a wider use of plant foods. An increasing variety and abundance of fish, land mammal, and sea mammal remains are found in sites from this horizon along the California coast. Related chipped stone tools suitable for hunting are more abundant and diversified, and shell fishhooks became part of the toolkit during this period. Mortars and pestles became more common during this period, gradually replacing manos and metates as the dominant milling equipment and signaling a shift away from the processing and consuming of hard seed resources to the increasing importance of the acorn (e.g., Glassow et al. 1988).

Horizon IV: late Prehistoric (AD 500–Historic Contact)

In the Late Prehistoric horizon, there was an increase in the use of plant food resources in addition to an increase in land and sea mammal hunting. There was a concomitant increase in the diversity and complexity of material culture during the Late Prehistoric horizon, demonstrated by more classes of artifacts. The recovery of a greater number of small, finely chipped projectile points suggests increased

use of the bow and arrow rather than the atlatl (spear thrower) and dart for hunting. Steatite cooking vessels and containers are also present in sites from this time, and there is an increased presence of smaller bone and shell circular fishhooks; perforated stones; arrow shaft straighteners made of steatite; a variety of bone tools; and personal ornaments such as beads made from shell, bone, and stone. There was also an increased use of asphalt for waterproofing and as an adhesive.

By AD 1000, fired clay smoking pipes and ceramic vessels were being used at some sites (Drover 1971, 1975; Meighan 1954; Warren and True 1961). The scarcity of pottery in coastal and near-coastal sites implies that ceramic technology was not well developed in that area, or that occupants were trading with neighboring groups to the south and east for ceramics. The lack of widespread pottery manufacture is usually attributed to the high quality of tightly woven and watertight basketry that functioned in the same capacity as ceramic vessels.

During this period, there was an increase in population size accompanied by the advent of larger, more permanent villages (Wallace 1955:223). Large populations and, in places, high population densities are characteristic, with some coastal and near-coastal settlements containing as many as 1,500 people. Many of the larger settlements were permanent villages in which people resided year-round. The populations of these villages may have also increased seasonally.

In Warren's (1968) cultural ecological scheme, the period between AD 500 and European contact, which occurred as early as 1542, is divided into three regional patterns: Chumash (Santa Barbara and Ventura counties), Takic/Numic (Los Angeles, Orange, and western Riverside counties), and Yuman (San Diego County). The seemingly abrupt introduction of cremation, pottery, and small triangular arrow points in parts of modern-day Los Angeles, Orange, and western Riverside counties at the beginning of the Late Prehistoric period is thought to be the result of a Takic migration to the coast from inland desert regions. Modern Gabrielino, Juaneño, and Luiseño people in this region are considered the descendants of the Uto-Aztecan, Takic-speaking populations that settled along the California coast in this period.

Protohistoric

The Protohistoric period does not have a clear chronological timeline but may be defined by the boundaries of 500 to approximately 1600. Although early Spanish explorers and mission fathers recorded information on the local Native American populations, professional anthropological studies did not begin until the end of the 19th century after most of the Indian groups had been decimated by genocide, mixed with other Indigenous groups, were assimilated by Spanish, Mexican, and American cultures, or were forced to relocated to reservations.

The SCAG region once was the home to at least 11 distinct Native American groups. These include the Cahuilla, Chumash, Gabrielino, Halchidhoma, Kitanemuk, Luiseno, Mohave, Quechan, Serrano, Southern Paiute, Tataviam, and Tipai. The territorial boundaries of the Native Americans who were residing in Southern California at the time of first European contact do not coincide with today's political boundaries. Moreover, many tribal boundaries overlapped, and most groups migrated within their general boundaries throughout the years.

Between 1851 and 1852 federal agents, negotiated 18 treaties that included 139 tribes, to establish reservation lands across almost a third of California. The treaties were not ratified by Congress, and as a rule, Congress no longer negotiated with American Indians from 1871. However, the federal government continued the policy of forced migration and established a number of reservations in Southern California between 1875 and 1891. In all 17 reservations were established within the SCAG region, within Imperial, Riverside, and San Bernardino Counties. Riverside County holds the most, including Chemehuevi, Fort Mojave, Torres, Cabazon, Augustine, Santa Rosa, Ramona, Pechanga, Soboba, Agua Caliente, Mission

Creek, and Morongo. Within Imperial County are the Martinez, Fort Yuma, and Colorado River reservations. The two reservations in San Bernardino County are the San Manuel and Twentynine Palms reservations. No reservations were established in Los Angeles, Ventura, or Orange Counties as it was believed that the local Native American groups in those counties had become extinct.

Historic

Post-contact history for the state of California is generally divided into three periods: the Spanish period (1769–1822), the Mexican period (1822–1848), and the American period (1848–present). Although there were brief visits by Spanish, Russian, and British explorers from 1529 to 1769, the Spanish period in California began with the establishment of Mission San Diego de Alcalá, the first of 21 missions constructed between 1769 and 1823. Independence from Spain marks the beginning of the Mexican period, and the signing of the Treaty of Guadalupe Hidalgo in 1848, ending the Mexican-American War, signals the beginning of the American period, when California became a territory of the United States.

Spanish Period (1769–1821)

Spanish explorers made numerous expeditions into California between the mid-1500s and mid-1700s. In the process of delivering supplies to another expedition, Hernando de Alarcon followed the Colorado River in 1950 and reached what is now Andrade in Imperial County. Two years later, in search of the legendary Northwest Passage, Juan Rodríquez Cabríllo stopped in 1542 at present-day San Diego Bay. With his crew, Cabríllo explored the shorelines of present Catalina Island as well as San Pedro and Santa Monica Bays. Much of the present California and Oregon coastline was mapped and recorded in the next half-century by Spanish naval officer Sebastián Vizcaíno. Vizcaíno's crew also landed on Santa Catalina Island and at San Pedro and Santa Monica Bays, giving each location its long-standing name. The Spanish crown laid claim to California based on the surveys conducted by Cabríllo and Vizcaíno (Bancroft 1886:96–99; Gumprecht 2001:35).

More than 200 years passed before Spain began the colonization and inland exploration of Alta California. With the renewed interest into the area by other European nations, such as Britain, France, and Russia, who all sent expeditions into the area, Spain officially moved to settle the territory. The 1769 overland expedition by Captain Gaspar de Portolá marks the beginning of California's Historic period, occurring just after the King of Spain installed the Franciscan Order to direct religious and colonization matters in assigned territories of the Americas. With a band of 64 soldiers, missionaries, Baja (lower) California Native Americans, and Mexican civilians, Portolá established the Presidio of San Diego, a fortified military outpost, as the first Spanish settlement in Alta California. In July 1769, while Portolá was exploring Southern California, Franciscan Fr. Junípero Serra founded Mission San Diego de Alcalá at Presidio Hill, the first of the 21 missions that would be established in Alta California by the Spanish and the Franciscan Order between 1769 and 1823.

These missions were part of the Spanish plan that included the settlement of three pueblos and four presidios, that would provide Spain control over Alta California. While one of the pueblos, Branciforte would fail, the other aspects of this plan would be successful.

Mexican Period (1822–1848)

A major emphasis during the Spanish period in California was the construction of missions and associated presidios to integrate the Native American population into Christianity and communal enterprise. Incentives were also provided to bring settlers to pueblos or towns, but just three pueblos were established during the Spanish period, only two of which were successful and remain as California cities (San José

and Los Angeles). Several factors kept growth within Alta California to a minimum, including the threat of foreign invasion, political dissatisfaction, and unrest among the indigenous population. After more than a decade of intermittent rebellion and warfare, New Spain (Mexico and the California territory) won independence from Spain in 1821. In 1822, the Mexican legislative body in California ended isolationist policies designed to protect the Spanish monopoly on trade, and decreed California ports open to foreign merchants.

Extensive land grants were established in the interior during the Mexican period, in part to increase the population inland from the more settled coastal areas where the Spanish had first concentrated their colonization efforts. The secularization of the missions following Mexico's independence from Spain resulted in the subdivision of former mission lands and establishment of many additional ranchos.

During the supremacy of the ranchos (1834–1848), landowners largely focused on the cattle industry and devoted large tracts to grazing. Cattle hides became a primary southern California export, providing a commodity to trade for goods from the east and other areas in the United States and Mexico. The number of nonnative inhabitants increased during this period because of the influx of explorers, trappers, and ranchers associated with the land grants. Many newcomers were Americans that had traveled west and married into landed families. The rising California population contributed to the introduction and rise of diseases foreign to the Native American population, who had no associated immunities.

An attempted northern California revolt in 1946, was quickly stopped, but the American Navy arrived soon after, and on January 13, 1847, Governor Pio Pico and Commander Jose Maria Flores officially surrender to US Captain John C. Freemont. The Treaty of Guadalupe Hidalgo in 1848 was the end of Mexican rule in California.

American Period (1848–Present)

The Mexican–American War officially ended with the Treaty of Guadalupe Hidalgo in 1848, which resulted in the annexation of California and much of the present-day southwest, ushering California into its American period. While gold was first found by Francisco Lopez in 1842 within Placerita Canyon, it wasn't until James Marshall's gold find in 1948 that the Gold Rush began, drastically changing California.

California officially became a state with the Compromise of 1850, which also designated Utah and New Mexico (with present-day Arizona) as U.S. territories. With Statehood and the population boom, legal battles over the land rights of the rancho's were prevalent. By the time American courts decided upon each case, many of the ranches had already be lost by their original Mexican landowners, through deceit, debt, or marriage.

With the huge influx of people seeking gold, the cattle industry flourished as cattle were no longer desired mainly for their hides, but also as a source of meat and other goods. During the 1850s cattle boom, rancho vaqueros drove large herds from southern to northern California to feed that region's burgeoning mining and commercial boom. Cattle were at first driven along major trails or roads such as the Gila Trail or Southern Overland Trail, then were transported by trains when available. The cattle boom ended for southern California as neighbor states and territories drove herds to northern California at reduced prices. Operation of the huge ranchos became increasingly difficult, and droughts severely reduced their productivity (Cleland 1941). With that, many of the rancho lands were transformed to agricultural fields.

The connection of California to the rest of the United States by rail in the 1970s resulted in another population boom, as well as a land boom. Towns began to be established along rail lines, and with them

additional mineral deposits were identified and mined. These mining camps existed for only short periods of time before being abandoned.

EXISTING CONDITIONS

This section characterizes the existing conditions related to cultural resources in the SCAG region, which encompasses an area of more than 38,000 square miles within the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. The baseline conditions in the SCAG region are described for 1) cultural resources, 2) Native American sacred sites, and 3) cemeteries. The discussion of cultural resources includes archaeological resources associated with various time periods, as well as non-archaeological resources such as buildings, structures, and other elements of the historical built environment.

Cultural Resources

Historical resources are defined in Section 15064.5(a) of the State CEQA Guidelines and are evaluated according to the provisions of Section 15126.4 of the State CEQA Guidelines. Furthermore, AB 52 requires that CEQA lead agencies consider the effects of projects on tribal cultural resources. Such resources may be underrepresented in the record and archival information available in the information centers, existing in developed areas of a community, where development occurred prior to enactment of CEQA.

Archaeological resources consist of the physical remains of past human activity, and the occupation of Southern California by humans for thousands of years has created innumerable such resources. If an archeological resource is determined to be a historical resource as defined in Section 15064.5(a) of the State CEQA Guidelines, it is evaluated in light of the provisions of Section 15126.4 of the State CEQA Guidelines. If the resource is not a historical resource but meets the definition of a unique archeological resource as established in Section 21083.2 of the PRC, the site is required to be treated in accordance with the provisions of Section 21083.2 of the PRC. For project that are subject to the provisions of AB 52 (i.e., when a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report are prepared), consideration must include archeological resources that are determined to be tribal cultural resources. Such resources may be underrepresented in the record and archival information available in the information centers, as they may be present in existing developed areas, developed prior to enactment of CEQA.

As of July 2019, over 109,000 archaeological resource locations have been identified in the SCAG region (Table 2). In order to protect these archaeological sites, and the artifacts contained within their boundaries, from scavenging and looting, their locations are confidential. Under state law, detailed information about these sites, especially their location, is considered confidential.

There are numerous historical resources that have been listed or determined eligible for listing in the NRHP and/or the CRHR. These historical sites are generally open to the public. Additional registries are maintained by counties, cities, and local historical societies within the SCAG region, that may include sites not listed or determined eligible by the NRHP or CRHR.

Table 2. Archaeological Resources Listed in the CHRIS

County	Archaeological Resources	Total Resources (Archaeological and Historic Resources)
Imperial*	12,398	16,500 (approx.)
Los Angeles	4,886	18,599
Orange	1,775	5,498
Riverside**	20,200 (approx.)	28,612
San Bernardino	8,236	36,924
Ventura	1,864	3,226
Total	**49,359**	**109,359**

Source: SWCA Environmental Consultants, Inc (2019)

* The SCIC database is currently being revised and the count of total resources is an approximation based on current listings. The number of resources with archaeological components is taken from the 2016 General Plan, Open Space & Conservation Element. The total number of resources was approximated by SCIC staff and provided to SWCA via email on July 1, 2019.

** The EIC database is not currently configured to distinguish historic-period archaeological resources from non-archaeological historic resources (i.e., buildings, structures, etc.). Instead, the EIC provided tallies of resources with components dating to the respective periods as follows: 13,993 Prehistoric archaeological sites; 1 Protohistoric archaeological site; 15,313 Historic period cultural resources (archaeological sites and historic resources); 202 sites of unknown cultural or temporal affiliation. Because an individual resource may have components that fall into multiple periods, the sum of all resources listed for each period is greater than the total number of resources. The total number of archaeological sites was estimated for Riverside County to allow for comparison with other counties across the SCAG region. This was done for Riverside County by taking the 13,994 archaeological sites listed as Prehistoric and Protohistoric (because these resources can only be archaeological sites) and adding an estimated fraction of those listed as Historic and Unknown Period, which could consist of historic resources (i.e., non-archaeological). The estimate provided here assumes 40 percent of those resources listed as Historic or Unknown Period have archaeological components that are not multi-component resources (and already tallied as Prehistoric or Protohistoric).

Federal Registers

In order to coordinate and support efforts, both public and private, to identify, evaluate, and protect historic and archaeological resources, the federal government created the NRHP, as part of the NHPA of 1996. This register serves as the official list of buildings, structures, objects, sites, and districts deemed by the federal government as worthy of preservation, as determined by evaluations along uniform criteria. There are currently over 85,000 listings in NRHP, of which 1,123 are located in the SCAG region (Table 3). A complete list of these resources is located in Appendix A, Table A-1.

Table 3. National Register of Historic Places Properties within SCAG Region

County	Listed	Approved	Accepted	Eligible	Total
Imperial	10	0	0	13	23
Los Angeles	564	2	1	142	709
Orange	124	0	0	17	141
Riverside	87	0	0	7	94
San Bernardino	69	0	0	34	103
Ventura	37	0	0	16	53
Grand Total	**891**	**2**	**1**	**229**	**1123**

Source: NPS (accessed 7/1/2019)

Also recognized by the federal government are NHLs. These are districts, sites, buildings, structures, and objects that the Secretary of the Interior has determined to be significant to the nation's history and culture or illustrate events or places that were important contributions to the historical development of the

United States. There are currently over 2,500 listings in the NHL Database of which 29 are located in the SCAG region (Table 4). A full accounting of these landmarks is located within Appendix B, Table B-1.

Table 4. National Historic Landmarks within the SCAG Region

County	Structure	Building	Site	District	Total
Imperial	0	0	0	0	0
Los Angeles	13	5	2	3	23
Orange	2	0	0	0	2
Riverside	2	0	0	0	2
San Bernardino	0	1	0	0	1
Ventura	0	0	0	1	1
Total	**17**	**6**	**2**	**4**	**29**

Source: NPS (accessed 7/1/2019)

State Registers

The State of California keeps a record of districts, places, sites, and buildings determined to hold historic or prehistoric significance. Two registers, administered by the California OHP and the SHRC, are part of the California Department of Parks and Recreation. There are over 1,000 listings in the register of CHL, of which 226 are located in the SCAG region (Table 5), and with the CPHI, there are 850 listings, of which 284 are located in the SCAG region (Table 6).

Table 5. California Historical Landmarks within the SCAG Region

County	Prehistoric, Protohistoric	Prehistoric, Protohistoric, Spanish	Prehistoric, Protohistoric, Mexican	Prehistoric, American	Protohistoric	Spanish	Mexican	American	Total
Los Angeles	0	0	0	0	0	4	1	9	**14**
Orange	1	1	0	1	0	17	13	71	**104**
Riverside	0	1	0	0	0	2	4	19	**26**
San Bernardino	5	1	1	0	1	3	4	12	**27**
Imperial	1	1	1	0	0	4	7	27	**41**
Ventura	0	0	0	0	0	7	4	3	**14**
Total	**7**	**4**	**2**	**1**	**1**	**37**	**33**	**141**	**226**

Source: OHP (accessed 7/1/2019)

Table 6. California Points of Historical Interest within the SCAG Region

County	Points of Historical Interest
Imperial	4
Los Angeles	64
Orange	21

County	Points of Historical Interest
Riverside	72
San Bernardino	119
Ventura	4
Grand Total	**284**

Source: OHP (accessed 7/1/2019); Sapphos Environmental (2015)

Historic places are also recorded and can be identified in county, city, and local registers. These resources are also under various ordinances specific to the county, city, or locality. City and county registers may also be maintained by various county and city commissions. Examples of these types of organizations include the Riverside County Historical Commission, the Santa Ana Historic Resources Commission, and the Santa Monica Landmarks Commission. Local groups have also created registries within their area of interest, generally at the community level. An example of such local registers is the Ontario Heritage, a local non-profit organization that aims to protect the historic and cultural resources of Ontario, California. Furthermore, several local cities and counties maintain historic districts. Projects within the borders of these districts are often subject to additional conditions and review by planning staff and historic commissions. A full detailing of these resources is located in Appendix C (Tables C-1 through C-4) and Appendix D (Table D-1).

Native American Sacred Sites

Within the SCAG region there are 16 federally recognized tribes (84 FR 1200) with lands administered as federal Indian reservations, also known as pueblos, rancherias, missions, villages, communities, etc. (Bureau of Indian Affairs 2019):

- Agua Caliente Band of Cahuilla Indians
- Augustine Band of Mission Indians
- Cabazon Band of Mission Indians
- Cahuilla Band of Indians
- Chemehuevi Indian Tribe
- Colorado River Indian Tribe
- Fort Mojave
- Morongo Band of Mission Indians
- Quechan Indian Tribe
- Pechanga Band of Luiseño Indians
- Ramona Band of Cahuilla Mission Indians
- San Manuel Band of Mission Indians
- Santa Rosa Band of Cahuilla Indians
- Soboba Band of Luiseno Indians
- Torres-Martinez Desert Cahuilla Indians

- Twenty-Nine Palms Band of Mission Indians

Recognizing that tribal groups may have expertise with regard to their tribal history and practices that others may not, AB 52 requires lead agencies to provide notice to all tribal groups that are traditionally, culturally, and historically affiliated with the geographic area of a proposed project if they have requested such notice. Some of these groups are not federally recognized, have had their federal recognition revoked, or are in the processes of requesting federal recognition. The NAHC maintains the list of tribes that are traditionally and culturally affiliated within a specified geographic area. Below is a list of tribes on the NAHC's AB 52 notification list within the SCAG region, including the federally recognized groups listed above:

- Agua Caliente Band of Cahuilla Indians
- Augustine Band of Cahuilla Indians
- Barbareño/Ventureno Band of Mission Indians
- Big Pine Paiute Tribe of the Owens Valley
- Cabazon Band of Mission Indians
- Cahuilla Band of Indians
- Campo Band of Digueño Mission Indians
- Chemehuevi Indian Tribe
- Coastal Band of the Chumash Nation
- Colorado River Indian Tries of the Colorado River Indian Reservation
- Ewiiaapaayp Band of Kumeyaay Indians
- Fernandeño Tataviam Band of Mission Indians
- Fort Mojave Indian Tribe
- Gabrieleño Band of Mission Indians–Kizh Nation
- Gabrieleno/Tongva San Gabriel Band of Mission Indians
- Gabrielino Tongva Indians of California Tribal Council
- Gabrielino/Tongva Nation
- Gabrielino-Tongva Tribe
- Jamul Indian Village
- Juaneño Band of Mission Indians, Acjachemen Nation
- Kern Valley Indian Community
- Kitanemuk & Yowlumne Tejon Indians
- Kwaaymii Laguna Band of Mission Indians
- La Jolla Band of Luiseño Indians
- La Posta Band of Digueño Mission Indians
- Los Coyotes Band of Cahuilla and Cupeno Indians

- Manzanita Band of Kumeyaay Nation
- Morongo Band of Mission Indians
- Pala Band of Mission Indians
- Pauma Band of Luiseno Indians
- Pechanga Band of Luiseño Indians
- Quechan Tribe of the Fort Yuma Indian Reservation
- Ramona Band of Cahuilla
- Rincon Band of Luiseño Indians
- San Luis Obispo County Chumash Council
- San Luis Rey Band of Mission Indians
- San Manuel Band of Mission Indians
- San Pasqual Band of Diegueño Mission Indians
- Santa Rosa Band of Cahuilla Indians
- Santa Ynez Band of Chumash Indians
- Serrano Nation of Mission Indians
- Soboba Band of Luiseno Indians
- Sycuan Band of the Kumeyaay Nation
- Torres-Martinez Desert Cahuilla Indians
- Twenty-Nine Palms Band of Mission Indians
- Viejas Band of Kumeyaay Indians

Native American sacred sites reflect the evolution of the Southern California landscape, reflecting the rich cultural heritage of Native American cultures that predate and continued beyond European contact. Native American sacred sites may be related to a range of topics, including origins of the universe, the shifting of tectonic plates, and an evolving array of plants and animals that give Southern California its unique features today. Some sites are associated with the migration of humans into the region, where they settled, and how they lived. These sites document the view of Native American cultures of their own history and way of life.

SWCA contacted the NAHC on behalf of SCAG on December 5, 2018 to request a Sacred Lands File Search and CEQA Tribal Consultation List under AB 52. The NAHC responded in a letter dated December 18, 2018 and indicated that the SLF search yielded positive results; the letter also included a list of 61 contacts for tribal consultation. SCAG sent letters to all 61 of these contacts via certified mail on January 8, 2019. SCAG's letter described the 2020 RTP/SCS and PEIR, and invited tribal parties to consult under AB 52. On behalf of SCAG, SWCA subsequently followed up by email on March 13, 2019 with those contacts who had not responded. In total, seven parties responded to SCAG's outreach effort. Two of these, the Pala Band of Mission Indians and the Big Pine Paiute Tribe of the Owens Valley, declined consultation. Five parties – the Agua Caliente Band of Cahuilla Indians, the Fernandeño Band of Mission Indians, the Gabrieleno Band of Mission Indians – Kizh Nation, the Juaneño Band of Mission Indians Acjachemen Nation, and the San Manuel Band of Mission Indians – requested consultation and additional details, including the cultural resources technical study, once completed. SCAG replied to the

five parties who requested consultation and provided a timeline for the cultural resources technical study, which it anticipates sharing in late 2019. In the meantime, SCAG invited the interested tribes to attend project scoping meetings. AB 52 tribal consultation is ongoing at the time of this draft report.

The NAHC is charged with identifying, cataloging, and protecting Native American cultural resources and sacred sites, which is maintained as the SLF. An SLF search for the SCAG region was requested by SWCA and provided by the NAHC on July 5, 2019. The results identified a count of the total number of SLF listings within each county (Table 7). The nature and precise location of these resources is confidential.

Table 7. Sacred Lands Recorded by the NAHC in the SCAG Region Listed by County

County	Sacred Lands
Imperial	84
Los Angeles	38
Orange	45
Riverside	123
San Bernardino	61
Ventura	12
Grand Total	363

Source: NAHC, (provided July 05, 2019).

Human Remains

Human remains in the SCAG region occur within the nearly 200 formal cemeteries in the six-county area and those interred outside of formal cemeteries (Table 8).

Table 8. Formal Cemeteries in the SCAG Region Listed by County

County	Number of Formal Cemeteries
Imperial	8
Los Angeles	85
Orange	20
Riverside	27
San Bernardino	32
Ventura	15
Grand Total	**187**

Source: SCAG data, 2010.

In the SCAG region, there are many circumstances in which human remains outside formal cemeteries could be encountered. In additional to existing formal cemeteries, many cemeteries have been relocated. While the goal of such relocation projects is to repatriate human remains to a new location, there have been instances where human remains have been encountered at the original location of a relocated cemetery during subsequent ground-disturbing activities. There is also a potential to find human remains that are the result of foul play. There are also burial features associated with historic settlements and other indigenous people. Burial features can range in complexity from a simple isolated inhumation (burial or

cremation) to more elaborate interments containing numerous bodies. These features may represent specially designated interment areas or remnants of larger archaeological sites. Burial associations can include shell beads and ornaments as well as ground and polished stone artifacts. In some areas, human burials are expected to be found in raised earthen mounds. Native American groups within the SCAG region varied in their burial practices with respect to interment and cremation.

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APPENDIX A

Properties Listed in the National Register of Historic Places in the SCAG Region

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Table A-1. Properties Listed on the National Register of Historic Places in the SCAG Region

Ref#	County	City	Resource Name	Address	Status	Date Listed
05001085	Imperial	Calexico	Calexico Carnegie Library	420 Heber Ave.	Listed	9/28/2005
91001749	Imperial	Calexico	US Inspection Station--Calexico	12 Heffernan Ave.	Listed	2/14/1992
65000539	Imperial	City unavailable	Archeological Site 4-IMP-318	Address Restricted	Listed	2/7/1978
65000540	Imperial	City unavailable	Archeological Site 4-IMP-324	Address Restricted	Listed	2/7/1978
65000549	Imperial	City unavailable	Archeological Site 4-IMP-1748	Address Restricted	Listed	2/7/1978
65000550	Imperial	City unavailable	Archeological Site 4-IMP-1749	Address Restricted	Listed	2/7/1978
65000706	Imperial	City unavailable	Chocolate Mountain Archeological District	Environs of Glasmis	Listed	9/28/1973
65006830	Imperial	City unavailable	Archeological Site 4-IMP-1747	Address Restricted	Listed	2/7/1978
65007396	Imperial	City unavailable	Archeological Site 4-IMP-322	Address Restricted	Listed	2/7/1978
65007974	Imperial	City unavailable	Archeological Site 4-IMP-1750	Address Restricted	Listed	2/7/1978
85000125	Imperial	El Centro	US Post Office--El Centro Main	230 S. 5th St.	Listed	1/11/1985
65000529	Imperial	Holtville	Archeological Site 4-IMP-2936	Address Restricted	Eligible	11/16/1978
65000530	Imperial	Holtville	Archeological Site 4-IMP-2937	Address Restricted	Listed	11/16/1978
65000531	Imperial	Holtville	Archeological Site 4-IMP-2939	Address Restricted	Listed	11/16/1978
65000857	Imperial	Lake Cahuilla	Lot 1	Address Restricted	Listed	4/28/1976
65000858	Imperial	Lake Cahuilla	Lot 5	Address Restricted	Eligible	4/28/1976
03000120	Imperial	Ocotillo	Spoke Wheel Rock Alignment	Address Restricted	Eligible	9/29/2003
80000801	Imperial	Ocotillo	Desert View Tower	SW of Ocotillo	Eligible	8/29/1980
82002185	Imperial	Plaster City	Yuha Basin Discontiguous District	Address Restricted	Eligible	5/24/1982
99001567	Imperial	Salton City	Southwest Lake Cahuilla Recessional Shoreline Archeological District	Address Restricted	Eligible	12/30/1999
85003429	Imperial	Winterhaven	Winterhaven Anthropomorph and Bowknot, L-9	Address Restricted	Eligible	10/25/1985
87001025	Imperial	Yuma	Winterhaven Anthropomorph (L-8)	Address Restricted	Listed	5/1/1987
87001026	Imperial	Yuma	Stonehead (L-7)	Address Restricted	Listed	5/1/1987

Ref#	County	City	Resource Name	Address	Status	Date Listed
100003282	Los Angeles	Los Angeles	Garden Apartment Complexes in the City of Los Angeles, 1939-1955 MPS	Address Restricted	Listed	2/1/2019
100003290	Los Angeles	Los Angeles	Asian Americans in Los Angeles, 1850-1980 MPS	Address Restricted	Listed	2/1/2019
12000860	Los Angeles	Acton	CA-LAN-1946	Address Restricted	Listed	10/17/2012
65008927	Los Angeles	Acton	Eagle and Last Chance Mines	N side of the Santa Clara Divide between Moody Canyon and Gleason Canyon	Listed	1/2/1900
12000859	Los Angeles	Agua Dulce	CA-LAN-540	Address Restricted	Listed	10/17/2012
72000228	Los Angeles	Agua Dulce	Vasquez Rocks	Address Restricted	Listed	6/22/1972
02001187	Los Angeles	Altadena	Grey, Zane, Estate	396 E. Mariposa St.	Listed	10/24/2002
07000245	Los Angeles	Altadena	McNally, Andrew, House	654 E. Mariposa St.	Eligible	3/27/2007
14000303	Los Angeles	Altadena	Villa Carlotta	234 E. Mendocino St.	Listed	6/17/2014
14001146	Los Angeles	Altadena	Mount Lowe Railway District (Boundary Increase)	Address Restricted	Listed	1/14/2015
77000295	Los Angeles	Altadena	Pacific Electric Railway Company Substation No. 8	2245 N. Lake Ave.	Listed	11/9/1977
78000678	Los Angeles	Altadena	Keyes Bungalow	1337 E. Boston St.	Eligible	11/14/1978
90001444	Los Angeles	Altadena	Christmas Tree Lane	Santa Rosa Ave. between Woodbury Ave. and Altadena Dr.	Listed	9/13/1990
92001522	Los Angeles	Altadena	Mount Lowe Railway	N of Altadena in Angeles NF	Eligible	1/6/1993
93001463	Los Angeles	Altadena	Woodbury--Story House	2606 N. Madison Ave.	Eligible	12/30/1993
97000027	Los Angeles	Altadena	Farnsworth, Gen. Charles S., County Park	568 E. Mt. Curve Ave.	Eligible	2/7/1997
97000751	Los Angeles	Altadena	Crank House	2186 Crary St.	Eligible	7/23/1997

Ref#	County	City	Resource Name	Address	Status	Date Listed
99000893	Los Angeles	Altadena	Scripps Hall	209 E. Mariposa St.	Eligible	7/28/1999
100001337	Los Angeles	Altadena	Valentine, Walter D., Cottage B	1419 E. Palm St.	Listed	7/27/2017
80000804	Los Angeles	Arcadia	Queen Anne Cottage and Coach Barn	301 N. Baldwin Ave.	Listed	10/31/1980
08000371	Los Angeles	Avalon	Grey, Zane, Pueblo	199 Chimes Tower Rd.	Listed	5/20/2011
83001194	Los Angeles	Avalon	Gano, Peter, House	718 Crescent Ave.	Listed	9/15/1983
85001785	Los Angeles	Avalon	Wrigley, William, Jr., Summer Cottage	76 Wrigley Rd.	Listed	8/15/1985
91000338	Los Angeles	Avalon	Tuna Club of Avalon	100 St. Catherine Way, Catalina Island	Eligible	4/2/1991
100001281	Los Angeles	Avalon	Christian Science Society	209 E. Whittley Ave.	Eligible	7/13/2017
02000034	Los Angeles	Azusa	Azusa Civic Center	213 Foothill Blvd.	Listed	2/21/2002
12000862	Los Angeles	Azusa	CA-LAN-1302	Address Restricted	Listed	10/17/2012
77000296	Los Angeles	Bell	Bell, James George, House	6500 Lucille Ave.	Listed	11/2/1989
03000987	Los Angeles	Beverly Hills	Anderton Court Shops	332 N.Rodeo Dr.	Listed	5/14/2004
06000914	Los Angeles	Beverly Hills	Beverly Hills Women's Club	1700 Chevy Chase Dr.	Listed	10/4/2006
11000933	Los Angeles	Beverly Hills	Karasik House	436 Spalding Dr.	Listed	12/22/2011
12000164	Los Angeles	Beverly Hills	Fox Wilshire Theatre	8440 Wilshire Blvd.	Listed	4/3/2012
76000485	Los Angeles	Beverly Hills	Doheny Estate/Greystone	905 Loma Vista Dr.	Listed	4/23/1976
78000679	Los Angeles	Beverly Hills	Robinson, Virginia, Estate	1008 Elden Way	Listed	11/15/1978

Ref#	County	City	Resource Name	Address	Status	Date Listed
84000876	Los Angeles	Beverly Hills	Lloyd, Harold, Estate	Address Restricted	Listed	2/9/1984
85000126	Los Angeles	Beverly Hills	US Post Office--Beverly Hills Main	469 N. Crescent Dr.	Listed	1/11/1985
87000908	Los Angeles	Beverly Hills	Beverly Wilshire Hotel	9528 Wilshire Blvd.	Listed	6/12/1987
65000844	Los Angeles	Brea	Laurel School Building	200 S. Flower Ave.	Listed	9/4/1985
85000127	Los Angeles	Burbank	US Post Office--Burbank Downtown Station	125 E. Olive Ave.	Listed	1/11/1985
96000426	Los Angeles	Burbank	City Hall--City of Burbank	275 E. Olive Ave.	Listed	4/18/1996
75000433	Los Angeles	Calabasas	Leonis Adobe	23537 Calabasas Rd.	Listed	5/29/1975
12000861	Los Angeles	Canyon Country	CA-LAN-1258	Address Restricted	Listed	10/17/2012
12000863	Los Angeles	Castaic	CA-LAN-441	Address Restricted	Eligible	10/17/2012
97001113	Los Angeles	Castaic	Ridge Route, Old	Along Old Ridge Rte., roughly bounded by Sandberg and Canton Canyon	Returned	9/25/1997
74000517	Los Angeles	Chatsworth	Old Santa Susana Stage Road	Address Restricted	Listed	1/10/1974
79000480	Los Angeles	Chatsworth	Palmer, Minnie Hill, House	Chatsworth Park South	Listed	9/4/1979
65000432	Los Angeles	City unavailable	Archeological Site CA-LAN-1010	Address Restricted	Listed	11/19/1982
65000433	Los Angeles	City unavailable	Archeological Site CA-LAN-1051	Address Restricted	Listed	11/19/1982
65000569	Los Angeles	City unavailable	Arroyo Seco Parkway	Address Restricted	Listed	3/31/1983
65000577	Los Angeles	City unavailable	Beverly Gardens Park	Address Restricted	Listed	4/15/1985
65000787	Los Angeles	City unavailable	Grosse House	Address Restricted	Listed	3/31/1983

Ref#	County	City	Resource Name	Address	Status	Date Listed
65000797	Los Angeles	City unavailable	Hollywood Bowl	2301 N. Highland	Listed	5/24/1983
65000877	Los Angeles	City unavailable	Markham Place District	Address Restricted	Listed	3/31/1983
65000911	Los Angeles	City unavailable	National Bank of Pico	9235 Whittier Blvd.	Listed	11/9/1977
65001051	Los Angeles	City unavailable	South of Mission District	Address Restricted	Listed	3/31/1983
65001076	Los Angeles	City unavailable	Van Norman (or Los Angeles) Reservoir Archeological District CA-LAN 643, 646, 490, 475, 491, 492	Address Restricted	Eligible	5/19/1975
65001082	Los Angeles	City unavailable	United Artists/Texaco Company Building	Address Restricted	Listed	9/15/1982
65006827	Los Angeles	City unavailable	Baldwin Park City Hall	Baldwin Park	Listed	2/16/1978
65007375	Los Angeles	City unavailable	Archeological Site CA-LAN-1055	Address Restricted	Listed	11/19/1982
65007408	Los Angeles	City unavailable	Big Tujunga Prehistoric Archeological Site (04-LAn-167)	Address Restricted	Eligible	10/29/1975
15000121	Los Angeles	Claremont	Intercultural Council Houses	Bounded by Blanchard Pl., Claremont Blvd., E. 1st & Brooks Sts.	Eligible	4/7/2015
16000322	Los Angeles	Claremont	Renwick, Helen Goodwin, House	211 N. College Ave.	Eligible	6/7/2016
65000967	Los Angeles	Claremont	Pitzer Ranch	4353 Towne Ave.	Eligible	8/3/1983
78000680	Los Angeles	Claremont	Russian Village District	290--370 S. Mills Ave. and 480 Cucamonga Ave.	Eligible	12/28/1978
82002188	Los Angeles	Claremont	Atchison, Topeka, and Santa Fe Railroad Station	110 W. 1st St.	Eligible	7/15/1982
84000887	Los Angeles	Claremont	Scripps College for Women	Columbia and 10th St.	Listed	9/20/1984
86002192	Los Angeles	Claremont	Pitzer House	4353 N. Towne	Listed	9/4/1986

Ref#	County	City	Resource Name	Address	Status	Date Listed
97001660	Los Angeles	Claremont	Padua Hills Theatre	4467 Via Padova	Listed	1/23/1998
100001890	Los Angeles	Claremont	Drucker, Peter, House	636 Wellesley Dr.	Listed	12/21/2017
76000486	Los Angeles	Compton	Dominguez Ranch Adobe	18127 S. Alameda St.	Listed	5/28/1976
87000082	Los Angeles	Culver City	Citizens Publishing Company Building	9355 Culver Blvd.	Listed	2/12/1987
91000635	Los Angeles	Culver City	Washington Building	9720--9732 Washington Blvd.	Listed	5/28/1991
97000296	Los Angeles	Culver City	Culver Hotel	9400 Culver Blvd.	Listed	4/14/1997
65000869	Los Angeles	Downey	McDonald's Drive-in Restaurant and Sign	Address Restricted	Listed	1/19/1984
78000681	Los Angeles	Downey	Rives, James C., House	10921 S. Paramount Blvd.	Eligible	5/22/1978
86000449	Los Angeles	Downey	Casa de Parley Johnson	7749 Florence Ave.	Listed	3/20/1986
100000782	Los Angeles	East Los Angeles	Pan American National Bank of East Los Angeles	3620-3626 E. 1st St.	Listed	4/5/2017
100002654	Los Angeles	East Los Angeles	Brown Beret Headquarters	2639-41 E 4th St.	Listed	7/16/2018
100002655	Los Angeles	East Los Angeles	Chicano Moratorium March December 20, 1969	Five Points Memorial, N Indiana St., Michigan Ave., Obregon Park	Eligible	7/16/2018
100002657	Los Angeles	East Los Angeles	National Chicano Moratorium March August 29, 1970	Belvedere & Salazar Parks, Mednik & Atlantic Aves., E 3rd St., Beverly & Whittier Blvds.	Listed	7/16/2018
71000142	Los Angeles	Encino	Rancho El Encino	16756 Moorpark St.	Eligible	2/24/1971
06001087	Los Angeles	Glendale	Ard Eevin	851 W. Mountain St.	Eligible	11/21/2006
16000174	Los Angeles	Glendale	Schaffer, J.W. House	527 Whiting Woods Rd.	Eligible	4/19/2016
65000585	Los Angeles	Glendale	Bridge No. 53C-735	Carries Glenoaks Blvd. over Verdugo Wash	Eligible	1/13/1986

Ref#	County	City	Resource Name	Address	Status	Date Listed
65000611	Los Angeles	Glendale	Bridge No. 53C-741	Carries Kenilworth Ave. across Verdugo Wash	Eligible	1/13/1986
65000614	Los Angeles	Glendale	Bridge No. 53C-738	Carries Brand Ave. over Verdugo Wash	Listed	1/13/1986
65007410	Los Angeles	Glendale	Bridge No. 53C-736	Carries Geneva Blvd. across Verdugo Wash	Listed	1/13/1986
76000487	Los Angeles	Glendale	San Rafael Rancho	Bonita Dr.	Listed	12/12/1976
78000682	Los Angeles	Glendale	Derby, James Daniel, House	2535 E. Chevy Chase Dr.	Listed	12/14/1978
85000128	Los Angeles	Glendale	US Post Office--Glendale Main	313 E. Broadway St.	Listed	1/11/1985
94001197	Los Angeles	Glendale	Hotel Glendale	701 E. Broadway	Eligible	10/7/1994
94001224	Los Angeles	Glendale	Glendale Young Men's Christian Association	140 N. Louise St.	Eligible	10/21/1994
96000102	Los Angeles	Glendale	Alexander Theatre	216 N. Brand Blvd.	Listed	2/16/1996
97000376	Los Angeles	Glendale	Glendale Southern Pacific Railroad Depot	Gardena Ave., jct. with W. Cerritos Ave.	Listed	5/2/1997
100000780	Los Angeles	Glendale	Grand Central Air Terminal	1310 Air Way	Listed	4/5/2017
13000810	Los Angeles	Glendora	Rubel Castle Historic District	844 N. Live Oak Ave.	Listed	10/7/2013
78000683	Los Angeles	Glendora	Glendora Bougainvillea	Bennett and Minnesota Aves.	Listed	2/7/1978
65000973	Los Angeles	Hancock Park	Rancho La Brea Fossil Deposits	off Wilshire Blvd. btwn. Ogden Dr. & Curson Ave.	Listed	1/30/1984
15000169	Los Angeles	Hawthorne	Federal Building	15000 Aviation Blvd.	Listed	4/28/2015
79000481	Los Angeles	Hollywood	Guaranty Building	6331 Hollywood Blvd	Listed	9/4/1979
80000805	Los Angeles	Hollywood	Crossroads of the World	6671 Sunset Blvd.	Listed	9/8/1980

Ref#	County	City	Resource Name	Address	Status	Date Listed
80000806	Los Angeles	Hollywood	Hollywood Studio Club	1215 Lodi Pl.	Listed	11/25/1980
82002189	Los Angeles	Hollywood	Whitley Heights Historic District	Roughly bounded by Franklin, Highland, Cahuenga, and Fairfield Aves.	Listed	8/19/1982
83001204	Los Angeles	Hollywood	Security Trust and Savings	6381-85 Hollywood Blvd.	Listed	8/18/1983
83001205	Los Angeles	Hollywood	Toberman, C. E., Estate	1847 Camino Palmero	Listed	9/15/1983
85000355	Los Angeles	Hollywood	Hollywood Masonic Temple	6840 Hollywood Blvd.	Listed	2/28/1985
86001950	Los Angeles	Hollywood	Villa Bonita	1817 Hillcrest Rd.	Listed	9/12/1986
87002291	Los Angeles	Hollywood	La Belle Tour	6200 Franklin Ave.	Listed	1/22/1988
73000403	Los Angeles	Industry	Rowland, John A., House	16021 E. Gale Ave.	Listed	7/16/1973
74000518	Los Angeles	Industry	Temple Mansion	15415 E. Don Julian Rd.	Eligible	12/2/1974
74000519	Los Angeles	Industry	Workman Adobe	15415 Don Julian Rd.	Returned	11/20/1974
74000520	Los Angeles	Industry	Workman Family Cemetery	15415 E. Don Julian Rd.	Listed	11/20/1974
12001163	Los Angeles	Inglewood	Fox Theatre Inglewood	115 N. Market St.	Listed	1/14/2013
14000661	Los Angeles	Inglewood	Forum	3900 Manchester Blvd.	Listed	9/24/2014
14001233	Los Angeles	La Canada Flintridge	Thomas, Franklin Rosborough "Frank", House	758 Flintridge Ave.	Listed	2/3/2015
94001504	Los Angeles	La Canada Flintridge	Lanterman House	4420 Encinas Dr.	Listed	12/29/1994
78000684	Los Angeles	La Mirada	McNally's Windemere Ranch Headquarters	San Esteban and San Cristobal Dr.	Listed	7/20/1978
99000482	Los Angeles	La Puente	La Puente Valley Woman's Club	200 N. First St.	Listed	4/29/1999

Ref#	County	City	Resource Name	Address	Status	Date Listed
92000833	Los Angeles	La Verne	Straight, Charles E., House	4333 Emerald Ave.	Listed	7/8/1992
92001559	Los Angeles	La Verne	DeWenter Mansion, Guest House and Grounds	6100 Brydon Rd.	Listed	11/5/1992
87000509	Los Angeles	Lancaster	Antelope Valley Indian Museum	15701 East Ave.	Listed	2/26/1987
93001017	Los Angeles	Lancaster	Cedar Avenue Complex	44843 (44855), 44845 and 44851 Cedar Ave., 606 Lancaster Blvd., and Old Jail (no address)	Listed	9/30/1993
93000269	Los Angeles	Loa Angeles	Baldwin Hills Village	5300 Village Green	Eligible	4/1/1993
00001538	Los Angeles	Long Beach	Cooper Arms	455 E. Ocean Blvd.	Listed	12/28/2000
03000002	Los Angeles	Long Beach	Middough Brothers--Insurance Exchange Building	205 E. Broadway	Listed	2/5/2003
05000002	Los Angeles	Long Beach	Green--Rankin--Bembridge House	953 Park Circle Dr.	Listed	2/10/2005
05000212	Los Angeles	Long Beach	Second Church of Christ Scientist	655 Cedar Ave.	Eligible	4/1/2005
05000773	Los Angeles	Long Beach	Long Beach Professional Building	117 E. 8th St.	Eligible	8/3/2005
09000515	Los Angeles	Long Beach	Killingsworth, Brady, & Smith	3827-3837 Long Beach Blvd.	Eligible	7/15/2009
11000429	Los Angeles	Long Beach	Hafley, Olan G. and Aida T., House	5561 E. La Pasada St.	Eligible	7/12/2011
12000810	Los Angeles	Long Beach	First Congregational Church of Long Beach	241 Cedar Ave.	Eligible	9/25/2012
65000586	Los Angeles	Long Beach	Bradley Building	Address Restricted	Eligible	11/25/1981
65000680	Los Angeles	Long Beach	Bridge No. 53C-61	Carries Henry Ford Ave. over the Cerritos Channel	Listed	12/24/1985
65000960	Los Angeles	Long Beach	Point Vicente Light	US Coast Guard Radio Station	Listed	7/28/1978
65001086	Los Angeles	Long Beach	US Post Office & Federal Building	300 N. Long Beach Blvd.	Listed	5/8/1980

Ref#	County	City	Resource Name	Address	Status	Date Listed
65007939	Los Angeles	Long Beach	Building at 302-320 Pine Avenue	302-320 Pine Ave.	Listed	4/7/1982
70000135	Los Angeles	Long Beach	Los Cerritos Ranch House	4600 Virginia Rd.	Listed	4/15/1970
74000521	Los Angeles	Long Beach	Puvunga Indian Village Sites	Address Restricted	Listed	1/21/1974
80000807	Los Angeles	Long Beach	Pacific Coast Club	850 E. Ocean Blvd.	Listed	4/4/1989
80004493	Los Angeles	Long Beach	HUGHES FLYING BOAT (HERCULES)	Berth 121, Pier E, Port of Long Beach	Listed	10/13/1992
81000153	Los Angeles	Long Beach	Rancho Los Alamitos	6400 Bixby Hill Rd.	Listed	7/7/1981
82000429	Los Angeles	Long Beach	Puvunga Indian Village Sites (Boundary Increase)	Address Restricted	Eligible	5/22/1982
84000883	Los Angeles	Long Beach	Reeve, Jennie A., House	4260 Country Club Dr.	Listed	6/21/1984
85000129	Los Angeles	Long Beach	US Post Office--Long Beach Main	300 Long Beach Blvd.	Listed	1/11/1985
90001432	Los Angeles	Long Beach	First National Bank of Long Beach	101--125 Pine Ave.	Listed	9/13/1990
92001714	Los Angeles	Long Beach	RMS QUEEN MARY	Pier J, 1126 Queensway Hwy.	Eligible	4/15/1993
96000778	Los Angeles	Long Beach	Villa Riviera	800 E. Ocean Blvd.	Listed	7/25/1996
99000579	Los Angeles	Long Beach	Willmore, The	315 W. Third St.	Eligible	5/20/1999
100002319	Los Angeles	Long Beach	Torrey, Joseph and Carrie, House	711 Daisy Ave.	Eligible	4/27/2018
100003553	Los Angeles	Long Beach	Security Trust and Savings Building	110 Pine Ave.	Eligible	3/29/2019
00000387	Los Angeles	Los Angeles	Spring Street Financial District (Boundary Increase	401 S. Main St. and 405-11 S. Main St.	Eligible	4/21/2000
00000425	Los Angeles	Los Angeles	St. John's Episcopal Church	514 W. Adams Blvd.	Eligible	5/5/2000

Ref#	County	City	Resource Name	Address	Status	Date Listed
00001168	Los Angeles	Los Angeles	Angels Flight Railway	Hill St.	Listed	10/13/2000
00001178	Los Angeles	Los Angeles	Atchison, Topeka, and Santa Fe Railway Steam Locomotive No. 3751	2435 E. Washington Blvd.	Listed	10/4/2000
00001623	Los Angeles	Los Angeles	Venice of America House	1223 Cabrillo Ave.	Listed	4/9/2001
01000075	Los Angeles	Los Angeles	Neutra Office Building	2379 Glendale Building	Listed	3/8/2004
01001192	Los Angeles	Los Angeles	Congregation Talmud Torah of Los Angeles	247 N. Breed St.	Listed	11/4/2001
01001456	Los Angeles	Los Angeles	McCarty Memorial Christian Church	4101 W. Adams Blvd.	Eligible	1/17/2002
02000330	Los Angeles	Los Angeles	Broadway Theatre and Commercial District (Boundary Increase)	242, 248-260, 249-259, 900-911,908-910, 921-937, 930-947 S. Broadway	Eligible	4/12/2002
02000679	Los Angeles	Los Angeles	Ziegler Estate	4601 N. Figueroa Blvd.	Listed	6/27/2002
02001257	Los Angeles	Los Angeles	Executive Office Building, Old Warner Brothers Studio	5800 Sunset Blvd.	Listed	11/1/2002
03000059	Los Angeles	Los Angeles	Superior Oil Company Building	550 S. Flower St.	Listed	2/28/2003
03000426	Los Angeles	Los Angeles	Chateau Colline	10335 Wilshire Blvd.	Listed	5/22/2003
03000428	Los Angeles	Los Angeles	Hackett, Edward Alexander Kelley, House	1317 S. Westlake Ave.	Listed	5/22/2003
03000583	Los Angeles	Los Angeles	Gerry Building	910 S. Los Angeles St.	Listed	7/5/2003
03000774	Los Angeles	Los Angeles	Neutra, Richard and Dion, VDL Research House II	2300 Silver Lake Blvd.	Listed	5/8/2009
03000775	Los Angeles	Los Angeles	Andalusia	1471-1475 Havenhurst Dr.	Listed	8/21/2003
04000016	Los Angeles	Los Angeles	North University Park Historic District	Roughly bounded by Hoover St., Adams Blvd, 28th St. and Magnolia Ave.	Listed	2/11/2004
04000595	Los Angeles	Los Angeles	Young's Market Company Building	1610 W. Seventh St.	Listed	6/15/2004

Ref#	County	City	Resource Name	Address	Status	Date Listed
04000621	Los Angeles	Los Angeles	General Petroleum Building	612 S. Flower St.	Listed	6/22/2004
04000623	Los Angeles	Los Angeles	Southern California Gas Company Complex	800,810,820 and 830 S. Flower St.	Listed	6/22/2004
04000679	Los Angeles	Los Angeles	Casa de Rosas	2600 S. Hoover St.	Listed	7/14/2004
04000732	Los Angeles	Los Angeles	Whitley Court	1720-1728 1/2 Whitley Ave.	Listed	7/28/2004
04001075	Los Angeles	Los Angeles	Building at 816 South Grand Avenue	816 S. Grand Ave.	Listed	12/2/2004
05000048	Los Angeles	Los Angeles	Textile Center Building	315 E. Eighth St.	Listed	2/15/2005
05000049	Los Angeles	Los Angeles	Petitfils--Boos House	545 Plymouth Blvd.	Listed	2/15/2005
05000070	Los Angeles	Los Angeles	Avenel Cooperative Housing Project	2839-2849 Avenel St.	Eligible	2/27/2005
05000211	Los Angeles	Los Angeles	El Cabrillo	1832-1850 N. Grace Ave.	Returned	3/30/2005
05000213	Los Angeles	Los Angeles	Security-First National Bank of Los Angeles	529 Wilshire Blvd.	Listed	3/30/2005
05000774	Los Angeles	Los Angeles	Kerckoff Building and Annex	558-64 S. Main St.	Listed	8/3/2005
05001407	Los Angeles	Los Angeles	Sears, Roebuck & Company Mail Order Building	2650 E. Olympic Blvd.	Listed	4/21/2006
05001496	Los Angeles	Los Angeles	Hotel Chancellor	3191 W. Seventh St.	Listed	1/3/2006
05001498	Los Angeles	Los Angeles	Santa Fe Freight Depot	970 E. 3rd St.	Listed	1/3/2006
05001499	Los Angeles	Los Angeles	Santa Fe Coast Lines Hospital	610-30 S. Louis St.	Listed	1/3/2006
06000001	Los Angeles	Los Angeles	US Court House and Post Office	312 N. Spring St.	Listed	2/9/2006
06000657	Los Angeles	Los Angeles	Subway Terminal Building	417, 415, 425 S. Hill St., 416, 420 424 S. Olive St.	Listed	8/2/2006

Ref#	County	City	Resource Name	Address	Status	Date Listed
07000309	Los Angeles	Los Angeles	Glassell Park Elementary School	2211 West Avenue 30	Listed	4/13/2007
07000636	Los Angeles	Los Angeles	Roosevelt Building	727 W. Seventh St.	Listed	7/3/2007
07001304	Los Angeles	Los Angeles	Pisgah Home Historic District	6026-6044 Echo St. & 6051 A-D Hayes St.	Listed	12/19/2007
07001439	Los Angeles	Los Angeles	Board of Trade Building	111 W. 7th St.	Eligible	1/24/2008
08000202	Los Angeles	Los Angeles	Holmes--Shannon House	4311 Victoria Park Dr.	Listed	3/26/2008
08001276	Los Angeles	Los Angeles	Brockman Building and New York Cloak and Suit House (annex)	520 W. 7th St. and 708 S. Grand Ave.	Listed	5/21/2009
09000145	Los Angeles	Los Angeles	Twenty-eighth Street YMCA	1006 E. 28th St.	Listed	3/17/2009
09000146	Los Angeles	Los Angeles	Angelus Funeral Home	1010 E. Jefferson Blvd.	Eligible	3/17/2009
09000147	Los Angeles	Los Angeles	Fire Station No. 14	3401 S. Central Ave.	Eligible	3/17/2009
09000148	Los Angeles	Los Angeles	Fire Station No. 30--Engine Company No. 30	1401 S. Central Ave.	Eligible	3/17/2009
09000149	Los Angeles	Los Angeles	Lincoln Theater	2300 S. Central Ave.	Eligible	3/17/2009
09000150	Los Angeles	Los Angeles	Prince Hall Masonic Temple	1050 E. 50th St.	Eligible	3/17/2009
09000151	Los Angeles	Los Angeles	Second Baptist Church	1100 E. 24th St.	Eligible	3/17/2009
09000180	Los Angeles	Los Angeles	Pacific Electric Building	610 S. Main St.	Listed	4/9/2009
09000398	Los Angeles	Los Angeles	52nd Place Historic District	Along E. 52nd Pl.	Listed	6/11/2009
09000399	Los Angeles	Los Angeles	27th Street Historic District	Along 27th St.	Listed	6/11/2009
09001200	Los Angeles	Los Angeles	Westlake Theatre	634-642 S. Alvarado St.	Listed	1/7/2010

Ref#	County	City	Resource Name	Address	Status	Date Listed
10000053	Los Angeles	Los Angeles	Garment Capitol Building	217 E. 8th St.	Listed	3/8/2010
10000110	Los Angeles	Los Angeles	Bradbury House	102 Ocean Way	Listed	3/22/2010
10000425	Los Angeles	Los Angeles	California Club, The	538 S Flower St	Listed	7/6/2010
10000761	Los Angeles	Los Angeles	Bungalow Court at 1516 N. Serrano Ave	1516-1528 1/2 N. Serrano Ave	Listed	9/16/2010
10000762	Los Angeles	Los Angeles	Bungalow Court at 1554 N. Serrano Avenue	1554-1576 N. Serrano Ave	Listed	9/16/2010
10000763	Los Angeles	Los Angeles	Bungalow Court at 1721 N. Kingsley Drive	1721-1729 1/2 N Kingsley Dr	Eligible	9/16/2010
10000764	Los Angeles	Los Angeles	Bungalow Court at 1544 N. Serrano Avenue	1544-1552 N Serrano Ave	Listed	9/16/2010
10001119	Los Angeles	Los Angeles	Bricker Building, The	1671 Northern Western Ave	Listed	1/7/2011
10001198	Los Angeles	Los Angeles	Arroyo Seco Parkway Historic District	CA 110 from 4-Level Interchange in Los Angeles to East Glenarm St in Pasadena	Listed	2/4/2011
11000989	Los Angeles	Los Angeles	Hollywood High School Historic District	1521 N. Highland Ave.	Eligible	1/4/2012
12000809	Los Angeles	Los Angeles	Boulevard Heights Historic District	658-899 S. Bronson Ave.	Listed	9/25/2012
12000811	Los Angeles	Los Angeles	Yamashiro Historic District	1999 N. Sycamore Ave.	Eligible	9/25/2012
13000509	Los Angeles	Los Angeles	Boyle Hotel--Cummings Block	101-105 N. Boyle Ave.	Eligible	7/23/2013
13000512	Los Angeles	Los Angeles	Case Study House No. 1	10152 Toluca Lake Ave.	Eligible	7/24/2013
13000513	Los Angeles	Los Angeles	Case Study House No. 9	205 Chautauqua Blvd.	Eligible	7/24/2013
13000515	Los Angeles	Los Angeles	Case Study House No. 16	1811 Bel Air Rd.	Eligible	7/24/2013
13000516	Los Angeles	Los Angeles	Case Study House No. 18	199 Chautauqua Blvd.	Listed	7/24/2013

Ref#	County	City	Resource Name	Address	Status	Date Listed
13000517	Los Angeles	Los Angeles	Case Study House No. 20	2275 N. Santa Rosa Ave.	Listed	7/24/2013
13000518	Los Angeles	Los Angeles	Case Study House No. 21	9038 Wonderland Park Ave.	Listed	7/24/2013
13000519	Los Angeles	Los Angeles	Case Study House No. 22	1635 Woods Dr.	Listed	7/24/2013
13000551	Los Angeles	Los Angeles	Women's Twentieth Century Club of Eagle Rock	5105 Hermosa Ave.	Listed	7/30/2013
13000589	Los Angeles	Los Angeles	Hotel Rosslyn Annex	112 W. 5th St.	Eligible	8/13/2013
13000754	Los Angeles	Los Angeles	Strathmore Apartments	11005-11013 1/2 Strathmore Dr.	Eligible	9/25/2013
14000034	Los Angeles	Los Angeles	Lasky--DeMille Barn	2100 N. Highland St.	Listed	3/14/2014
14000926	Los Angeles	Los Angeles	West Los Angeles Veterans Affairs Historic District	11301 Wilshire Blvd.	Listed	11/19/2014
15000359	Los Angeles	Los Angeles	Forsythe Memorial School for Girls	506 N. Evergreen Ave.	Listed	6/24/2015
15000378	Los Angeles	Los Angeles	Hollywood Western Building, The	5500 Hollywood Blvd.	Listed	7/7/2015
15000408	Los Angeles	Los Angeles	University of Southern California Historic District	Roughly bounded by W. Jefferson & W. Exposition Blvds., S. Figueroa St. & McClintock Ave.	Listed	7/14/2015
15000911	Los Angeles	Los Angeles	Lincoln Place Apartments	Lake & Penmar Aves., Frederick St. & alley to S.	Listed	12/22/2015
16000168	Los Angeles	Los Angeles	Carling, Foster, House	7144 West Hockey Trail	Listed	4/19/2016
16000170	Los Angeles	Los Angeles	Harpel, Willis, House	7764 West Torreyson Dr.	Listed	4/19/2016
16000171	Los Angeles	Los Angeles	Harvey, Leo M., House	2180 West Live Oak Dr.	Listed	4/19/2016
16000172	Los Angeles	Los Angeles	Lautner, John and Mary, House	2007 Micheltorena St.	Listed	4/19/2016

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16000175	Los Angeles	Los Angeles	Walstrom, Douglas and Octavia, House	10500 Selkirk Ln.	Listed	4/19/2016
16000434	Los Angeles	Los Angeles	View Park Historic District	Roughly bounded by Mt. Vernon, Enoro, Northland & Northridge Drs., Kenway S. Victoria & Floresta Aves.	Listed	7/12/2016
16000662	Los Angeles	Los Angeles	Hollywood Palladium	6215 Sunset Blvd.	Listed	9/26/2016
16000883	Los Angeles	Los Angeles	Woman's Club of Hollywood	1741-1749 N. La Brea Ave.	Listed	1/5/2017
65000411	Los Angeles	Los Angeles	Administration Building, United Church of Religious Science	3251 W. Sixth St.	Listed	9/19/1983
65000560	Los Angeles	Los Angeles	Barker Brothers	800 W. Seventh St.	Listed	3/28/1979
65000572	Los Angeles	Los Angeles	Biltmore Hotel	515 S. Olive	Listed	3/28/1979
65000686	Los Angeles	Los Angeles	California Club	538 S. Flower	Eligible	3/28/1979
65000703	Los Angeles	Los Angeles	Clem Wilson Building	5217-5231 Wilshire	Returned	5/24/1983
65000712	Los Angeles	Los Angeles	Chapman Park Building	3501-3519 W. Sixth St.	Listed	9/19/1983
65000713	Los Angeles	Los Angeles	Chapman Park Market Building	3451-3479 W. Sixth St.	Listed	9/19/1983
65000717	Los Angeles	Los Angeles	Crocker Bank	1926-1930 Wilshire	Listed	5/24/1983
65000727	Los Angeles	Los Angeles	Dieterle House	Address Restricted	Listed	3/31/1983
65000747	Los Angeles	Los Angeles	Federal Title	448 S. Hill St.	Listed	3/28/1979
65000748	Los Angeles	Los Angeles	Fifth Street Retaining Wall	Fifth St. btwn. Grand and Flower	Listed	4/5/1979
65000749	Los Angeles	Los Angeles	Fire Station No. 3	219 S. Hill St.	Listed	3/28/1979

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65000750	Los Angeles	Los Angeles	Fire Station No. 26	2475 W. Washington Blvd.	Listed	1/27/1976
65000751	Los Angeles	Los Angeles	Fire Station No. 28	644 S. Figueroa	Listed	3/28/1979
65000763	Los Angeles	Los Angeles	Friday Morning Club	940 S. Figueroa	Listed	3/28/1979
65000768	Los Angeles	Los Angeles	Franklin Avenue Bridge	Saint George St. and Myra Ave.	Listed	10/2/1986
65000777	Los Angeles	Los Angeles	Global Marine Building	807 W. Seventh St.	Eligible	5/24/1983
65000778	Los Angeles	Los Angeles	Grand Central Market	315 S. Broadway	Listed	3/28/1979
65000789	Los Angeles	Los Angeles	Goodyear Tire & Rubber Plant	6701 S. Central Ave.	Listed	3/10/1981
65000801	Los Angeles	Los Angeles	William S. Hart County Park	on Newhall Ave., intersecting with San Fernando Rd.	Listed	3/30/1982
65000805	Los Angeles	Los Angeles	Home Telephone Building	246 S. Hill St.	Eligible	3/28/1979
65000806	Los Angeles	Los Angeles	Hotel Clark	400-426 Hill	Eligible	5/24/1983
65000810	Los Angeles	Los Angeles	Whiting, George N., House	602 S. Hudson Ave.	Eligible	8/13/1986
65000811	Los Angeles	Los Angeles	House at 526 South Hudson Avenue	526 S. Hudson Ave.	Eligible	8/13/1986
65000812	Los Angeles	Los Angeles	House at 921 Monterey Road	921 Monterey Rd.	Eligible	3/31/1983
65000848	Los Angeles	Los Angeles	Lake Street Historic District	1100 Block of Lake St.	Eligible	7/17/1979
65000851	Los Angeles	Los Angeles	Los Angeles City Hall	200 N. Spring St.	Listed	3/28/1979
65000852	Los Angeles	Los Angeles	Los Angeles Union Station	800 N. Alameda St.	Listed	3/28/1979
65000853	Los Angeles	Los Angeles	Louis Brownstein & Company	751 S. Figueroa	Listed	3/28/1979

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65000855	Los Angeles	Los Angeles	MacArthur Park	2200 Wilshire	Listed	5/24/1983
65000856	Los Angeles	Los Angeles	Los Angeles Harbor Light Station	Los Angeles Harbor on San Pedro Breakwater Cabrillo Beach	Listed	7/28/1978
65000868	Los Angeles	Los Angeles	May Company	6067 Wilshire	Listed	5/24/1983
65000870	Los Angeles	Los Angeles	McKinley Building	3747-3763 Wilshire	Listed	5/24/1983
65000874	Los Angeles	Los Angeles	Marvin House	Address Restricted	Listed	3/31/1983
65000883	Los Angeles	Los Angeles	Miracle Mile Historic District	5318-5514 & 5519-5353 Wilshire	Listed	5/24/1983
65000886	Los Angeles	Los Angeles	Myrick & Markham Hotels	324 1/2-326 1/2 S. Hill St.	Eligible	3/28/1979
65000910	Los Angeles	Los Angeles	North of Mission District	Address Restricted	Listed	3/31/1983
65000944	Los Angeles	Los Angeles	Pershing Square Building	427 S. Hill St.	Listed	3/28/1979
65000951	Los Angeles	Los Angeles	Patriotic Hall	1816 S. Figueroa St.	Listed	9/15/1982
65000952	Los Angeles	Los Angeles	Pierce, J.G., House	Address Restricted	Eligible	3/31/1983
65000962	Los Angeles	Los Angeles	Post Office Terminal Annex	900 N. Alameda	Listed	5/24/1983
65000978	Los Angeles	Los Angeles	Roosevelt Building	648 Flower	Eligible	5/24/1983
65000981	Los Angeles	Los Angeles	Rhodes House	365 W. Bellevue Dr.	Eligible	12/21/1977
65000994	Los Angeles	Los Angeles	San Pedro City Hall	Address Restricted	Eligible	9/15/1982
65000995	Los Angeles	Los Angeles	Royal Lake	2202 Eleventh St.	Eligible	7/17/1979
65001012	Los Angeles	Los Angeles	Security/Pacific Bank Building	6381-6385 Hollywood	Eligible	5/24/1983

Ref#	County	City	Resource Name	Address	Status	Date Listed
65001017	Los Angeles	Los Angeles	Sherry House	Address Restricted	Listed	3/31/1983
65001021	Los Angeles	Los Angeles	Security Pacific National Bank	716 W. Olympic Blvd.	Listed	3/13/1980
65001032	Los Angeles	Los Angeles	St. Paul's Cathedral	615 S. Figueroa	Listed	3/28/1979
65001037	Los Angeles	Los Angeles	St. Vincent de Paul Church	Address Restricted	Listed	9/15/1982
65001040	Los Angeles	Los Angeles	Standard Oil Building	605 E. Olympic	Listed	3/13/1980
65001042	Los Angeles	Los Angeles	Subway Terminal Building	417 S. Hill St.	Eligible	3/28/1979
65001079	Los Angeles	Los Angeles	Veterans Administration Medical Center	Wilshire Blvd. and San Diego Fwy.	Eligible	11/30/1981
65001085	Los Angeles	Los Angeles	Venice Short Line Tract	S side of N. Venice Blvd., W of Ocean Ave., N of entrance in channel of Marina del Ray, E of Pacific Ave.	Listed	10/21/1977
65001096	Los Angeles	Los Angeles	West Bellevue Drive District	Portions of Wavering Dr., Bellevue Dr., Palmetto Dr., and Pasadena Ave.	Listed	12/21/1977
65001097	Los Angeles	Los Angeles	West Del Mar District	320-380 W. Del Mar Blvd., 280, 310 S. Orange Grove Blvd.	Listed	12/21/1977
65001104	Los Angeles	Los Angeles	Wilshire Christian Church	634 S. Normandie	Listed	5/24/1983
65001107	Los Angeles	Los Angeles	Zephyr Club	5209 Wilshire	Listed	5/24/1983
65006835	Los Angeles	Los Angeles	Edison Building	601 W. Fifth St.	Listed	3/28/1979
65006854	Los Angeles	Los Angeles	Los Angeles Times Building	201 W. First St.	Listed	3/28/1979
65006866	Los Angeles	Los Angeles	Title Guarantee Building	401 W. Fifth St.	Listed	3/28/1979
65006872	Los Angeles	Los Angeles	St. Johns Episcopal Church	Address Restricted	Listed	9/15/1982

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65008477	Los Angeles	Los Angeles	Masselin Senior Housing	402--404 Cochran Ave.	Listed	5/21/1992
65008751	Los Angeles	Los Angeles	Cuesta Vieja	E of CA 14, NE of jct. with I-5	Listed	8/25/1994
65009030	Los Angeles	Los Angeles	Skunk Works Complex	Address Restricted	Listed	12/10/1997
65009916	Los Angeles	Los Angeles	Paramount Ranch Cultural Landscape	Address Restricted	Listed	3/25/2005
68000058	Los Angeles	Los Angeles	Dodge, Walter Luther, House	950 N. King Rd.	Listed	1/1/1999
70000136	Los Angeles	Los Angeles	Los Angeles Central Library	630 W. 5th St.	Listed	12/18/1970
71000143	Los Angeles	Los Angeles	Barnsdall, Aline, Complex	4800 Hollywood Blvd.	Listed	5/6/1971
71000144	Los Angeles	Los Angeles	Bradbury Building	304 S. Broadway	Listed	7/14/1971
71000145	Los Angeles	Los Angeles	Ennis House	2607 Glendower Ave.	Eligible	10/14/1971
71000146	Los Angeles	Los Angeles	Freeman, Samuel, House	1962 Glencoe Way	Returned	10/14/1971
71000147	Los Angeles	Los Angeles	Lovell House	4616 Dundee Dr.	Listed	10/14/1971
71000148	Los Angeles	Los Angeles	Lummis House	200 E. Ave. 43	Listed	5/6/1971
71000149	Los Angeles	Los Angeles	Rogers, Will, House	14253 Sunset Blvd.	Listed	2/24/1971
71000151	Los Angeles	Los Angeles	Sowden, John, House	5121 Franklin Ave.	Listed	7/14/1971
71000152	Los Angeles	Los Angeles	Storer House	8161 Hollywood Blvd.	Listed	9/28/1971
72000229	Los Angeles	Los Angeles	Catholic-Protestant Chapels, Veterans Administration Center	Eisenhower Ave.	Listed	2/11/1972
72000230	Los Angeles	Los Angeles	Hale House	Heritage Sq., 3800 N. Homer St., Highland Park	Listed	9/22/1972

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72000231	Los Angeles	Los Angeles	Los Angeles Plaza Historic District	Roughly bounded by Spring, Macy, Alameda and Arcadia Sts., and Old Sunset Blvd.	Listed	11/3/1972
72000232	Los Angeles	Los Angeles	Streetcar Depot	Pershing and Dewey Aves.	Listed	2/23/1972
72001550	Los Angeles	Los Angeles	Domiciliary No. 9 - Veterans Administration Center	Dewey Ave. at Grant Ave.	Listed	10/1/1972
72001602	Los Angeles	Los Angeles	Campo de Cahuenga	3919 Lankershim Blvd.	Listed	12/19/2003
74000522	Los Angeles	Los Angeles	Centinela Adobe	7634 Midfield Ave.	Eligible	5/2/1974
74000523	Los Angeles	Los Angeles	Watts Station	1686 E. 103rd St.	Listed	3/15/1974
75000434	Los Angeles	Los Angeles	Natural History Museum	900 Exposition Blvd.	Listed	3/4/1975
76000488	Los Angeles	Los Angeles	Carroll Avenue, 1300 Block	Carroll Ave. between Edgeware and Douglas Sts.	Listed	4/22/1976
76000489	Los Angeles	Los Angeles	Mooers, Frederick Mitchell, House	818 S. Bonnie Brae St.	Eligible	6/3/1976
76000490	Los Angeles	Los Angeles	Mount Pleasant House	Heritage Sq., 3800 Homer St.	Eligible	12/12/1976
76000491	Los Angeles	Los Angeles	Somerville Hotel	4225 S. Central Ave.	Eligible	1/17/1976
77000297	Los Angeles	Los Angeles	Watts Towers of Simon Rodia	1765 E. 107th St.	Eligible	4/13/1977
78000685	Los Angeles	Los Angeles	Bullock's Wilshire Building	3050 Wilshire Blvd.	Eligible	5/25/1978
78000686	Los Angeles	Los Angeles	Bunche, Ralph J., House	1221 E. 40th Pl.	Eligible	5/22/1978
78000687	Los Angeles	Los Angeles	Million Dollar Theater	307 S. Broadway	Listed	7/20/1978
78000688	Los Angeles	Los Angeles	Pan-Pacific Auditorium	7600 Beverly Blvd.	Listed	9/27/1989
78000689	Los Angeles	Los Angeles	Plaza Substation	10 Olvera St.	Listed	9/13/1978

Ref#	County	City	Resource Name	Address	Status	Date Listed
78000690	Los Angeles	Los Angeles	Stimson House	2421 S. Figueroa St.	Listed	3/30/1978
79000482	Los Angeles	Los Angeles	Bernard, Susana Machado, House and Barn	845 S. Lake St.	Listed	9/4/1979
79000483	Los Angeles	Los Angeles	Britt, Eugene W., House	2141 W. Adams Blvd.	Listed	5/17/1979
79000484	Los Angeles	Los Angeles	Broadway Theater and Commercial District	300--849 S. Broadway	Listed	5/9/1979
79000485	Los Angeles	Los Angeles	Engine Company No. 28	644--646 S. Figueroa St	Listed	11/16/1979
79000486	Los Angeles	Los Angeles	Miller and Herriott House	1163 W. 27th St.	Listed	11/16/1979
79000488	Los Angeles	Los Angeles	Pellissier Building	3780 Wilshire Blvd.	Eligible	2/23/1979
79000489	Los Angeles	Los Angeles	Spring Street Financial District	354--704 S. Spring St.	Listed	8/10/1979
79000490	Los Angeles	Los Angeles	Wilton Historic District	S. Wilton Pl., S. Wilton Dr., and Ridgewood Pl.	Listed	7/24/1979
80000809	Los Angeles	Los Angeles	Fire Station No. 23	225 E. 5th St.	Listed	6/9/1980
80000810	Los Angeles	Los Angeles	Los Angeles Harbor Light Station	Los Angeles Harbor (San Pedro Breakwater)	Eligible	10/14/1980
80000811	Los Angeles	Los Angeles	Los Angeles Union Passenger Terminal	800 N. Alameda St.	Listed	11/13/1980
81000154	Los Angeles	Los Angeles	Congregation B'nai B'rith	3663 Wilshire Blvd.	Eligible	12/21/1981
81000155	Los Angeles	Los Angeles	Los Angeles Pacific Company Ivy Park Substation	9015 Venice Blvd.	Eligible	3/25/1981
82000968	Los Angeles	Los Angeles	Engine House No. 18	2616 S. Hobart Blvd.	Eligible	10/29/1982
82000971	Los Angeles	Los Angeles	Smith Estate	5905 El Mio Dr.	Eligible	10/29/1982
82002191	Los Angeles	Los Angeles	Garfield Building	403 W. 8th St.	Eligible	6/25/1982

Ref#	County	City	Resource Name	Address	Status	Date Listed
82002192	Los Angeles	Los Angeles	Golden Gate Theater	5170-5188 E. Whittier Blvd.	Listed	2/23/1982
82002193	Los Angeles	Los Angeles	Venice Canal Historic District	Roughly bounded by Grand, Carroll, Eastern, and Sherman canals	Listed	8/30/1982
83001184	Los Angeles	Los Angeles	Bryson Apartment Hotel	2701 Wilshire Blvd.	Listed	4/7/1983
83004529	Los Angeles	Los Angeles	Oviatt, James, Building	617 S. Olive St.	Listed	8/11/1983
84000783	Los Angeles	Los Angeles	Alvarado Terrace Historic District	Alvarado Terr., Bonnie Brae and 14th Sts.	Listed	5/17/1984
84000785	Los Angeles	Los Angeles	American Trona Corporation Building	Pacific Ave.	Eligible	8/30/1984
84000843	Los Angeles	Los Angeles	Federal Reserve Bank of San Francisco	409 W. Olympic Blvd.	Eligible	9/20/1984
84000865	Los Angeles	Los Angeles	Friday Morning Club	938-940 S. Figueroa St.	Listed	5/17/1984
84000873	Los Angeles	Los Angeles	Heinsbergen Decorating Company Building	7415 Beverly Blvd.	Listed	9/20/1984
84000874	Los Angeles	Los Angeles	Highland Park Police Station	6045 York Blvd.	Listed	3/22/1984
84000891	Los Angeles	Los Angeles	Title Guarantee and Trust Company Building	401-411 W. 5th St.	Listed	7/26/1984
84003866	Los Angeles	Los Angeles	Los Angeles Memorial Coliseum	3911 S. Figueroa St.	Listed	7/27/1984
85000130	Los Angeles	Los Angeles	US Post Office--Hollywood Station	1615 N. Wilcox Ave.	Listed	1/11/1985
85000131	Los Angeles	Los Angeles	US Post Office--Los Angeles Terminal Annex	900 Alameda St.	Listed	1/11/1985
85000704	Los Angeles	Los Angeles	Hollywood Boulevard Commercial and Entertainment District	6200-7000 Hollywood Blvd., N. Vine St., N. Highland Ave. and N. Ivar St.	Listed	4/4/1985
85001592	Los Angeles	Los Angeles	Montecito Apartments	6650 Franklin Ave.	Listed	7/18/1985
85002559	Los Angeles	Los Angeles	Engine Co. No. 27	1355 N. Cahuenga Blvd.	Listed	9/24/1985

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86000105	Los Angeles	Los Angeles	Rindge, Frederick Hastings, House	2263 Harvard Blvd.	Listed	1/23/1986
86000326	Los Angeles	Los Angeles	500 Varas Square--Government Reserve	Address Restricted	Listed	3/12/1986
86001479	Los Angeles	Los Angeles	Little Tokyo Historic District	301--369 First and 106--120 San Pedro Sts.	Listed	8/22/1986
86002098	Los Angeles	Los Angeles	San Fernando Building, The	400--410 S. Main St.	Listed	7/31/1986
86003320	Los Angeles	Los Angeles	Granada Shoppes and Studios	672 S. Lafayette Park Pl.	Listed	11/20/1986
86003524	Los Angeles	Los Angeles	Jardinette Apartments	5128 Marathon St.	Listed	12/29/1986
87000139	Los Angeles	Los Angeles	Menlo Avenue--West Twenty-ninth Street Historic District	Bounded by Adams Blvd., Ellendale, Thirtieth Ave., and Vermont	Listed	2/12/1987
87000576	Los Angeles	Los Angeles	Second Church of Christ, Scientist	946 W. Adams Blvd.	Eligible	4/2/1987
87000577	Los Angeles	Los Angeles	Al Malaikah Temple	655 W. Jefferson Blvd.	Returned	4/2/1987
87001004	Los Angeles	Los Angeles	Eagle Rock Branch Library	2224 Colorado Blvd.	Listed	5/19/1987
87001005	Los Angeles	Los Angeles	Angelus Mesa Branch	2700 W. Fifty-second St.	Listed	5/19/1987
87001006	Los Angeles	Los Angeles	Cahuenga Branch	4591 W. Santa Monica Blvd.	Listed	5/19/1987
87001007	Los Angeles	Los Angeles	Dana, Richard Henry, Branch	3320 Pepper St.	Listed	5/19/1987
87001008	Los Angeles	Los Angeles	De Neve, Felipe, Branch	2820 W. Sixth St.	Listed	5/19/1987
87001009	Los Angeles	Los Angeles	Fremont, John C., Branch	6121 Melrose Ave.	Listed	5/19/1987
87001010	Los Angeles	Los Angeles	Irving, Washington, Branch	1803 S. Arlington Ave.	Listed	5/19/1987
87001011	Los Angeles	Los Angeles	Jackson, Helen Hunt, Branch	2330 Naomi St.	Listed	5/19/1987

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87001012	Los Angeles	Los Angeles	Jefferson Branch	2211 W. Jefferson Blvd.	Listed	5/19/1987
87001013	Los Angeles	Los Angeles	Lincoln Heights Branch	2530 Workman St.	Listed	5/19/1987
87001014	Los Angeles	Los Angeles	Malabar Branch	2801 Wabash Ave.	Listed	5/19/1987
87001015	Los Angeles	Los Angeles	Memorial Branch	4645 W. Olympic Blvd.	Eligible	5/19/1987
87001016	Los Angeles	Los Angeles	Moneta Branch	4255 S. Olive St.	Listed	5/19/1987
87001017	Los Angeles	Los Angeles	Muir, John, Branch	1005 W. Sixty-fourth St.	Listed	5/19/1987
87001018	Los Angeles	Los Angeles	North Hollywood Branch	5211 N. Tujunga Ave.	Listed	5/19/1987
87001019	Los Angeles	Los Angeles	Van Nuys Branch	14553 Sylvan Way	Eligible	5/19/1987
87001020	Los Angeles	Los Angeles	Venice Branch	610 California Ave.	Eligible	5/19/1987
87001021	Los Angeles	Los Angeles	Stevenson, Robert Louis, Branch	803 Spence St.	Eligible	5/19/1987
87001022	Los Angeles	Los Angeles	Vermont Square Branch	1201 W. Forty-eighth St.	Eligible	5/19/1987
87001023	Los Angeles	Los Angeles	Wilmington Branch	309 W. Opp St.	Eligible	5/19/1987
87001024	Los Angeles	Los Angeles	Wilshire Branch	149 N. Saint Andrews Pl.	Eligible	5/19/1987
87001174	Los Angeles	Los Angeles	Garbutt House	1809 Apex Ave.	Listed	7/22/1987
87002401	Los Angeles	Los Angeles	South Bonnie Brae Tract Historic District	1026--1053 S. Bonnie Brae St. and 1830--1851 W. Eleventh St.	Listed	1/14/1988
87002407	Los Angeles	Los Angeles	South Serrano Avenue Historic District	400 blk. of S. Serrano Ave.	Listed	1/28/1988
88000922	Los Angeles	Los Angeles	Machell--Seaman House	2341 Scarff St.	Listed	6/23/1988

Ref#	County	City	Resource Name	Address	Status	Date Listed
88002017	Los Angeles	Los Angeles	El Greco Apartment	817 N. Hayworth Ave.	Listed	11/3/1988
88002147	Los Angeles	Los Angeles	Mission San Fernando Rey de Convento Building	15151 San Fernando Mission Blvd.	Listed	10/27/1988
89000198	Los Angeles	Los Angeles	Highland--Camrose Bungalow Village	Jct. Highland and Camrose Ave.	Listed	3/16/1989
89000821	Los Angeles	Los Angeles	Ramsay--Durfee Estate	2425 S. Western Ave.	Listed	7/24/1989
89001103	Los Angeles	Los Angeles	Van Buren Place Historic District	2620--2657 Van Buren Pl.	Listed	8/10/1989
89002268	Los Angeles	Los Angeles	Highland Park Masonic Temple	104 N. Avenue 56	Eligible	1/18/1990
91000285	Los Angeles	Los Angeles	Exposition Park Rose Garden	Exposition Park, jct. of Exposition Blvd. and Vermont Ave.	Listed	3/28/1991
91000915	Los Angeles	Los Angeles	Twentieth Street Historic District	912--950 20th St. (even numbers)	Listed	7/22/1991
91001387	Los Angeles	Los Angeles	St. James Park Historic District	Roughly bounded by 21st and 23 Sts., Mount St. Mary's College, W. Adams Blvd. and Union Ave.	Listed	9/27/1991
92000834	Los Angeles	Los Angeles	Hollywood Melrose Hotel	5150--70 Melrose Blvd.	Eligible	7/8/1992
92000959	Los Angeles	Los Angeles	Hangar One	5701 W. Imperial Hwy.	Listed	7/30/1992
92000969	Los Angeles	Los Angeles	Ralphs Grocery Store	1142--54 Westwood Blvd.	Eligible	7/30/1992
92001270	Los Angeles	Los Angeles	Southwest Museum	234 Museum Dr.	Eligible	3/11/2004
92001875	Los Angeles	Los Angeles	Angelus Temple	1100 Glendale Blvd.	Eligible	4/27/1992
94000401	Los Angeles	Los Angeles	Ebell of Los Angeles	743 S. Lucerne Blvd.	Eligible	5/6/1994
95000581	Los Angeles	Los Angeles	Los Angeles Nurses' Club	245 S. Lucas Ave.	Eligible	5/11/1995
95001152	Los Angeles	Los Angeles	Clark, Mary Andrews, Memorial Home	306--336 S. Loma Dr.	Listed	10/5/1995

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96000821	Los Angeles	Los Angeles	Town House, The	2959--2973 Wilshire Blvd. and 607--643 S. Commonwealth Ave.	Listed	12/15/1997
98000244	Los Angeles	Los Angeles	St. Andrews Bungalow Court	1514-1544 N. St. Andrews Pl.	Listed	3/19/1998
98000712	Los Angeles	Los Angeles	Golden State Mutual Life Insurance Building	4261 S. Central Ave.	Listed	6/26/1998
98001196	Los Angeles	Los Angeles	Kress, George R., House	2337 Benedict Canyon Dr.	Listed	9/25/1998
98001242	Los Angeles	Los Angeles	Halifax Apartments	6376 Yucca St.	Eligible	10/14/1998
99000370	Los Angeles	Los Angeles	Judson Studios	200 S. Avenue Sixty-Six	Eligible	3/25/1999
99000550	Los Angeles	Los Angeles	Hollywood Cemetery	6000 Santa Monica Blvd.	Listed	5/14/1999
99000765	Los Angeles	Los Angeles	Los Altos Apartments	4121 Wilshire Blvd.	Listed	7/1/1999
100000781	Los Angeles	Los Angeles	Grether and Grether Building	730-732 S. Los Angeles St.	Listed	4/5/2017
100000831	Los Angeles	Los Angeles	Neutra, Richard and Dion, VDL Research Houses and Studio	2300 Silver Lake Blvd. and 2351 Edgewater Terrace	Listed	3/2/2017
100001282	Los Angeles	Los Angeles	Roybal, Edward, House	628 S. Evergreen St.	Listed	7/13/2017
100001602	Los Angeles	Los Angeles	Great Wall of Los Angeles, The	Section of Tujunga Flood Control Channel bounded by Oxnard St., Coldwater Canyon & Burbank Blvds. & Coldwater Canyon Rd	Listed	9/21/2017
100001603	Los Angeles	Los Angeles	Maxfield Building	819 S. Santee St.	Listed	9/21/2017
100002656	Los Angeles	Los Angeles	El Barrio Free Clinic	5012 E Whittier Blvd.	Listed	7/16/2018
100002958	Los Angeles	Los Angeles	Canterbury Apartment Hotel, The	1746 N Cherokee Ave.	Listed	9/21/2018
100002993	Los Angeles	Los Angeles	Beverly Fairfax Historic District	Roughly bounded by N. Gardner & Vista Sts., Beverley Blvd., Rosewood, Melrose & N. Fairfax Aves.	Listed	10/4/2018

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100003238	Los Angeles	Los Angeles	Aloha Apartment Hotel	6731 Leland Way	Listed	12/17/2018
100003239	Los Angeles	Los Angeles	La Casa Del Rey	1516 N Hobart Blvd.	Listed	12/17/2018
100003240	Los Angeles	Los Angeles	Hollywood Argyle Apartments	2017 N Argyle Ave.	Listed	12/17/2018
100003283	Los Angeles	Los Angeles	Mar Vista Gardens	11965 Allin St.	Listed	2/1/2019
100003291	Los Angeles	Los Angeles	Filipino Christian Church	301 N Union Ave.	Listed	2/1/2019
74000524	Los Angeles	Lynwood	Lynwood Pacific Electric Railway Depot	11453 Long Beach Blvd.	Listed	9/25/1974
09000802	Los Angeles	Malibu	Stevens House	23524 Malibu Colony Rd.	Listed	10/9/2009
76000492	Los Angeles	Malibu	Humaliwo	Address Restricted	Eligible	9/1/1976
77000298	Los Angeles	Malibu	Adamson House	23200 W. Pacific Coast Highway	Returned	10/28/1977
82004617	Los Angeles	Malibu	Saddle Rock Ranch Pictograph Site	Address Restricted	Listed	2/12/1982
100002022	Los Angeles	Malibu	Malibu Historic District	Roughly along Pacific Coast from Malibu Pier to the western boundary of Malibu Lagoon State Beach	Listed	2/2/2018
100000762	Los Angeles	Marina Del Rey	ZUMBROTA (yacht)	13755 Fiji Way	Listed	3/30/2017
66000211	Los Angeles	Mission Hills	Pico, Romulo, Adobe	10940 Sepulveda Blvd.	Listed	11/13/1966
71000153	Los Angeles	Monrovia	Sinclair, Upton, House	464 N. Myrtle Ave.	Listed	11/11/1971
78000691	Los Angeles	Monrovia	Aztec Hotel	311 W. Foothill Blvd.	Listed	5/22/1978
78000692	Los Angeles	Monrovia	Oaks, The	250 N. Primrose Ave.	Listed	4/6/1978

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95000266	Los Angeles	Montebello	Montebello Woman's Club	201 S. Park Ave.	Listed	3/31/1995
65000733	Los Angeles	North Hollywood	El Portal Theatre	Address Restricted	Listed	2/10/1984
65000791	Los Angeles	North Hollywood	Hendricks Builders Supply Company	5401 Lankershim Blvd.	Listed	5/24/1983
65000943	Los Angeles	North Hollywood	Paperback Shack Books Building	5303 Lankershim Blvd.	Listed	2/10/1984
65000945	Los Angeles	North Hollywood	Xl's Diner	11138-11142 Chandler Blvd.	Eligible	2/10/1984
98000246	Los Angeles	North Hollywood	Portal of the Folded Wings Shrine to Aviation and Museum	10621 Victory Blvd.	Listed	3/18/1998
78000693	Los Angeles	Norwalk	Johnston, Darius David, House	12426 Mapledale St.	Listed	11/2/1978
78000694	Los Angeles	Norwalk	Paddison Ranch Buildings	11951 Imperial Hwy.	Listed	6/23/1978
06000978	Los Angeles	Pacific Palisades	Eames House	203 N Chautauqua Blvd.	Eligible	9/20/2006
96000393	Los Angeles	Palos Verdes	Palos Verdes Public Library and Art Gallery--Farnham Martin's Park (Boundary Increase)	2400 Via Campesina	Eligible	4/16/1996
95000388	Los Angeles	Palos Verdes Estates	Palos Verdes Public Library and Art Gallery	2400 Via Campesina	Eligible	4/7/1995
65000850	Los Angeles	Paramount	Kleppel, Mark, Building	16402--16406 Paramount Blvd.	Eligible	1/13/1986
01000328	Los Angeles	Pasadena	Hermitage	2121 Monte Vista St.	Eligible	4/5/2001
01000329	Los Angeles	Pasadena	Blinn, Edmund, House	160 N. Oakland Ave.	Eligible	4/5/2001
01000330	Los Angeles	Pasadena	Merrill, Samuel, House	1285 N. Summit Ave.	Listed	4/5/2001
04000015	Los Angeles	Pasadena	Ware, Henry A., House	460 Bellefontaine St.	Listed	6/15/2004
04000322	Los Angeles	Pasadena	House at 1015 Prospect Boulevard	1015 Prospect Blvd.	Listed	8/20/2004

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04000323	Los Angeles	Pasadena	House at 1487 Loma Vista Street	1487 Loma Vista St.	Listed	8/20/2004
04000324	Los Angeles	Pasadena	Park Place--Arroyo Terrace Historic District	368-440 Arroyo Terrace, 200-240 N. Grand Ave., 201-239 N. Orange Grove Blvd.	Listed	6/29/2007
04000325	Los Angeles	Pasadena	House at 674 Elliot Drive	674 Elliot Dr.	Listed	8/20/2004
04000326	Los Angeles	Pasadena	House at 1141 North Chester Avenue	1141 N. Chester Ave.	Listed	8/20/2004
04000329	Los Angeles	Pasadena	House at 1240 North Los Robles	1240 N. Los Robles Ave.	Listed	8/20/2004
04000331	Los Angeles	Pasadena	Lower Arroyo Seco Historic District	Roughly Arroyo Blvd., W. California Blvd., La Loma Blvd.	Listed	7/12/2005
04000680	Los Angeles	Pasadena	La Loma Bridge	Crossing the Arroyo Seco at La Loma Broad	Eligible	7/14/2004
05000050	Los Angeles	Pasadena	Storrier--Stearns Japanese Garden	270 Arlington Dr.	Listed	2/15/2005
07000996	Los Angeles	Pasadena	Royal Laundry Complex	443 S. Raymond Ave.	Listed	9/27/2007
07001303	Los Angeles	Pasadena	Old Pasadena Historic District (Boundary Increase)	Fair Oaks & Raymond Aves., Colorado Blvd., Green St.	Listed	3/25/2008
08000260	Los Angeles	Pasadena	Bungalow Heaven Historic District	Roughly bounded by N. Mentor Ave., E. Orange Grove Blvd., E, Washington Blvd., N. Michigan & N. Chester Aves.	Eligible	4/10/2008
08000579	Los Angeles	Pasadena	Pasadena Arroyo Parks and Recreation District	Roughly bounded by the Foothill Freeway on the north, the city limits on the south, Arroyo Blvd on east, San Rafael	Listed	11/10/2008
09000175	Los Angeles	Pasadena	Frank, Richard and Mary Alice, House	919 La Loma Rd.	Eligible	4/10/2009
09000176	Los Angeles	Pasadena	Gill, Merwyn C., House	1385 El Mirador Dr.	Eligible	12/23/2009
09000177	Los Angeles	Pasadena	Marguerita Lane Historic District	Marguerita La. off South Morengo Ave.	Eligible	4/10/2009
09000178	Los Angeles	Pasadena	Mello, Clarence and Mary, House	541 Fremont Dr.	Eligible	4/10/2009

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09000179	Los Angeles	Pasadena	Norton, John, House	820 Burleigh Dr.	Eligible	4/10/2009
09000181	Los Angeles	Pasadena	Pike, Robert and Barbara, House	512 Glen Ct.	Listed	4/10/2009
09000182	Los Angeles	Pasadena	Poppy Peak Historic District	Bounded by Ave. 64 on the E., La Loma Rd. on the N. including Poppy Peak Dr., Kaweah Dr., Cresthaven Dr.	Listed	12/23/2009
09001223	Los Angeles	Pasadena	Pegfair Estates Historic District	1525-1645 Pegfair Estates Dr.; 1335-1345 Carnarvon Dr.	Listed	1/18/2010
10000496	Los Angeles	Pasadena	Ford Place Historic District	110-175 N Oakland Ave; 450-465 Ford Place; 144 N Los Robles Ave	Listed	7/22/2010
11000489	Los Angeles	Pasadena	Bristol--Cypress Historic District	438-516 Cypress Ave.,	Listed	8/9/2011
11000490	Los Angeles	Pasadena	Cosby, James Fielding, House	510 Locke Haven St.	Eligible	8/9/2011
11000491	Los Angeles	Pasadena	Denham, Mary E., House	297 S. Orange Grove Blvd.,	Eligible	8/9/2011
11000492	Los Angeles	Pasadena	Hartwell, John S. House	423 Lincoln Ave.	Listed	8/9/2011
11000493	Los Angeles	Pasadena	Hillmont	1375 E. Mountain St.	Listed	8/9/2011
11000494	Los Angeles	Pasadena	Hood, Mrs. J.H., House	494 Ellis St.	Listed	8/9/2011
11000495	Los Angeles	Pasadena	House at 1360 Lida Street	1360 Lida St.,	Listed	8/9/2011
11000496	Los Angeles	Pasadena	Jarvis, Benjamin, House	531 N. Raymond Ave.	Listed	8/9/2011
11000497	Los Angeles	Pasadena	Lacey, Friend, House	679 E. Villa St.,	Listed	8/9/2011
11000498	Los Angeles	Pasadena	New Fair Oaks Historic District	480-512 Lincoln Av. & 57-103 W. Villa St.,	Listed	8/9/2011
11000499	Los Angeles	Pasadena	Post, George B., House	360 S. Grand Ave.	Listed	8/9/2011

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11000500	Los Angeles	Pasadena	Raymond--Summit Historic District	Roughly bounded by N. Raymond Ave., E. Villa St., Summit Ave. & E. Maple St.,	Listed	8/9/2011
11000654	Los Angeles	Pasadena	Freeman, Rose Graham and James Allen, House	1330 Hillcrest Ave.	Listed	9/15/2011
12001164	Los Angeles	Pasadena	Merwin House	267 W. State St.	Listed	1/14/2013
13000106	Los Angeles	Pasadena	Markham Place Historic District	Roughly bounded by California St., Pasadena Ave., Bellefontaine St. & Orange Grove Blvd.	Listed	3/27/2013
13000160	Los Angeles	Pasadena	Southern California Sanitarium Historic District	2900 E Del Mar Blvd.	Listed	5/1/2013
13000407	Los Angeles	Pasadena	Batchelder, Ernest and Alice--Dean, Francis, Garden	626 S. Arroyo Blvd.	Listed	5/16/2014
13000408	Los Angeles	Pasadena	Bryner, Ira and Margaret, Garden	494-508 Bradford St.	Listed	5/16/2014
13000409	Los Angeles	Pasadena	Coppell, Herbert, Garden Water Feature	1210 S. Arroyo Blvd.	Listed	5/16/2014
13000410	Los Angeles	Pasadena	Frank, Richard and Mary Alice, Garden	919 La Loma Rd.	Listed	5/16/2014
13000411	Los Angeles	Pasadena	Hoover, Herbert Jr. and Margaret, Garden	900 S. San Rafael Ave.	Eligible	5/16/2014
13000412	Los Angeles	Pasadena	La Pintoresca Park	1355 N. Raymond Ave.	Returned	5/16/2014
13000413	Los Angeles	Pasadena	Lower Busch Gardens Cultural Landscape Historic District	1025, 1035, 1055 S. Arroyo Blvd., 1130-1170 Busch Garden Ct., 625 & 655 Busch Garden Dr., 620-670 Busch Garden Ln.	Listed	5/16/2014
13000414	Los Angeles	Pasadena	Reynolds, Kenyon and Patricia, Garden	901 S. San Rafael Ave.	Listed	5/16/2014
13000415	Los Angeles	Pasadena	Upper Busch Gardens Cultural Landscape Historic District	960, 970, 980, 1001, 1010-1050, 1060 Stoneridge Dr., 570, 571 Busch Pl., 570, 571, 579 Garden Ln.	Listed	5/16/2014
13000514	Los Angeles	Pasadena	Case Study House No. 10	711 S. San Rafael Ave.	Listed	7/24/2013
13000868	Los Angeles	Pasadena	House at 1111 North Los Robles Avenue	1111 N. Los Robles Ave.	Listed	12/3/2013

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13000869	Los Angeles	Pasadena	House at 1121 North Los Robles Avenue	1121-1123 N. Los Roblee Ave.	Listed	12/3/2013
65000685	Los Angeles	Pasadena	Breiner House	1495 N. Lake Ave.	Listed	12/29/1982
65000689	Los Angeles	Pasadena	Bungalow Courts at 982, 986, & 990 South Marengo	982, 986, & 990 S. Marengo	Listed	6/26/1981
65000690	Los Angeles	Pasadena	Bungalow Courts at 221-241 Ohio Street	221-241 Ohio St.	Listed	6/26/1981
65000691	Los Angeles	Pasadena	Adams Court	427 S. Marengo	Listed	6/26/1981
65000692	Los Angeles	Pasadena	Bellevue Court	440 S. Marengo	Listed	6/26/1981
65000693	Los Angeles	Pasadena	Sara-Thel Court	618-632 S. Marengo	Eligible	6/26/1981
65000694	Los Angeles	Pasadena	Cottage Court	642-654 S. Marengo	Listed	6/26/1981
65000695	Los Angeles	Pasadena	Bungalow Court at 744-756 1/2 South Marengo	744-756 1/2 S. Marengo	Listed	6/26/1981
65000732	Los Angeles	Pasadena	Dowling-Rodriguez House	570 N. Raymond Ave.	Listed	4/6/1981
65000743	Los Angeles	Pasadena	The Evanston Inn	385-395 Marengo	Eligible	6/26/1981
65000774	Los Angeles	Pasadena	Building at 1814 North Garfield Avenue	1814 N. Garfield Ave.	Eligible	3/5/1980
65000863	Los Angeles	Pasadena	Lincoln Avenue Methodist Church	Address Restricted	Eligible	10/14/1980
65000864	Los Angeles	Pasadena	Building at 1143 North Los Robles	1143 N. Los Robles	Eligible	3/5/1980
65000865	Los Angeles	Pasadena	Building at 1121-23 North Los Robles	1121-23 N. Los Robles	Eligible	3/5/1980
65000866	Los Angeles	Pasadena	Building at 1111 North Los Robles	1111 N. Los Robles	Eligible	3/5/1980
65000880	Los Angeles	Pasadena	Building at 950 North Marengo Avenue	950 N. Marengo Ave.	Listed	3/5/1980

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65000882	Los Angeles	Pasadena	Merrill-Grider House	1285 N. Summit Ave.	Listed	4/6/1981
65000897	Los Angeles	Pasadena	Nash House	591 N. Oakland	Listed	3/10/1980
65000950	Los Angeles	Pasadena	Pasadena Avenue District	Address Restricted	Listed	12/21/1977
65000969	Los Angeles	Pasadena	Prospect Boulevard Bridge	Address Restricted	Listed	4/15/1981
65000970	Los Angeles	Pasadena	Prospect Park Historic District	Prospect Blvd., btwn. N Orange Grove & S end of the present day bridge and N side of Rosemont Ave.	Listed	4/15/1981
65001020	Los Angeles	Pasadena	The South Marengo Historic District	Address Restricted	Listed	6/26/1981
65001022	Los Angeles	Pasadena	Shea House	524 N. Marengo Ave.	Listed	10/20/1978
65001062	Los Angeles	Pasadena	Tract 1032 Historic District	Address Restricted	Listed	4/15/1981
65001088	Los Angeles	Pasadena	Vista del Arroyo Complex	Bounded by Arroyo Blvd., Defender's Pkwy., & Grand Ave.	Eligible	2/16/1978
65006836	Los Angeles	Pasadena	Don Carlos Court	374-386 S. Marengo	Listed	6/26/1981
65008889	Los Angeles	Pasadena	Bellmar Court	909--915 Summit Dr.	Listed	11/20/1995
65008890	Los Angeles	Pasadena	Short Line Villa Tract Historic District	Roughly bounded by Kendall Ave., Huntington Dr., Alpha St., Newtonia Dr. and Maycrest Ave.	Listed	11/20/1995
65008891	Los Angeles	Pasadena	Scattergood House	4515 Berkshire Ave.	Eligible	11/20/1995
65008892	Los Angeles	Pasadena	Jacobson House	5636 Berkshire Dr.	Listed	11/20/1995
65008893	Los Angeles	Pasadena	Smith House	5626 Berkshire Dr.	Eligible	11/20/1995
65008894	Los Angeles	Pasadena	Conway--Penrose House	5618 Berkshire Dr.	Eligible	11/20/1995

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65008895	Los Angeles	Pasadena	Pasadena Avenue Historic District	Pasadena Ave. from Columbia St. to Bellefontaine Ave.	Eligible	11/20/1995
65008896	Los Angeles	Pasadena	47 Properties in South Pasadena	Various addresses in S. Pasadena	Eligible	11/20/1995
65008897	Los Angeles	Pasadena	60 Properties in Pasadena	Various addresses in Pasadena	Eligible	11/20/1995
71000154	Los Angeles	Pasadena	El Molino Viejo	1120 Old Mill Rd.	Listed	5/6/1971
71000155	Los Angeles	Pasadena	Gamble House	4 Westmoreland Pl.	Listed	9/3/1971
74002272	Los Angeles	Pasadena	Neighborhood Church	Pasadena Ave. and California Blvd.	Listed	1/1/1999
75000435	Los Angeles	Pasadena	Pasadena Playhouse	39 S. El Molino Ave.	Listed	11/11/1975
76000493	Los Angeles	Pasadena	Millard House	645 Prospect Crescent	Listed	12/12/1976
77000299	Los Angeles	Pasadena	Bentz, Louise C., House	657 Prospect Blvd.	Eligible	12/2/1977
77000300	Los Angeles	Pasadena	Nicholson, Grace, Building	46 N. Los Robles Ave.	Eligible	7/21/1977
77001545	Los Angeles	Pasadena	Pasadena Athletic and Country Club	SE corner of E. Green St. and S. Los Robles Ave.	Listed	1/1/1999
78000695	Los Angeles	Pasadena	Batchelder House	626 S. Arroyo Blvd.	Listed	12/14/1978
78000696	Los Angeles	Pasadena	Friendship Baptist Church	80 W. Dayton St.	Listed	11/20/1978
79000491	Los Angeles	Pasadena	Holly Street Livery Stable	110 E. Holly St	Listed	10/25/1979
79000492	Los Angeles	Pasadena	House at 530 S. Marengo Avenue	530 S. Marengo Ave.	Listed	9/13/1979
80000813	Los Angeles	Pasadena	Pasadena Civic Center District	Roughly bounded by Walnut and Green Sts., Raymond and Euclid Aves.	Listed	7/28/1980
80000814	Los Angeles	Pasadena	Stoutenburgh House	255 S. Marengo Ave.	Listed	11/25/1980

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80004491	Los Angeles	Pasadena	Bolton, Dr. W. T., House	370 W. Del Mar Blvd.	Listed	7/9/1980
81000156	Los Angeles	Pasadena	Colorado Street Bridge	Colorado Blvd.	Listed	2/12/1981
81000157	Los Angeles	Pasadena	Vista del Arroyo Hotel and Bungalows	125 S. Grand Ave.	Listed	4/2/1981
82000967	Los Angeles	Pasadena	Civic Center Financial District	E. Colorado Blvd. and Marengo Ave.	Listed	10/29/1982
82002194	Los Angeles	Pasadena	Bowen Court	539 E. Villa St.	Listed	6/17/1982
82002195	Los Angeles	Pasadena	Haskett Court	824--834 E. California Blvd.	Listed	2/25/1982
82002196	Los Angeles	Pasadena	Hotel Green	99 S. Raymond Ave.	Listed	3/23/1982
82002197	Los Angeles	Pasadena	Longfellow-Hastings House	85 S. Allen Ave.	Listed	3/2/1982
82002198	Los Angeles	Pasadena	Newcomb House	675--677 N. El Molino Ave.	Listed	9/2/1982
82002199	Los Angeles	Pasadena	South Marengo Historic District	S. Marengo Ave.	Listed	6/2/1982
83001185	Los Angeles	Pasadena	Colonial Court	291-301 N. Garfield Ave.	Eligible	7/11/1983
83001186	Los Angeles	Pasadena	Cottage Court	642-654 S. Margeno Ave.	Returned	7/11/1983
83001187	Los Angeles	Pasadena	Court	497-503 1/2 N. Madison Ave.	Listed	7/11/1983
83001188	Los Angeles	Pasadena	Court	744-756 1/2 S. Marengo Ave.	Listed	7/11/1983
83001189	Los Angeles	Pasadena	Court	732-744 Santa Barbara St.	Listed	7/11/1983
83001190	Los Angeles	Pasadena	Cypress Court	623-641 N. Madison Ave.	Listed	7/11/1983
83001191	Los Angeles	Pasadena	Don Carlos Court	374-386 S. Marengo Ave.	Listed	7/11/1983

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83001192	Los Angeles	Pasadena	Sara-Thel Court	618-630 S. Marengo Ave.	Listed	7/11/1983
83001193	Los Angeles	Pasadena	Euclid Court	545 S. Euclid Ave.	Listed	7/11/1983
83001195	Los Angeles	Pasadena	Gartz Court	270 N. Madison	Listed	8/25/1983
83001196	Los Angeles	Pasadena	Las Casitas Court	656 N. Summit Ave.	Listed	7/11/1983
83001197	Los Angeles	Pasadena	Marengo Gardens	982, 986, 990 S. Marengo Ave. and 221-241 Ohio St.	Listed	7/11/1983
83001198	Los Angeles	Pasadena	Mission Court	567 N. Oakland Ave.	Listed	7/11/1983
83001199	Los Angeles	Pasadena	Orange Grove Court	745 E. Orange Grove Blvd.	Eligible	7/11/1983
83001200	Los Angeles	Pasadena	Old Pasadena Historic District	Roughly bounded by Pasadena, Fair Oaks, Raymond Aves., Arroyo Pkwy., Del Mar Blvd., and Corson St.	Listed	9/15/1983
83001201	Los Angeles	Pasadena	Palmetto Court	100 Palmetto Dr.	Listed	7/11/1983
83001202	Los Angeles	Pasadena	Prospect Historic District	Prospect Blvd., Square, Crescent, and Terrace, Rosemont Ave., Armada and Fremont Drs., and La Mesa Pl.	Listed	4/7/1983
83001203	Los Angeles	Pasadena	Rose Court	449-457 S. Hudson Ave.	Eligible	7/11/1983
84000787	Los Angeles	Pasadena	Evanston Inn	385-395 S. Marengo Ave.	Eligible	9/13/1984
84000879	Los Angeles	Pasadena	Lukens, Theodore Parker, House	267 N. El Molino Ave.	Eligible	3/29/1984
84000896	Los Angeles	Pasadena	Villa Verde	800 S. San Rafael	Eligible	9/13/1984
85001066	Los Angeles	Pasadena	Singer Building	16 S. Oakland Ave. and 520 E. Colorado Blvd.	Eligible	5/16/1985
85001682	Los Angeles	Pasadena	Odd Fellows Temple	175 N. Los Robles Ave.	Eligible	8/1/1985

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85001983	Los Angeles	Pasadena	Fenyes Estate	470 W. Walnut St. & 160 N. Orange Grove Blvd.	Listed	9/5/1985
85002198	Los Angeles	Pasadena	Culbertson, Cordelia A., House	1188 Hillcrest Ave.	Listed	9/12/1985
85002812	Los Angeles	Pasadena	Twenty-Five Foot Space Simulator	Jet Propulsion Laboratory	Listed	10/3/1985
85002814	Los Angeles	Pasadena	Space Flight Operations Facility	Jet Propulsion Laboratory	Listed	10/3/1985
86000103	Los Angeles	Pasadena	Hale Solar Laboratory	740 Holladay Rd.	Listed	1/23/1986
86000147	Los Angeles	Pasadena	Blacker, Robert R., House	1177 Hillcrest Ave.	Listed	2/6/1986
86000790	Los Angeles	Pasadena	Bryan Court	427 S. Morengo Ave.	Listed	4/16/1986
87000755	Los Angeles	Pasadena	Rose Bowl, The	991 Rosemont Ave., Brookside Park	Listed	2/27/1987
87000941	Los Angeles	Pasadena	First Trust Building and Garage	587--611 E. Colorado Blvd. and 30-44 N. Madison Ave.	Listed	6/12/1987
87000980	Los Angeles	Pasadena	Home Laundry	432 S. Arroyo Pkwy.	Eligible	6/18/1987
87002397	Los Angeles	Pasadena	Smith, Ernest W., House	272 S. Los Robles Ave.	Listed	1/14/1988
94000462	Los Angeles	Pasadena	Pasadena Playhouse Historic District	464--611 E. Colorado Blvd., 550--655 E. Green St., 21--127 S. El Molino Ave., and 150 N.--101 S. Madison Ave.	Listed	5/19/1994
94001315	Los Angeles	Pasadena	Court at 1274--1282 North Raymond Avenue	1274--1282 N. Raymond Ave.	Listed	11/15/1994
94001316	Los Angeles	Pasadena	Washington Court	475 E. Washington Blvd.	Eligible	11/15/1994
94001317	Los Angeles	Pasadena	Court at 940--948 North Raymond Avenue	940--948 N. Raymond Ave.	Listed	11/15/1994
94001318	Los Angeles	Pasadena	Mary Louise Court	583--599 N. Mentor Ave.	Eligible	11/15/1994

Ref#	County	City	Resource Name	Address	Status	Date Listed
94001319	Los Angeles	Pasadena	Court at 638--650 North Mar Vista Avenue	638--650 N. Mar Vista Ave.	Eligible	11/15/1994
94001320	Los Angeles	Pasadena	Court at 533--549 North Lincoln Avenue	533--549 N. Lincoln Ave.	Eligible	11/15/1994
94001321	Los Angeles	Pasadena	Harnetiaux Court	48 N. Catalina Ave.	Eligible	11/15/1994
94001322	Los Angeles	Pasadena	Kosy Knook Court	830 Brooks Ave.	Eligible	11/15/1994
94001323	Los Angeles	Pasadena	Mentor Court	937 E. California Blvd.	Listed	11/15/1994
94001324	Los Angeles	Pasadena	Court at 275 North Chester Avenue	275 N. Chester Ave.	Listed	11/15/1994
94001325	Los Angeles	Pasadena	Bonnie Court	140 S. Bonnie Ave.	Listed	11/15/1994
94001326	Los Angeles	Pasadena	Stuart Company Plant and Office Building	3360 E. Foothill Blvd.	Listed	10/20/1998
95000998	Los Angeles	Pasadena	Miss Orton's Classical School for Girls (Dormitory)	154 S. Euclid Ave.	Listed	8/4/1995
95001128	Los Angeles	Pasadena	Orange Heights--Barnhart Tracts Historic District	Roughly bounded by N. Los Robles Ave. W, N. El Molino Ave. E., Jackson St. N., and E. Mountain St. S.	Eligible	9/29/1995
96000421	Los Angeles	Pasadena	Foothill Boulevard Milestone (Mile 11)	S side of E. Colorado Blvd., W of jct. with Holliston Ave.	Eligible	4/19/1996
96000422	Los Angeles	Pasadena	Howard Motor Company Building	1285 E. Colorado Blvd.	Listed	4/18/1996
96000423	Los Angeles	Pasadena	Kindel Building	1095 E. Colorado Blvd.	Listed	4/18/1996
96000776	Los Angeles	Pasadena	Bullock's Pasadena	401 S. Lake Ave.	Listed	7/12/1996
97001212	Los Angeles	Pasadena	Bekins Storage Co. Roof Sign	511 S. Fair Oaks Ave.	Listed	10/15/1997
98000958	Los Angeles	Pasadena	House at 574 Bellefontaine St.	574 Bellefontaine St.	Listed	8/6/1998

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98000959	Los Angeles	Pasadena	House at 1011 S. Madison Ave.	1011 S. Madison Ave.	Listed	8/6/1998
98000960	Los Angeles	Pasadena	House at 1050 S. Madison Ave.	1050 S. Madison Ave.	Listed	8/6/1998
98000961	Los Angeles	Pasadena	House at 380 W. Del Mar Blvd.	380 W. Del Mar Blvd.	Listed	8/6/1998
98000962	Los Angeles	Pasadena	House at 1233 Wentworth Ave.	1233 Wentworth Ave.	Listed	8/6/1998
77000301	Los Angeles	Pearland	Little Rock Creek Dam	4.5 mi. S of Pearland off CA 138	Listed	6/17/1994
03001347	Los Angeles	Pomona	Lincoln Park Historic District	Roughly bounded by McKinley Ave., Towne Ave., Pasadena St. and Garey Ave.	Listed	4/9/2004
04001109	Los Angeles	Pomona	Pomona City Stable	636 W. Monterey Ave.	Listed	10/6/2004
65000773	Los Angeles	Pomona	Fox Theatre	Address Restricted	Listed	11/13/1981
71000156	Los Angeles	Pomona	Palomares, Ygnacio, Adobe	Corner of Arrow Hwy. and Orange Grove Ave.	Listed	3/24/1971
74000525	Los Angeles	Pomona	Xllips Mansion	2640 W. Pomona Blvd.	Listed	11/6/1974
75000436	Los Angeles	Pomona	La Casa Primera de Rancho San Jose	1569 N. Park Ave.	Listed	4/3/1975
78000697	Los Angeles	Pomona	Greenwood, Barbara, Kindergarten	Hacienda Pl. and McKinley Ave.	Listed	9/18/1978
78000698	Los Angeles	Pomona	La Casa Alvarado	1459 Old Settlers Lane	Eligible	4/19/1978
82002201	Los Angeles	Pomona	Pomona Fox Theater	102--144 3rd St.	Returned	2/19/1982
86000408	Los Angeles	Pomona	Pomona YMCA Building	350 N. Geary Ave.	Listed	3/6/1986
86001477	Los Angeles	Pomona	Edison Historic District	611, 637, and 500 blk. of W. Second St.	Listed	8/13/1986
89000935	Los Angeles	Pomona	Lincoln, Abraham, Elementary School	1200 N. Gordon Ave.	Listed	8/3/1989

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100001382	Los Angeles	Pomona	Mayfair Hotel	115 E. 3rd St.	Listed	8/3/2017
80000808	Los Angeles	Rancho Palos Verdes	Point Vicente Light	Palos Verdes Drive South	Listed	10/31/1980
86002796	Los Angeles	Rancho Palos Verdes	Villa Francesca	1 Peppertree Dr.	Listed	10/2/1986
05000210	Los Angeles	Rancho Palos Verdes	Wayfarers Chapel	5755 Palos Verdes Dr. S	Listed	7/11/2005
81000158	Los Angeles	Redondo Beach	Redondo Beach Public Library	309 Esplanade St.	Listed	3/12/1981
84000900	Los Angeles	Redondo Beach	Woman's Club of Redondo Beach	400 S. Broadway	Listed	4/19/1984
85001984	Los Angeles	Redondo Beach	Sweetser Residence	417 E. Beryl St.	Listed	9/5/1985
88000970	Los Angeles	Redondo Beach	Redondo Beach Original Townsite Historic District	N. Gertruda Ave., Carnelian St., N. Guadalupe Ave. and Diamond St.	Listed	6/30/1988
92000260	Los Angeles	Redondo Beach	Diamond Apartments	321 Diamond St.	Eligible	3/26/1992
65008898	Los Angeles	Ritter Ranch	Archeological Site No. CA-LAN-2311	Address Restricted	Listed	1/2/1900
72000233	Los Angeles	San Dimas	San Dimas Hotel	121 San Dimas Ave.	Listed	3/16/1972
66000212	Los Angeles	San Fernando	Well No. 4, Pico Canyon Oil Field	9.5 mi. N of San Fernando, W of U.S. 99	Listed	11/13/1966
71000157	Los Angeles	San Fernando	Lopez Adobe	1100 Pico St.	Eligible	5/6/1971
71001076	Los Angeles	San Fernando	Mission San Fernando Rey de Espana	15151 San Fernando Mission Blvd.	Eligible	1/1/1999
65000997	Los Angeles	San Gabriel	San Gabriel Mission Playhouse Complex	320 and 324 S. Mission Dr., Grapevine Pk., and the old Grapevine	Eligible	1/13/1986
71000158	Los Angeles	San Gabriel	San Gabriel Mission	Junipero St. and W. Mission Dr.	Eligible	5/6/1971
100000462	Los Angeles	San Gabriel	La Laguna de San Gabriel	300 W. Wells St.	Eligible	1/17/2017

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100002674	Los Angeles	San Gabriel	San Gabriel Mission Playhouse	320 S Mission Dr.	Eligible	7/23/2018
10001118	Los Angeles	San Marino	Emery, Katherine Estate	1155 Oak Grove Ave	Listed	1/10/2011
14000797	Los Angeles	San Marino	White, Michael, Adobe	2701 Huntington Dr.	Listed	9/30/2014
76000494	Los Angeles	San Marino	Hubble, Edwin, House	1340 Woodstock Rd.	Listed	12/8/1976
00000386	Los Angeles	San Pedro	Municipal Warehouse No. 1	2500 Signal St.	Listed	4/21/2000
72000234	Los Angeles	San Pedro	Point Fermin Lighthouse	805 Paseo Del Mar	Listed	6/13/1972
74000526	Los Angeles	San Pedro	Battery Osgood-Farley	Fort MacArthur Upper Reservation	Listed	10/16/1974
76000495	Los Angeles	San Pedro	S.S. CATALINA	Berth 96, Los Angeles Harbor	Listed	9/1/1976
82002200	Los Angeles	San Pedro	Battery John Barlow and Saxton	Fort MacArthur	Listed	5/4/1982
85000132	Los Angeles	San Pedro	US Post Office--San Pedro Main	839 S. Beacon St.	Listed	1/11/1985
89001430	Los Angeles	San Pedro	RALPH J. SCOTT	Berth 85	Eligible	6/30/1989
90002222	Los Angeles	San Pedro	LANE VICTORY	Berth 4, Port of San Pedro	Listed	12/14/1990
96000392	Los Angeles	San Pedro	San Pedro Municipal Ferry Building	Berth 84, Foot of 6th St.	Listed	4/12/1996
98001633	Los Angeles	San Pedro	Warner Brothers Theatre	478 W. 6th St.	Listed	1/21/1999
82004982	Los Angeles	Santa Fe Springs	Hawkins--Nimocks Estate-Patricio Ontiveros Adobe	12100 Telegraph Rd.	Eligible	12/31/1987
89002267	Los Angeles	Santa Fe Springs	Clarke Estate	10211 Pioneer Blvd.	Listed	1/4/1990
00001169	Los Angeles	Santa Monica	Club Casa Del Mar	1910 Ocean Ave.	Eligible	9/29/2000

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77000302	Los Angeles	Santa Monica	Horatio West Court	140 Hollister Ave.	Eligible	4/11/1977
78000699	Los Angeles	Santa Monica	Parkhurst Building	185 Pier Ave.	Eligible	11/17/1978
87000766	Los Angeles	Santa Monica	Santa Monica Looff Hippodrome	276 Santa Monica Pier	Eligible	2/27/1987
89002114	Los Angeles	Santa Monica	Weaver, Henry, House	142 Adelaide Dr.	Eligible	12/27/1989
96000777	Los Angeles	Santa Monica	Charmont Apartments	330 California Ave.	Listed	7/25/1996
97001236	Los Angeles	Santa Monica	Sovereign Hotel	205 Washington Ave.	Listed	10/24/1997
65006868	Los Angeles	Sierra Madre	West Fork Ranger Station	Located in Angeles, 5 mi. from Red Box Ranger Station off State Hwy. 2 and on the W fork of San Gabriel River	Listed	9/30/1982
77000303	Los Angeles	Sierra Madre	Episcopal Church of the Ascension	25 E. Laurel Ave.	Listed	8/19/1977
88002019	Los Angeles	Sierra Madre	Pegler, John Carlton, House	419 E. Highland Ave.	Listed	10/20/1988
65000677	Los Angeles	South Pasadena	Buena Vista District	91-1005 Buena Vista St.	Eligible	12/21/1977
65000785	Los Angeles	South Pasadena	Grokowsky House	816 Bonita Dr.	Eligible	3/31/1983
65000922	Los Angeles	South Pasadena	Oaklawn District	Oaklawn Ave.	Listed	12/21/1977
65008915	Los Angeles	South Pasadena	930 Oliver Street	930 Oliver St.	Listed	2/7/1996
65008916	Los Angeles	South Pasadena	545 and 547 Prospect Avenue	545 and 547 Prospect Ave.	Listed	2/7/1996
65008917	Los Angeles	South Pasadena	House at 547 Prospect Avenue	547 Prospect Ave.	Listed	1/2/1900
65008945	Los Angeles	South Pasadena	Gillette Crescent Neighborhood	Gillette Crescent	Listed	2/24/1997

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65008946	Los Angeles	South Pasadena	Valley View Heights Neighborhood	Valley View Heights	Listed	2/24/1997
72000235	Los Angeles	South Pasadena	Miltimore House	1301 S. Chelten Way	Listed	3/24/1972
73000404	Los Angeles	South Pasadena	Adobe Flores	1804 Foothill St.	Listed	6/18/1973
73000405	Los Angeles	South Pasadena	Garfield House	1001 Buena Vista St.	Listed	4/24/1973
73000406	Los Angeles	South Pasadena	Oaklawn Bridge and Waiting Station	Between Oaklawn and Fair Oaks Aves.	Listed	7/16/1973
73000407	Los Angeles	South Pasadena	Wynyate	851 Lyndon St.	Listed	4/24/1973
74000527	Los Angeles	South Pasadena	Longley, Howard, House	1005 Buena Vista St.	Listed	4/16/1974
78000700	Los Angeles	South Pasadena	Rialto Theatre	1019--1023 Fair Oaks Ave.	Listed	5/24/1978
82002202	Los Angeles	South Pasadena	South Pasadena Historic District	Roughly bounded by Mission and El Centro Sts., and Fairview and Meridian Aves.	Listed	7/21/1982
65000964	Los Angeles	Terminal Island	Propulsion System for the ferryboat "Sierra Nevada"	Los Angeles Harbor	Listed	4/22/1981
15000912	Los Angeles	Topanga Canyon	Tank Site, The--(CA-LAN-1)	Address Restricted	Listed	12/17/2015
83003499	Los Angeles	Torrance	Auditorium	2200 W. Carson	Listed	10/13/1983
83003536	Los Angeles	Torrance	Home Economics Building	2200 W. Carson	Eligible	10/13/1983
83003538	Los Angeles	Torrance	Main Building	2200 W. Carson	Returned	10/13/1983
83003542	Los Angeles	Torrance	Torrance School	2200 W. Carson	Listed	10/13/1983
89000854	Los Angeles	Torrance	Pacific Electric Railroad Bridge	Torrance Blvd. and Bow St.	Listed	7/13/1989
92000067	Los Angeles	Torrance	Fern Avenue School	1314 Fern Ave.	Listed	2/20/1992

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71000159	Los Angeles	Tujunga	Bolton Hall	10116 Commerce Ave.	Listed	11/23/1971
03000239	Los Angeles	Venice	Lincoln Place Apartments	Bounded by Penmar Ave., Lake and Frederick Sts and alley N of Palms Blvd.	Listed	4/24/2003
86001666	Los Angeles	Venice	Wilson, Warren, Beach House	15 Thirtieth St.	Listed	7/17/1986
100001905	Los Angeles	Venice	Ellison, The	15 Paloma Ave.	Listed	12/21/2017
65006752	Los Angeles	Vista	Red Barn	139 N. Santa Fe	Listed	2/26/1987
13000510	Los Angeles	West Hollywood	Community Clubhouse	1200 N. Vista St.	Listed	7/23/2013
71000150	Los Angeles	West Hollywood	Schindler, R. M., House	833 N. Kings Rd.	Listed	7/14/1971
80000812	Los Angeles	West Hollywood	Sunset Towers	8358 Sunset Blvd.	Listed	5/30/1980
82002190	Los Angeles	West Hollywood	Colonial House	1416 N. Havenhurst Dr.	Eligible	4/15/1982
83003531	Los Angeles	West Hollywood	Hacienda Arms Apartments	8439 Sunset Blvd.	Listed	12/15/1983
85000356	Los Angeles	West Hollywood	Ronda	1400--1414 Havenhurst Dr.	Listed	2/28/1985
86002418	Los Angeles	West Hollywood	Patio del Moro	8225--8237 Fountain Ave.	Listed	9/11/1986
87000562	Los Angeles	West Hollywood	Wright, Lloyd, Home and Studio	858 N. Doheny Dr.	Eligible	4/6/1987
96000694	Los Angeles	West Hollywood	North Harper Avenue Historic District	Roughly, N. Harper Ave. between Fountain and De Longpre Aves.	Eligible	6/28/1996
100000728	Los Angeles	West Hollywood	Mitchell Camera Corporation--Studio One	661-665 N. Robertson Blvd. & 652 N. La Peer Dr.	Eligible	7/13/2017
100002673	Los Angeles	West Hollywood	Crosby Building	9028 W Sunset Blvd.	Eligible	8/3/2018
02000074	Los Angeles	Whittier	Hoover Hotel	7035 Greenleaf Ave.	Eligible	2/1/2002

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04001105	Los Angeles	Whittier	Southern Pacific Railroad Depot, Whittier	7333 Greenleaf Ave.	Eligible	3/29/2005
73000408	Los Angeles	Whittier	Pico, Pio, Casa	6003 Pioneer Blvd.	Listed	6/19/1973
77000304	Los Angeles	Whittier	Bailey, Jonathan, House	13421 E. Camilla St.	Listed	8/29/1977
78000701	Los Angeles	Whittier	Southern Pacific Railroad Station	11825 Bailey St.	Listed	10/1/2004
80000815	Los Angeles	Whittier	Jordan, Orin, House	8310 S. Comstock Ave.	Listed	7/28/1980
80000816	Los Angeles	Whittier	Standard Oil Building	7257 Bright Ave.	Listed	6/9/1980
82000969	Los Angeles	Whittier	National Bank of Whittier Building	13002 E. XladelXa St.	Listed	12/30/1982
71000160	Los Angeles	Wilmington	Banning House	401 E. M St.	Listed	5/6/1971
71000161	Los Angeles	Wilmington	Drum Barracks	1053 Carey St.	Listed	2/12/1971
65009280	Los Angeles	City unavailable	Burbank-Glendale Pasadena Airport	Address Restricted	Listed	6/28/1999
04000017	Orange	Anaheim	St. Michael's Episcopal Church	311 West South St.	Eligible	2/11/2004
13000473	Orange	Anaheim	Hansen, George, House	400B N. West St.	Listed	7/10/2013
13000474	Orange	Anaheim	Woelke, John, House	400B N. West St.	Listed	7/8/2013
15000379	Orange	Anaheim	Anaheim Orange and Lemon Association Packing House	440 S. Anaheim Blvd.	Listed	7/7/2015
79000511	Orange	Anaheim	Carnegie Library	241 S. Anaheim Blvd.	Eligible	10/22/1979
79000512	Orange	Anaheim	Kraemer Garage	252 N. Anaheim Blvd.	Listed	1/1/1999
79000513	Orange	Anaheim	Pickwick Hotel	225 S. Anaheim Blvd.	Eligible	12/31/1979
80000826	Orange	Anaheim	Backs, Ferdinand, House	225 N. Claudina St.	Eligible	10/14/1980
80000827	Orange	Anaheim	Old Backs House	215 N. Claudina St.	Eligible	10/14/1980
80000828	Orange	Anaheim	Stanton, Xllip Ackley, House	2200 W. Sequoia Ave.	Eligible	11/21/1980

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82000977	Orange	Anaheim	Truxaw-Gervais House	887 S. Anaheim Blvd.	Eligible	10/29/1982
83001217	Orange	Anaheim	Kraemer, Samuel, Building (American Savings Bank/First National Bank)	76 S. Claudina St	Listed	6/16/1983
85001326	Orange	Anaheim	Kroger-Melrose District	Roughly bounded by Lincoln Ave., S. Kroger, W. Broadway and S. XladelXa	Listed	6/19/1985
86000783	Orange	Anaheim	Melrose-Backs Neighborhood Houses	226 and 228 E. Adele and 303, 307, 317, 321 N. XladelXa	Listed	4/3/1986
84000914	Orange	Balboa	Balboa Pavilion	400 Main St.	Listed	5/17/1984
84000917	Orange	Brea	Brea City Hall and Park	401 S. Brea Blvd.	Listed	5/24/1984
65000451	Orange	City unavailable	Archeological Site CA-Ora-498	Address Restricted	Eligible	2/10/1982
65000452	Orange	City unavailable	Archeological Site CA-Ora-824	Address Restricted	Eligible	2/10/1982
65001006	Orange	City unavailable	San Mateo Archeological District	Address Restricted	Listed	12/31/1981
65001075	Orange	City unavailable	Upper Aliso Creek District	Address Restricted	Listed	2/10/1982
65006840	Orange	City unavailable	Downtown Santa Ana Historic District	Address Restricted	Listed	11/12/1980
65007439	Orange	City unavailable	Pacific Coast Highway	114 Pacific Coast Hwy.	Listed	11/10/1980
02000151	Orange	Cleveland National Forest	Greystone Villa--Cabin 18	Sievers Canyon, Trabuco Ranger District	Listed	3/15/2002
65000740	Orange	Cooks Corners	El Toro Alignment & Archeological District	Address Restricted	Listed	7/21/1978
72000243	Orange	Costa Mesa	Fairview Indian Site	Address Restricted	Listed	6/27/1972
65001047	Orange	Costa Mesa	Station Master's House	2150 Newport Blvd.	Listed	10/13/1982
91000337	Orange	Dana Point	VIRGINIA (sloop)	Dana Point Youth & Group Facility, W. basin, Dana Point Harbor	Listed	4/2/1991
65000990	Orange	East Irvine	San Joaquin Hill District	2 1/2 mi. S of E. Irvine4	Listed	2/10/1982
76000505	Orange	El Toro	Serrano, Jose, Adobe	21802 Serrano Rd.	Listed	5/24/1976
01000076	Orange	Fullerton	Fullerton First Methodist Episcopal Church	117 N. Pomona Ave.	Listed	2/13/2001
02000383	Orange	Fullerton	Fullerton Odd Fellows Temple	112 E. Commonwealth Ave.	Listed	4/26/2002
03000424	Orange	Fullerton	Fullerton City Hall	237 W. Commonwealth Ave.	Listed	5/22/2003
04000812	Orange	Fullerton	Hillcrest Park	200 Brea Blvd.	Listed	8/11/2004
06000948	Orange	Fullerton	Fox Fullerton Theatre Complex	500-512 N. Harbor Blvd.	Listed	10/25/2006

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08001406	Orange	Fullerton	Dewella Apartments	234-236 E. Wilshire Ave.	Listed	2/2/2009
12000549	Orange	Fullerton	Fullerton Post Office	202 E. Commonwealth Ave.	Eligible	8/28/2012
13000511	Orange	Fullerton	Fender's Radio Service	1-7 S. Harbor Blvd.	Returned	7/23/2013
65000924	Orange	Fullerton	Pacific Electric Depot	128 E. Commonwealth Ave.	Listed	9/17/1979
65001010	Orange	Fullerton	Santa Fe Depot	E. Santa Fe Ave.	Listed	9/17/1979
76000506	Orange	Fullerton	Clark, Dr. George C., House	California State University campus	Listed	12/12/1976
80000829	Orange	Fullerton	Muckenthaler House	1201 W. Malvern Ave.	Listed	5/31/1980
83001212	Orange	Fullerton	Chapman Building	110 E. Wilshire Ave.	Listed	9/22/1983
83001214	Orange	Fullerton	Elephant Packing House	201 W. Truslow Ave.	Listed	9/21/1983
83003551	Orange	Fullerton	Fullerton Union Pacific Depot	100 E. Santa Fe Ave.	Listed	10/12/1983
91002031	Orange	Fullerton	Santa Fe Railway Passenger and Freight Depot	140 E. Santa Fe Ave.	Listed	2/5/1992
93000597	Orange	Fullerton	Hetebrink House	515 E. Chapman	Listed	7/1/1993
93000907	Orange	Fullerton	Pierotti, Attlio and Jane, House	1731 N. Bradford Ave.	Listed	9/2/1993
93001019	Orange	Fullerton	Plummer, Louis, Auditorium	201 E. Chapman Ave.	Listed	9/30/1993
94000360	Orange	Fullerton	Farmers and Merchants Bank of Fullerton	122 N. Harbor Blvd.	Eligible	4/19/1994
95000355	Orange	Fullerton	Masonic Temple	501 N. Harbor Blvd.	Listed	3/31/1995
100000620	Orange	Fullerton	Beckman Instruments Inc. Administration Building	4300 N. Harbor Blvd.	Listed	2/9/2017
100001891	Orange	Fullerton	Pomona Court and Apartments	314-320 N Pomona & 200-204 E Whiting Aves.	Listed	12/14/2017
13000157	Orange	Huntington Beach	Huntington Beach Public Library on Triangle Park	525 Main St.	Eligible	4/16/2013
65000780	Orange	Huntington Beach	Golden Bear Cafe	306 Pacific Coast Hwy.	Eligible	9/14/1982
85003374	Orange	Huntington Beach	Newland House	19820 Beach Blvd.	Eligible	10/24/1985
86003668	Orange	Huntington Beach	Helme--Worthy Store and Residence	513--519 Walnut St. and 128 Sixth St.	Eligible	3/31/1987
89001203	Orange	Huntington Beach	Huntington Beach Municipal Pier	Main St. and Ocean Ave.	Eligible	8/24/1989
94001499	Orange	Huntington Beach	Huntington Beach Elementary School Gymnasium and Plunge	1600 Palm Ave.	Eligible	12/29/1994

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77000319	Orange	Irvine	Frances Packing House	NE of Irvine	Listed	8/2/1977
86000068	Orange	Irvine	Irvine Bean and Growers Association Building	14972 Sand Canyon Ave.	Listed	1/13/1986
86000452	Orange	Irvine	Irvine Blacksmith Shop	14952 Sand Canyon Ave.	Listed	3/20/1986
93000300	Orange	Irvine	Christ College Site	Address Restricted	Listed	4/16/1993
79000514	Orange	Laguna Beach	Crystal Cove Historic District	NW of Laguna Beach	Listed	6/15/1979
84000922	Orange	Laguna Beach	Mariona	2529 S. Coast Hwy.	Listed	3/29/1984
88000978	Orange	Laguna Beach	St. Francis by-the-Sea American Catholic Church	430 Park Ave.	Listed	6/30/1988
65008753	Orange	Los Angeles	, Battery 128Bunkers--Bolsa Chica Mesa	Bolsa Chica Military Reservation	Listed	1/2/1900
65008801	Orange	Los Angeles	World War II Bunkers--Bolsa Chica Mesa, Battery 242	Bolsa Chica Military Reservation	Listed	9/23/1994
72000244	Orange	Modjeska	Modjeska House	Modjeska Canyon Rd.	Eligible	12/11/1972
11000431	Orange	Newport Beach	WILD GOOSE (yacht)	2431 West Coast Hwy.	Listed	7/19/2011
74000545	Orange	Newport Beach	Lovell Beach House	1242 W. Ocean Front	Listed	2/5/1974
86000730	Orange	Newport Beach	Balboa Inn	105 Main St.	Listed	4/11/1986
86001903	Orange	Newport Beach	Bank of Balboa--Bank of America	611 E. Balboa Blvd.	Eligible	7/24/1986
15000123	Orange	Orange	Killefer, Lydia D., School	541 N. Lemon St.	Listed	4/7/2015
15000380	Orange	Orange	Cypress Street Schoolhouse	544 N. Cypress St.	Eligible	7/7/2015
75000448	Orange	Orange	Orange Union High School	333 N. Glassell St.	Eligible	4/14/1975
78000729	Orange	Orange	Plaza, The	Chapman Ave. and Glassell St.	Eligible	12/20/1978
81000163	Orange	Orange	Ainsworth, Lewis, House	414 E. Chapman Ave.	Eligible	3/13/1981
82002221	Orange	Orange	Plaza Historic District	Roughly bounded by Maple and Almond Aves., Orange and Olive Sts.	Eligible	3/19/1982
83001215	Orange	Orange	Irvine Park	21401 Chapman Ave.	Listed	4/7/1983
86000458	Orange	Orange	Culver, C. Z., House	205 E. Palmyra	Listed	3/20/1986
89000975	Orange	Orange	Parker House	163 S. Cypress St.	Listed	8/10/1989
91001520	Orange	Orange	St. John's Lutheran Church	185 S. Center St.	Listed	10/16/1991

Ref#	County	City	Resource Name	Address	Status	Date Listed
93000282	Orange	Orange	Orange Intermediate School--Central Grammar School	370 N. Glassell St.	Listed	4/13/1993
93001038	Orange	Orange	Olive Civic Center	3030 N. Magnolia Ave.	Eligible	10/7/1993
94000818	Orange	Orange	Porter--French House	248 S. Batavia St.	Eligible	8/5/1994
96000327	Orange	Orange	First Baptist Church of Orange	192 S. Orange St.	Listed	3/28/1996
97000617	Orange	Orange	Old Towne Orange Historic District	Roughly bounded by Walnut Ave., Waverly St., W.O. Hart Park, La Veta Ave., Clark St., and Atchison Topeka Railroad Track	Listed	7/11/1997
75000449	Orange	Placentia	Key, George, Ranch	625 Bastanchury Rd.	Listed	4/21/1975
78000730	Orange	Placentia	Bradford, A. S., House	136 Palm Circle	Listed	10/3/1978
04001136	Orange	San Clemente	Goldschmidt House	243 Avenida La Cuesta	Listed	10/14/2004
81000164	Orange	San Clemente	San Clemente Beach Club	Avenida Boca De La Playa	Listed	4/9/1981
83001213	Orange	San Clemente	Easley, Oscar, Block	101 El Camino Real	Listed	2/17/1983
89001149	Orange	San Clemente	Hotel San Clemente	114 Avenida Del Mar	Listed	8/31/1989
91001900	Orange	San Clemente	Casa Romantica	415 Avenida Granada	Listed	12/27/1991
02000801	Orange	San Juan Capistrano	Congdon, Joel R., House	32701 Alipaz St.	Listed	7/22/2002
06001237	Orange	San Juan Capistrano	Williams, Roger Y., House	29991 Camino Capistrano	Listed	1/10/2007
09000823	Orange	San Juan Capistrano	Stroschein, Carl, House	31682 EL Camino Real	Listed	10/14/2009
15000570	Orange	San Juan Capistrano	San Diego Gas and Electric San Juan Capistrano Substation	31050 Camino Capistrano	Listed	10/2/2015
71000170	Orange	San Juan Capistrano	Mission San Juan Capistrano	Camino Capistrano and Ortega Hwy.	Listed	9/3/1971
75000450	Orange	San Juan Capistrano	Montanez Adobe	31745 Los Rios St.	Listed	4/21/1975
78000731	Orange	San Juan Capistrano	Parra, Miguel, Adobe	27832 Ortega Hwy.	Listed	9/11/1978
79000515	Orange	San Juan Capistrano	Harrison House	27832 Ortega Hwy.	Listed	8/21/1979

Ref#	County	City	Resource Name	Address	Status	Date Listed
82002222	Orange	San Juan Capistrano	Yorba, Domingo Adobe and Casa Manuel Garcia	31781 Camino Capistrano	Eligible	2/4/1982
83001216	Orange	San Juan Capistrano	Los Rios Street Historic District	31600-31921 Los Rios St.	Returned	4/4/1983
86002405	Orange	San Juan Capistrano	Forster, Frank A., House	27182 Ortega Hwy.	Listed	9/11/1986
88000557	Orange	San Juan Capistrano	Esslinger Building	31866 Camino Capistrano	Listed	5/16/1988
90001484	Orange	San Juan Capistrano	Casa de Esperanza	31806 El Camino Real	Listed	10/1/1990
100000460	Orange	San Juan Capistrano	Egan, Richard, House	31829 Camino Capistrano	Listed	1/25/2017
01000682	Orange	Santa Ana	Ebell Society of Santa Ana Valley	625 N. French St.	Listed	7/2/2001
65000909	Orange	Santa Ana	North Broadway Park	Address Restricted	Listed	2/25/1980
75000451	Orange	Santa Ana	Lighter-than-Air Ship Hangars	Valencia and Redhill Aves.	Listed	4/3/1975
77000320	Orange	Santa Ana	Howe-Waffle House and Carriage House	Sycamore and Civic Center Dr.	Listed	4/13/1977
77000321	Orange	Santa Ana	Orange County Courthouse	211 W. Santa Ana Blvd.	Listed	8/29/1977
78000732	Orange	Santa Ana	Smith-Tuthill Funeral Parlors	518 N. Broadway	Listed	5/19/1978
79000516	Orange	Santa Ana	Spurgeon Block	206 W. 4th St	Listed	8/31/1979
80000830	Orange	Santa Ana	Minter, George W., House	322 W. 3rd St.	Eligible	6/9/1980
82000975	Orange	Santa Ana	Santa Ana City Hall	217 N. Main St.	Listed	11/10/1982
82000976	Orange	Santa Ana	Santora Building	207 N. Broadway	Listed	12/27/1982
82000978	Orange	Santa Ana	Wright, George L., House	831 N. Minter St.	Listed	11/12/1982
82002223	Orange	Santa Ana	Builders Exchange Building	202--208 N. Main St.	Eligible	4/29/1982
82002224	Orange	Santa Ana	Walkers Orange County Theater	308 N. Main St.	Eligible	2/19/1982
83001218	Orange	Santa Ana	Odd Fellows Hall	309-311 N. Main St.	Eligible	8/18/1983
83001219	Orange	Santa Ana	Pacific Electric Sub-Station No. 14	475 North Lacy St.	Eligible	9/22/1983
83001220	Orange	Santa Ana	Rankin Building	117 W. 4th St.	Eligible	2/24/1983
83001223	Orange	Santa Ana	Southern Counties Gas Co.	207 W. 2nd St.	Eligible	7/28/1983

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84000438	Orange	Santa Ana	Downtown Santa Ana Historic Districts (North, Government/Institutional and South, Retail)	Roughly bounded by Civic Center Dr., First, Ross, and Spurgeon Sts.	Listed	12/19/1984
85000134	Orange	Santa Ana	US Post Office Station--Spurgeon Station	605 Bush St.	Listed	1/11/1985
85002764	Orange	Santa Ana	Harmon-McNeil House	322 E. Chestnut St.	Listed	11/7/1985
86000107	Orange	Santa Ana	Yost Theater--Ritz Hotel	301--307 N. Spurgeon St.	Listed	1/23/1986
86001549	Orange	Santa Ana	Santa Ana Fire Station Headquarters No. 1	1322 N. Sycamore St.	Listed	7/10/1986
93000237	Orange	Santa Ana	Young Men's Christian Association--Santa Ana-Tustin Chapter	205 W. Civic Center Dr.	Listed	3/25/1993
99000551	Orange	Santa Ana	French Park Historic District	Roughly bounded by N. Bush, E. Washington, and N. Garfield Sts., and Civic Center Dr. E.	Listed	5/12/1999
83001221	Orange	Seal Beach	Seal Beach City Hall	201 8th St.	Listed	8/11/1983
65000998	Orange	Silverado	Santiago Creek District	1 mi. SE of Silverado, on western boundary of Cleveland National Forest	Listed	2/10/1982
65000827	Orange	Tustin	Irvine Agricultural Headquarters Complex	near the intersection of Irvine Blvd. & Myford Rd.	Eligible	2/5/1982
84000926	Orange	Tustin	Stevens, Sherman, House	228 W. Main St.	Listed	1/5/1984
94000364	Orange	Tustin	Artz Building	150--158 W. Main St.	Listed	4/18/1994
100001605	Orange	Tustin	Hewes, David, House	350 S. B St.	Listed	9/21/2017
02001725	Orange	Villa Park	Villa Park School	10551 Center Dr.	Eligible	3/27/2003
83001222	Orange	Villa Park	Smith and Clark Brothers Ranch and Grounds	18922 Santiago Blvd.	Listed	9/22/1983
71000171	Orange	Yorba Linda	Nixon, Richard, Birthplace	18061 Yorba Linda Blvd.	Eligible	12/17/1971
79000517	Orange	Yorba Linda	Pacific Electric Railway Company Depot	18132 Imperial Hwy.	Eligible	10/25/1979
96001537	Orange	Yorba Linda	Bixby--Bryant Ranch House	5700 Susanna Bryant Dr.	Eligible	1/16/1997
98001604	Orange	Yorba Linda	Anaheim Union Water Co. Canal and Pomegranate Road	23901 and 23905 Pomegranate Rd.	Eligible	2/26/1999
65008219	Orange	City unavailable	Milton Ditch	Address Restricted	Eligible	5/17/1990
100003286	Riverside	Corona	Prado Dam Mural	Address Restricted	Listed	2/27/2019
65000460	Riverside	Aguanga	Archeological Site CA-RIV-381	Address Restricted	Listed	1/14/1980
76000508	Riverside	Banning	Gilman Ranch	1937 W. Gilman St.	Listed	11/17/1977

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03000121	Riverside	Blythe	Archeological Sites CA-RIV-504 and CA-RIV-773	Address Restricted	Listed	3/12/2003
75000452	Riverside	Blythe	Blythe Intaglios	Addres Restricted	Listed	8/22/1975
82002226	Riverside	Blythe	McCoy Spring Archeological Site	Address Restricted	Eligible	5/10/1982
65000839	Riverside	City unavailable	La Quinta Evacuation Channel Archeological District	Address Restricted	Eligible	1/18/1918
65001044	Riverside	City unavailable	Sunderset Archeological District A	Address Restricted	Listed	9/8/1978
65001045	Riverside	City unavailable	Sunderset Archeological District E	Address Restricted	Listed	9/8/1978
65007443	Riverside	City unavailable	Sunderset Archeological District F	Address Restricted	Listed	9/8/1978
05000772	Riverside	Corona	Corona High School	815 W. 6th St.	Listed	8/3/2005
11000432	Riverside	Corona	Grand Boulevard Historic District	Grand Blvd.	Listed	7/14/2011
77000324	Riverside	Corona	Carnegie, Andrew, Library	8th and Main Sts.	Listed	6/29/1977
88002014	Riverside	Corona	Woman's Improvement Club Clubhouse	1101 S. Main St.	Listed	11/3/1988
100001663	Riverside	Corona	Jefferson, Thomas, Elementary School	1040 S. Vicentia Ave.	Listed	10/5/2017
03000118	Riverside	Desert Center	Lederer, Gus, Site	Address Restricted	Listed	3/12/2003
81000165	Riverside	Desert Center	North Chuckwalla Mountain Quarry District	Address Restricted	Listed	8/24/1981
81000166	Riverside	Desert Center	North Chuckwalla Mountains Petroglyph District Ca-Riv 1383	Address Restricted	Listed	9/3/1981
98001286	Riverside	Desert Center	Corn Springs	Address Restricted	Listed	10/30/1998
11000942	Riverside	Desert Hot Springs	Cabot's Old Indian Pueblo Museum	67-616 E. Desert View Ave.	Listed	2/28/2012
13000416	Riverside	Idyllwild	Mount San Jacinto State Park Historic District	25905 CA 243	Listed	6/25/2013
16000173	Riverside	Idyllwild	Pearlman Mountain Cabin	52820 Middleridge Dr.	Listed	4/19/2016
16000889	Riverside	Idyllwild	Palm Springs Aerial Tramway Mountain Station	1 Tram Way	Listed	1/5/2017
75000453	Riverside	Lake Elsinore	Crescent Bathhouse	201 W. Graham Ave.	Listed	7/30/1975
91002032	Riverside	Lake Elsinore	Armory Hall	252 N. Main St.	Eligible	1/29/1992
15000640	Riverside	Mecca	North Shore Yacht Club	99-155 Sea View Dr.	Returned	9/28/2015
03000533	Riverside	Mira Loma	Galleano Winery	4231 Wineville Rd.	Listed	6/22/2003

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00000033	Riverside	Norco	Lake Norconian Club	Jct. of Fifth and Western Ave.	Listed	2/4/2000
99001471	Riverside	North Palm Springs	Martinez Canyon Rockhouse	BLM, Palm Springs-South Coast Resource Area	Listed	12/14/1999
100002238	Riverside	Palm Desert	Bates, Miles C., House	73697 Santa Rosa Way	Listed	3/30/2018
10001123	Riverside	Palm Springs	O'Donnell, Thomas, House	447 Alejo Rd	Listed	1/7/2011
12000125	Riverside	Palm Springs	Steel Development House Number 2	3125 N. Sunny View Dr.	Listed	3/20/2012
15000635	Riverside	Palm Springs	Carey House	651 W. Via Escuela	Listed	9/28/2015
15000636	Riverside	Palm Springs	Fire Station No. 1	277 N. Indian Canyon Dr.	Listed	9/28/2015
15000637	Riverside	Palm Springs	Frey House II	686 Palisades Dr.	Listed	9/28/2015
15000638	Riverside	Palm Springs	Kocher--Samson Building	766 N. Palm Canyon Dr.	Listed	9/29/2015
15000639	Riverside	Palm Springs	Loewy House	600 Panorama Rd.	Listed	9/29/2015
15000641	Riverside	Palm Springs	Palm Springs City Hall	3200 E. Tahquitz Canyon Way	Eligible	9/29/2015
15000642	Riverside	Palm Springs	Palm Springs Tramway Valley Station	1 Tram Way	Listed	9/28/2015
15000643	Riverside	Palm Springs	Sieroty House	695 E. Vereda Sur	Listed	9/28/2015
15000645	Riverside	Palm Springs	Tramway Gas Station	2901 N. Palm Canyon Dr.	Listed	9/28/2015
16000093	Riverside	Palm Springs	Alexander, Dr. Franz, House	1011 W. Cielo Dr.	Eligible	3/22/2016
16000169	Riverside	Palm Springs	Elrod, Arthur, House	2175 Southridge Dr.	Eligible	4/19/2016
16000635	Riverside	Palm Springs	Hamrick House	875 W. Chino Canyon Rd.	Eligible	9/19/2016
16000884	Riverside	Palm Springs	Coachella Valley Savings No. 1	383 S. Palm Canyon Dr.	Eligible	1/5/2017
16000885	Riverside	Palm Springs	Coachella Valley Savings No. 2	499 S. Palm Canyon Dr.	Eligible	1/5/2017
16000886	Riverside	Palm Springs	Edris House	1030 W. Cielo Dr.	Eligible	1/5/2017
16000888	Riverside	Palm Springs	Koerner House	1275 S. Calle de Maria	Listed	1/5/2017
16000890	Riverside	Palm Springs	Palm Springs Desert Museum	101 Museum Dr.	Listed	1/5/2017
16000891	Riverside	Palm Springs	Palm Springs Unified School District Educational Administrative Center	333 S. Farrell Dr.	Listed	1/5/2017
16000892	Riverside	Palm Springs	Santa Fe Federal Savings and Loan Association	300 S. Palm Canyon Dr.	Listed	1/5/2017
16000893	Riverside	Palm Springs	Sinatra, Frank, House	1145 E. Via Colusa Rd.	Listed	1/5/2017

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16000894	Riverside	Palm Springs	Williams, E. Stewart and Mari, House	Address Restricted	Listed	1/5/2017
72000246	Riverside	Palm Springs	Tahquitz Canyon	Address Restricted	Listed	10/31/1972
73000422	Riverside	Palm Springs	Andreas Canyon	Address Restricted	Listed	1/8/1973
100000459	Riverside	Palm Springs	Oasis Commercial Building	101 S. Palm Canyon Dr.	Listed	2/1/2017
76000509	Riverside	Perris	Buttercup Farms Pictograph	Address Restricted	Eligible	5/3/1976
92001384	Riverside	Perris	Southern Hotel	445 S. D St.	Listed	10/15/1992
94000819	Riverside	Perris	Perris Depot	120 W. Fourth St.	Listed	8/5/1994
65000860	Riverside	Perris City	Liberty Bell Cafe	19370 State Hwy. Rte. 194	Listed	7/5/1983
16000887	Riverside	Rancho Mirage	Kenaston House	39767 Desert Sun Dr.	Eligible	1/5/2017
00001646	Riverside	Redlands	San Timoteo Canyon Schoolhouse	31985 San Timoteo Canyon Rd.	Listed	1/19/2001
00001267	Riverside	Riverside	Victoria Avenue	Victoria Ave., from Arlington Ave. to Boundary Ln.	Eligible	10/26/2000
71000173	Riverside	Riverside	Mission Inn	3649 7th St.	Eligible	5/14/1971
73000423	Riverside	Riverside	Heritage House	8193 Magnolia Ave.	Eligible	2/28/1973
77000325	Riverside	Riverside	Harada House	3356 Lemon St.	Eligible	9/15/1977
77000326	Riverside	Riverside	San Pedro, Los Angeles, & Salt Lake RR Depot	3751 Vine St.	Eligible	4/18/1977
78000736	Riverside	Riverside	All Souls Universalist Church	3657 Lemon St.	Listed	9/18/1978
78000737	Riverside	Riverside	Federal Post Office	3720 Orange St.	Listed	11/20/1978
78000738	Riverside	Riverside	Riverside Municipal Auditorium and Soldier's Memorial Building	3485 7th St.	Listed	3/31/1978
80000831	Riverside	Riverside	Administration Building, Sherman Institute	9010 Magnolia Ave.	Listed	1/9/1980
80000832	Riverside	Riverside	Masonic Temple	3650 11th St.	Listed	6/6/1980
80000833	Riverside	Riverside	Riverside-Arlington Heights Fruit Exchange	3391 7th St.	Eligible	6/9/1980
80000834	Riverside	Riverside	Simon's, M. H., Undertaking Chapel	3610 11th St.	Eligible	6/9/1980
82002227	Riverside	Riverside	Old YWCA Building	3425 Mission Inn Avenue	Listed	1/28/1982
86000732	Riverside	Riverside	Sutherland Fruit Company	3191 Seventh St.	Listed	4/11/1986

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90000151	Riverside	Riverside	Chinatown	Brockton and Tequesquite Aves.	Listed	3/1/1990
92001250	Riverside	Riverside	First Church of Christ, Scientist	3606 Lemon St.	Listed	9/22/1992
93000547	Riverside	Riverside	University Heights Junior High School	2060 University Ave.	Listed	6/24/1993
93000549	Riverside	Riverside	Mission Court Bungalows	3355--3373 Second St. and 3354--3362 First St.	Listed	7/8/1993
93000668	Riverside	Riverside	Arlington Branch Library and Fire Hall	9556 Magnolia Ave.	Listed	7/22/1993
100000841	Riverside	Riverside	March Field Historic District	Eschscholtzia Ave., March Air Force Base	Listed	6/30/2017
97000297	Riverside	Riverside	First Congregational Church of Riverside	3504 Mission Inn Ave.	Listed	4/3/1997
99000895	Riverside	Riverside	Childs, William, House	1151 Monte Vista Dr.	Listed	7/28/1999
100001906	Riverside	Riverside	Community Settlement House	4366 Bermuda Ave.	Listed	12/21/2017
79000519	Riverside	Rubidoux	Jensen, Cornelius, Ranch	4350 Riverview Dr	Listed	9/6/1979
01001178	Riverside	San Jacinto	Estudillo Mansion	150 S. Dillon	Listed	10/25/2001
14000851	Riverside	Temecula	Luiseno Ancestral Origin Landscape	Address Restricted	Listed	10/30/2014
73000424	Riverside	Temecula	Murrieta Creek Archeological Area	Address Restricted	Listed	4/24/1973
73000425	Riverside	Torres-Martinez Indian Reservation	Martinez Historical District	Off SR 86	Listed	5/17/1973
75000173	Riverside	Twentynine Palms	Barker Dam	SE of Twentynine Palms in Joshua Tree National Monument	Listed	10/29/1975
75000175	Riverside	Twentynine Palms	Ryan House and Lost Horse Well	S of Twentynine Palms in Joshua Tree National Monument	Eligible	6/5/1975
76000216	Riverside	Twentynine Palms	Desert Queen Mine	S of Twentynine Palms in Joshua Tree National Monument	Returned	1/17/1976
72000247	Riverside	Valerie	Coachella Valley Fish Traps	Address Restricted	Listed	6/13/1972
99001593	Riverside	Winchester	Garbani, Rocco, Homestead	33555 Holland Rd.	Listed	12/22/1999
03000471	San Bernardino	Alta Loma	Maloof, Sam and Alfreda, Compound	5131 Carnelian St.	Listed	11/9/2010
03000119	San Bernardino	Baker	Archeological Site CA-SBR-140	Address Restricted	Listed	6/10/2003
82002239	San Bernardino	Baker	Aiken's Wash National Register District	Address Restricted	Listed	5/24/1982

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02000980	San Bernardino	Barstow	Fossil Canyon Petroglyph Site	Address Restricted	Listed	3/3/2003
15000470	San Bernardino	Barstow	Eagle Well Petroglyph Site	Address Restricted	Listed	7/27/2015
65008376	San Bernardino	Barstow	Archeologic1356ite No. CA-SBR-	Address Restricted	Listed	10/23/1991
65008377	San Bernardino	Barstow	Archeological Site No. CA-SBR-1356	Address Restricted	Listed	10/23/1991
65008378	San Bernardino	Barstow	Archeological Site No. CA-SBR-1369	Address Restricted	Listed	10/23/1991
65008379	San Bernardino	Barstow	Archeological Site No. CA-SBR-1464	Address Restricted	Listed	10/23/1991
65008380	San Bernardino	Barstow	Archeological Site No. CA-SBR-1477	Address Restricted	Eligible	10/23/1991
65008381	San Bernardino	Barstow	Archeological Site No. CA-SBR-2706	Address Restricted	Listed	10/23/1991
65008382	San Bernardino	Barstow	Archeological Site No. CA-SBR-2770	Address Restricted	Listed	10/23/1991
65008383	San Bernardino	Barstow	Archeological Site No. CA-SBR-2778	Address Restricted	Listed	10/23/1991
65008384	San Bernardino	Barstow	Archeological Site No. CA-SBR-2779	Address Restricted	Eligible	10/23/1991
65008385	San Bernardino	Barstow	Archeological Site No. CA-SBR-2793	Address Restricted	Eligible	10/23/1991
65008386	San Bernardino	Barstow	Archeological Site No. CA-SBR-2795	Address Restricted	Eligible	10/23/1991
65008387	San Bernardino	Barstow	Archeological Site No. CA-SBR-2804	Address Restricted	Eligible	10/23/1991
65008388	San Bernardino	Barstow	Archeological Site No. CA-SBR-2849	Address Restricted	Eligible	10/23/1991
65008389	San Bernardino	Barstow	Archeological Site No. CA-SBR-2964	Address Restricted	Eligible	10/23/1991
65008390	San Bernardino	Barstow	Archeological Site No. CA-SBR-3013	Address Restricted	Listed	10/23/1991

Ref#	County	City	Resource Name	Address	Status	Date Listed
65008391	San Bernardino	Barstow	Archeological Site No. CA-SBR-3244	Address Restricted	Listed	1/2/1900
65008392	San Bernardino	Barstow	Archeological Site No. CA-SBR-3253	Address Restricted	Listed	1/2/1900
65008393	San Bernardino	Barstow	Archeological Site No. CA-SBR-3261	Address Restricted	Listed	1/2/1900
65008394	San Bernardino	Barstow	Archeological Site No. CA-SBR-3269	Address Restricted	Listed	1/2/1900
65008395	San Bernardino	Barstow	Archeological Site No. CA-SBR-3308	Address Restricted	Listed	1/2/1900
65008396	San Bernardino	Barstow	Archeological Site No. CA-SBR-3315	Address Restricted	Listed	1/2/1900
65008397	San Bernardino	Barstow	Archeological Site No. CA-SBR-3316	Address Restricted	Listed	1/2/1900
65008398	San Bernardino	Barstow	Archeological Site No. CA-SBR-3317	Address Restricted	Listed	1/2/1900
65008399	San Bernardino	Barstow	Archeological Site No. CA-SBR-3319	Address Restricted	Eligible	1/2/1900
65008400	San Bernardino	Barstow	Archeological Site No. CA-SBR-3322	Address Restricted	Listed	1/2/1900
65008401	San Bernardino	Barstow	Archeological Site No. CA-SBR-3325	Address Restricted	Listed	1/2/1900
65008402	San Bernardino	Barstow	Archeological Site No. CA-SBR-3761	Address Restricted	Listed	10/23/1991
65008403	San Bernardino	Barstow	Archeological Site No. CA-SBR-3765	Address Restricted	Eligible	10/23/1991
65008404	San Bernardino	Barstow	Archeological Site No. CA-SBR-3776	Address Restricted	Listed	10/23/1991
65008405	San Bernardino	Barstow	Archeological Site No. CA-SBR-3777	Address Restricted	Eligible	10/23/1991
65008406	San Bernardino	Barstow	Archeological Site No. CA-SBR-3778	Address Restricted	Eligible	10/23/1991
65008407	San Bernardino	Barstow	Archeological Site No. CA-SBR-3787	Address Restricted	Eligible	10/23/1991

Ref#	County	City	Resource Name	Address	Status	Date Listed
65008408	San Bernardino	Barstow	Archeological Site No. CA-SBR-3852	Address Restricted	Eligible	10/23/1991
65008409	San Bernardino	Barstow	Archeological Site No. CA-SBR-3859	Address Restricted	Eligible	10/23/1991
65008410	San Bernardino	Barstow	Archeological Site No. CA-SBR-3862	Address Restricted	Listed	10/23/1991
65008411	San Bernardino	Barstow	Archeological Site No. CA-SBR-3870	Address Restricted	Listed	10/23/1991
65008412	San Bernardino	Barstow	Archeological Site No. CA-SBR-3871	Address Restricted	Listed	10/23/1991
65008413	San Bernardino	Barstow	Archeological Site No. CA-SBR-3900	Address Restricted	Listed	10/23/1991
65008414	San Bernardino	Barstow	Archeological Site No. CA-SBR-3939	Address Restricted	Listed	10/23/1991
65008415	San Bernardino	Barstow	Archeological Site No. CA-SBR-3940	Address Restricted	Eligible	10/23/1991
65008416	San Bernardino	Barstow	Archeological Site No. CA-SBR-3941	Address Restricted	Eligible	10/23/1991
65008417	San Bernardino	Barstow	Archeological Site No. CA-SBR-3942	Address Restricted	Listed	10/23/1991
65008418	San Bernardino	Barstow	Archeological Site No. CA-SBR-3943	Address Restricted	Listed	10/23/1991
65008419	San Bernardino	Barstow	Archeological Site No. CA-SBR-3944	Address Restricted	Listed	10/23/1991
65008420	San Bernardino	Barstow	Archeological Site No. CA-SBR-3945	Address Restricted	Listed	10/23/1991
65008421	San Bernardino	Barstow	Archeological Site No. CA-SBR-3946	Address Restricted	Listed	10/23/1991
65008422	San Bernardino	Barstow	Archeological Site No. CA-SBR-3947	Address Restricted	Listed	10/23/1991
65008423	San Bernardino	Barstow	Archeological Site No. CA-SBR-3954	Address Restricted	Listed	10/23/1991
65008424	San Bernardino	Barstow	Archeological Site No. CA-SBR-3955	Address Restricted	Listed	10/23/1991

Ref#	County	City	Resource Name	Address	Status	Date Listed
65008425	San Bernardino	Barstow	Archeological Site No. CA-SBR-4025	Address Restricted	Listed	10/23/1991
65008426	San Bernardino	Barstow	Archeological Site No. CA-SBR-4061	Address Restricted	Listed	10/23/1991
65008427	San Bernardino	Barstow	Archeological Site No. CA-SBR-4063	Address Restricted	Listed	10/23/1991
65008428	San Bernardino	Barstow	Archeological Site No. CA-SBR-4070	Address Restricted	Listed	10/23/1991
65008429	San Bernardino	Barstow	Archeological Site No. CA-SBR-4071	Address Restricted	Listed	10/23/1991
65008430	San Bernardino	Barstow	Archeological Site No. CA-SBR-4072	Address Restricted	Listed	10/23/1991
65008431	San Bernardino	Barstow	Archeological Site No. CA-SBR-4073	Address Restricted	Listed	10/23/1991
65008432	San Bernardino	Barstow	Archeological Site No. CA-SBR-4147	Address Restricted	Listed	10/23/1991
65008433	San Bernardino	Barstow	Archeological Site No. CA-SBR-4148	Address Restricted	Listed	10/23/1991
65008434	San Bernardino	Barstow	Archeological Site No. CA-SBR-4149	Address Restricted	Eligible	10/23/1991
65008435	San Bernardino	Barstow	Archeological Site No. CA-SBR-6207	Address Restricted	Returned	10/23/1991
75000458	San Bernardino	Barstow	Harvey House Railroad Depot	Santa Fe Depot	Listed	4/3/1975
82000981	San Bernardino	Barstow	Bitter Spring Archaeological Site (4-SBr-2659)	Address Restricted	Listed	12/20/1982
82002240	San Bernardino	Barstow	Rodman Mountains Petroglyphs Archeological District	Address Restricted	Listed	5/10/1982
75000459	San Bernardino	Big Bear City	Washington, Henry, Survey Marker	S of Big Bear City in San Bernardino National Forest	Listed	5/12/1975
75000460	San Bernardino	Chino	Yorba-Slaughter Adobe	5.5 mi. S of Chino at 17127 Pomona Rincon Rd.	Listed	7/7/1975
79000522	San Bernardino	Chino	Moyse Building	13150 7th St.	Listed	2/28/1979

Ref#	County	City	Resource Name	Address	Status	Date Listed
65000413	San Bernardino	City unavailable	Archeological Site SBR-895	Address Restricted	Listed	1/10/1980
65000722	San Bernardino	City unavailable	SBCM 616 Culbertson's Ranch Site	NW of Oro Grande	Listed	1/5/1979
65000729	San Bernardino	City unavailable	Crowder Canyon Archeological District	Address Restricted	Listed	6/16/1976
65000800	San Bernardino	City unavailable	Highland Historic District	Bounded by AT&SR RR line, Pacific St., Church Ave., rear lots of Main St., & Cole Ave.	Listed	7/6/1978
65001058	San Bernardino	City unavailable	Trona Pinnacles Railroad Camp	Address Restricted	Listed	9/29/1976
65001059	San Bernardino	City unavailable	Steam Well Petroglyph Archeological District	Address Restricted	Eligible	10/8/1976
65006861	San Bernardino	City unavailable	Midway Archeological Site CA-SBr-3694	Address Restricted	Listed	4/10/1980
88000894	San Bernardino	Colton	Carnegie Public Library Building	380 N. La Cadena Dr.	Listed	6/23/1988
73000428	San Bernardino	Cucamonga	Rains, John, House	7869 Vineyard Ave.	Listed	4/24/1973
16000522	San Bernardino	Essex	Providence Townsite	10.7 mi. off Essex Rd.	Eligible	8/16/2016
07001353	San Bernardino	Fontana	Bono's Restaurant and Deli	15395 Foothill Blvd.	Eligible	1/10/2008
65008861	San Bernardino	Fontana	Archeological Site No. Ca-Sbr-6807H	Address Restricted	Eligible	8/8/1991
65008862	San Bernardino	Fontana	Archeological Site No. Ca-Sbr-6808H	Address Restricted	Eligible	8/8/1991
65008863	San Bernardino	Fontana	Archeological Site No. Ca-Sbr-6809H	Address Restricted	Eligible	8/8/1991
65008864	San Bernardino	Fontana	Archeological Site No. Ca-Sbr-6810H	Address Restricted	Eligible	8/8/1991
65008865	San Bernardino	Fontana	Archeological Site No. Ca-Sbr-6811H	Address Restricted	Listed	1/2/1900
65008866	San Bernardino	Fontana	Archeological Site No. Ca-Sbr-6812H	Address Restricted	Listed	8/8/1991

Ref#	County	City	Resource Name	Address	Status	Date Listed
65008867	San Bernardino	Fontana	Archeological Site No. Ca-Sbr-6813H	Address Restricted	Listed	8/8/1991
65008868	San Bernardino	Fontana	Archeological Site No. Ca-Sbr-6814H	Address Restricted	Listed	8/8/1991
65008869	San Bernardino	Fontana	Archeological Site No. Ca-Sbr-6815/H	Address Restricted	Listed	8/8/1991
65008870	San Bernardino	Fontana	Archeological Site No. Ca-Sbr-6816/H	Address Restricted	Listed	1/2/1900
80000838	San Bernardino	Fontana	Fontana Pit and Groove Petroglyph Site	Address Restricted	Listed	4/17/1980
82000982	San Bernardino	Fontana	Fontana Farms Company Ranch House, Camp No. 1	8863 Pepper St.	Listed	11/1/1982
65000720	San Bernardino	Fort Irwin	Drinkwater Spring	Address Restricted	Listed	4/2/1980
65000898	San Bernardino	Fort Irwin	Nelson Lake	on Plumas County Rd. 511 btwn. Quincy and LaPorte	Eligible	4/2/1980
65006858	San Bernardino	Fort Irwin	No Name West Basin Archeological District	Address Restricted	Listed	9/23/1982
85002813	San Bernardino	Fort Irwin	Pioneer Deep Space Station	Goldstone Deep Space Communications Complex	Listed	10/3/1985
01001102	San Bernardino	Goffs	Goffs Schoolhouse	37198 Lanfair Rd.	Listed	10/11/2001
100001258	San Bernardino	Hesperia	Guapiabit--Serrano Homeland Archaeological District	Address Restricted	Eligible	7/3/2017
01000333	San Bernardino	Highland	Highland Historic District	Roughly bounded by Cole and Nona Ave., Pacific and Church Sts.	Listed	4/5/2001
00001046	San Bernardino	Hinkley	Black Canyon--Inscription Canyon--Black Mountain Rock Art District	Address Restricted	Eligible	9/12/2000
82002241	San Bernardino	Johannesburg	CA SBR 1008A, CA SBR 1008B, CA SBR 1008C	Address Restricted	Eligible	5/24/1982
01000760	San Bernardino	Kelso	Kelso Depot, Restaurant and Employees Hotel	Kelbaker Rd., jct. of Kelbaker and Cima Rds. at Union Pacific Railroad crossing	Eligible	8/2/2001
100003401	San Bernardino	Kelso	Kelso Depot, Restaurant and Employees Hotel (Boundary Increase)	Kelso-Cima Rd.	Eligible	2/1/2019

Ref#	County	City	Resource Name	Address	Status	Date Listed
09000804	San Bernardino	Lake Arrowhead	Shady Point	778 Shelter Cove Dr.	Eligible	10/5/2009
100002317	San Bernardino	Landers	Integratron	2477 Belfield Blvd.	Listed	4/27/2018
65001093	San Bernardino	near Parker Dam	Whipple Mountain Cave	Address Restricted	Listed	7/27/1979
02000537	San Bernardino	Needles	El Garces	950 Front St.	Listed	5/17/2002
73000429	San Bernardino	Needles	Piute Pass Archeological District	Address Restricted	Listed	8/14/1973
78000745	San Bernardino	Needles	Topock Maze Archeological Site	Address Restricted	Listed	10/5/1978
85003435	San Bernardino	Needles	Archeological Site No. D-4	Address Restricted	Eligible	10/25/1985
00001325	San Bernardino	Newberry Springs	Newberry Cave Site	Address Restricted	Eligible	11/21/2000
12000126	San Bernardino	Ontario	Ensign, Dr. Orville S., House	304 S. Laurel Ave.	Listed	3/20/2012
65000741	San Bernardino	Ontario	Euclid Avenue Railroad Grade Separation-Properties	State Rte. 83	Listed	10/25/1977
80000839	San Bernardino	Ontario	Frankish Building	200 S. Euclid Ave.	Listed	8/11/1980
82002242	San Bernardino	Ontario	Ontario State Bank Block	300 S. Euclid Ave.	Listed	1/8/1982
93000596	San Bernardino	Ontario	Hofer Ranch	11248 S. Turner Ave.	Listed	7/8/1993
85003430	San Bernardino	Parker	Archeological Site No. E-21	Address Restricted	Listed	10/25/1985
11000119	San Bernardino	Rancho Cucamonga	Pacific Electric Etiwanda Depot	7092 Etiwanda Ave	Listed	3/21/2011
100002675	San Bernardino	Rancho Cucamonga	Cucamonga Service Station	9670 Foothill Blvd.	Listed	8/3/2018
81000169	San Bernardino	Red Mountain	Squaw Spring Archeological District	Address Restricted	Listed	7/28/1981

Ref#	County	City	Resource Name	Address	Status	Date Listed
00001326	San Bernardino	Red Mountains	Blackwater Well	Address Restricted	Listed	11/21/2000
65001102	San Bernardino	Redlands	White House	26849 Barton Rd.	Listed	10/20/1978
04000018	San Bernardino	Redlands	Beverly Ranch	923 W. Fern Ave.	Listed	2/11/2004
12000442	San Bernardino	Redlands	Auerbacher Home	121 Sierra Vista Dr.	Listed	8/1/2012
15000646	San Bernardino	Redlands	Judson and Brown Ditch	Crosses San Bernardino FCD Rd.	Listed	9/29/2015
65000682	San Bernardino	Redlands	Bridge No. 54C-368	Carries Greenspot Rd. over the Santa Ana River	Listed	12/24/1985
65000873	San Bernardino	Redlands	Marshall House	27297 Barton Rd.	Listed	10/20/1978
76000513	San Bernardino	Redlands	A. K. Smiley Public Library	125 W. Vine St.	Listed	12/12/1976
85000135	San Bernardino	Redlands	US Post Office--Redlands Main	201 Brookside Ave.	Eligible	1/11/1985
90002119	San Bernardino	Redlands	Redlands Central Railway Company Car Barn	746 E. Citrus Ave.	Returned	1/3/1991
91001535	San Bernardino	Redlands	Redlands Santa Fe Depot District	Roughly bounded by Stuart Ave., N. 5th St., Redlands Blvd., Eureka St. and the SFRR tracks	Listed	10/29/1991
94001487	San Bernardino	Redlands	Smiley Park Historic District	Roughly bounded by Brookside Ave., Cajon St., Cypress Ave. and Buena Vista St.	Listed	12/29/1994
96000328	San Bernardino	Redlands	Kimberly Crest	1325 Prospect Dr.	Listed	3/28/1996
96001176	San Bernardino	Redlands	Barton Villa	11245 Nevada St.	Listed	10/24/1996
100001336	San Bernardino	Redlands	Dunn, Robert J., House	1621 Garden St.	Listed	7/27/2017
77000329	San Bernardino	Redlands and	Mill Creek Zanja	Sylvan Blvd. E to Mill Creek Rd.	Listed	5/12/1977
03000037	San Bernardino	Rialto	First Christian Church of Rialto	201 N. Riverside Ave.	Listed	2/20/2003

Ref#	County	City	Resource Name	Address	Status	Date Listed
01000025	San Bernardino	San Bernardino	Atchison, Topeka and Santa Fe Railway Passenger and Freight Depot	1170 W. 3rd St.	Listed	2/2/2001
09001116	San Bernardino	San Bernardino	California Theatre, The	562 W. 4th St.	Listed	12/22/2009
11000957	San Bernardino	San Bernardino	Wigwam Village No. 7	2728 Foothill Blvd.	Listed	1/3/2012
76000514	San Bernardino	San Bernardino	Crowder Canyon Archeological District	Address Restricted	Listed	6/16/1976
85000136	San Bernardino	San Bernardino	US Post Office--Downtown Station	390 W. 5th St.	Eligible	1/11/1985
97001632	San Bernardino	San Bernardino	San Bernardino County Court House	351 N. Arrowhead Ave.	Listed	1/12/1998
81000170	San Bernardino	Silver Lake	Archeological Site CA SBR 3186	Address Restricted	Listed	2/10/1981
75000174	San Bernardino	Twentynine Palms	Keys Desert Queen Ranch	SW of Twentynine Palms in Joshua Tree National Monument	Listed	10/30/1975
75000176	San Bernardino	Twentynine Palms	Wall Street Mill	S of Twentynine Palms in Joshua Tree National Monument	Eligible	11/12/1975
75000228	San Bernardino	Twentynine Palms	Cow Camp	SW of Twentynine Palms in Joshua Tree National Monument	Eligible	10/29/1975
95000044	San Bernardino	Twentynine Palms	Foxtrot Petroglyph Site	Address Restricted	Eligible	2/23/1995
05000843	San Bernardino	Upland	Euclid Avenue	From 24th St. in Upland to XladelXa St. in Ontario	Eligible	8/10/2005
12000813	San Bernardino	Upland	Ontario and San Antonio Heights Waiting Station	1251 W. 24th St.	Eligible	9/25/2012
80000840	San Bernardino	Upland	Old San Antonio Hospital	792 W. Arrow Hwy.	Eligible	1/2/1980
90001817	San Bernardino	Upland	Upland Public Library	123 E. D St.	Listed	12/10/1990
65000684	San Bernardino	Victorville	Bridge No. 54C-68	Carries National Trails Hwy. over the Mojave River	Listed	12/24/1985
73000430	San Bernardino	Yermo	Calico Mountains Archeological District	Address Restricted	Listed	3/30/1973

Ref#	County	City	Resource Name	Address	Status	Date Listed
87002111	Ventura	Anacapa Island	SS WINFIELD SCOTT (Steamship)	Address Restricted	Listed	9/12/1988
03000039	Ventura	Camarillo	Camarillo Ranch House	201 Camarillo Ranch Rd.	Listed	2/20/2003
65000546	Ventura	City unavailable	Archeological Site 4-VEN-247	Address Restricted	Listed	2/21/1978
65000547	Ventura	City unavailable	Archeological Site 4-VEN-280	Address Restricted	Listed	2/21/1978
65000548	Ventura	City unavailable	Archeological Site 4-VEN-367	Address Restricted	Listed	12/16/1977
65007373	Ventura	City unavailable	Anacapa Lighthouse	Anacapa Island P.O. Box47 Port Hueneme	Listed	7/28/1978
65007426	Ventura	City unavailable	Center Street Bridge	Piru Creek	Eligible	3/4/1982
65007973	Ventura	City unavailable	Archeological Site 4-VEN-368	Address Restricted	Listed	12/16/1977
86001986	Ventura	Fillmore	Bardsdale Methodist Episcopal Church	1418 Bardsdale Ave.	Listed	8/28/1986
75000495	Ventura	Newbury Park	Grand Union Hotel	51 Ventu Park Rd.	Listed	12/30/1975
00001227	Ventura	Ojai	Pratt, Charles M., House	1330 Foothill Rd.	Eligible	6/14/2002
95000785	Ventura	Ojai	St. Thomas Aquinas Chapel	130 W. Ojai Ave.	Listed	6/29/1995
71000210	Ventura	Oxnard	Oxnard Public Library	424 S. C St.	Eligible	7/27/1971
76000538	Ventura	Oxnard	Calleguas Creek Site	Address Restricted	Eligible	5/19/1976
91001101	Ventura	Oxnard	Anacapa Island Light Station	Anacapa Island, Channel Islands National Park	Eligible	9/3/1991
99000109	Ventura	Oxnard	Oxnard, Henry T., Historic District	F and G Sts., between Palm and 5th Sts.	Eligible	2/5/1999
96001137	Ventura	Piru	Rancho Camulos	5164 E. Telegraph Rd.	Eligible	11/1/1996
65010105	Ventura	Port Hueneme	Port Hueneme Light	W. end of Lighthouse Promenade	Listed	6/10/2013
77000360	Ventura	Port Hueneme	Berylwood	Ventura Rd.	Listed	9/15/1977
79000257	Ventura	Port Hueneme	Anacapa Island Archeological District	Address Restricted	Listed	9/12/1979
89001150	Ventura	Port Hueneme	Women's Improvement Club of Hueneme	239 E. Scott St.	Listed	8/21/1989
65000988	Ventura	San Buenaventura	San Buenaventura Historic District	Plaza Park and the properties S of the Park on the 600 Blck. of the East Thompson Blvd.	Listed	9/5/1984
75000496	Ventura	San Buenaventura	Mission San Buenaventura and Mission Compound Site	Bounded by Poli St., Ventura and Santa Clara Aves., and Palm St.	Eligible	4/10/1975
65000681	Ventura	Santa Paula	Bridge No. 52C-53	Carries Bridge Rd. over Santa Paula Creek	Eligible	12/24/1985
65001003	Ventura	Santa Paula	Santa Clara School	20030 E. Telegraph	Listed	3/6/1980

Ref#	County	City	Resource Name	Address	Status	Date Listed
65001052	Ventura	Santa Paula	Building at 18901 East Telegraph Road	18901 E. Telegraph Rd.	Listed	3/6/1980
65001053	Ventura	Santa Paula	Building at 19304 East Telegraph Road	19304 E. Telegraph Rd.	Listed	3/6/1980
65001054	Ventura	Santa Paula	Building at 19311 East Telegraph Road	19311 E. Telegraph Rd.	Listed	3/6/1980
84001225	Ventura	Santa Paula	Glen Tavern Hotel	134 N. Mill St.	Listed	7/26/1984
86002619	Ventura	Santa Paula	Santa Paula Hardware Company Block--Union Oil Company	1003 E. Main St.	Listed	8/14/1986
89000949	Ventura	Santa Paula	Ebell Club of Santa Paula	125 S. Seventh St.	Listed	7/20/1989
91000485	Ventura	Santa Paula	Faulkner, George Washington, House	14292 W. Telegraph Rd.	Listed	4/25/1991
76000539	Ventura	Santa Susana	Burro Flats Painted Cave	Address Restricted	Listed	5/5/1976
65001005	Ventura	Saticoy	Saticoy Agricultural Warehouse	Azahar St. and Wells Rd.	Listed	1/14/1986
65001055	Ventura	Saticoy	TLC Gun Shop	1203 Los Angeles Ave.	Listed	1/14/1986
100002678	Ventura	Saticoy	Saticoy Southern Pacific Railroad Depot	11220 Azahar St.	Listed	7/27/2018
78000824	Ventura	Simi	Colony House	137 Strathearn Pl.	Listed	9/18/1978
78000825	Ventura	Simi	Simi Adobe-Strathearn House	137 Strathearn Pl.	Listed	5/19/1978
96001076	Ventura	Simi Valley	Grandma Prisbrey's Bottle Village	4595 Cochran St.	Listed	10/25/1996
13000522	Ventura	Thousand Oaks	Case Study House No. 28	91 Inverness Rd.	Listed	7/24/2013
97000295	Ventura	Thousand Oaks	McCrea, Joel, Ranch	4500 N. Moorpark Rd.	Listed	4/18/1997
05001426	Ventura	Ventura	Gould, Thomas, Jr., House	402 Lynn Dr.	Eligible	12/23/2005
09000466	Ventura	Ventura	First Baptist Church of Ventura	101 S. Laurel St.	Returned	7/3/2009
71000211	Ventura	Ventura	Ventura County Courthouse	501 Poli St.	Listed	8/19/1971
75000497	Ventura	Ventura	San Buenaventura Mission Aqueduct	234 Canada Larga Rd.	Listed	3/7/1975
77000361	Ventura	Ventura	Bard, Elizabeth, Memorial Hospital	121 N. Fir St.	Listed	11/11/1977
77000362	Ventura	Ventura	Dudley House	4085 Telegraph Rd.	Listed	5/12/1977
78000826	Ventura	Ventura	San Miguel Chapel Site	Address Restricted	Listed	7/20/1978
79000570	Ventura	Ventura	Olivas Adobe	4200 Olivas Park Dr.	Listed	7/24/1979
82002282	Ventura	Ventura	Franz, Emmanuel, House	31 N. Oak St.	Listed	6/25/1982
86000109	Ventura	Ventura	Feraud General Merchandise Store	2 and 12 W. Main St.	Listed	1/23/1986

Ref#	County	City	Resource Name	Address	Status	Date Listed
86003523	Ventura	Ventura	Ventura Theatre	26 S. Chestnut	Listed	12/29/1986
100002639	Ventura	Ventura	Top Hat Hot Dog Stand	297-299 E Main St.	Listed	7/13/2018
100002653	Los Angeles	City unavailable	Chicano Moratorium in Los Angeles County MPS	Address Restricted	Listed	7/11/2018

APPENDIX B

National Historic Landmarks in the SCAG Region

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Table B-1. National Historic Landmarks in SCAG Region

Ref#	County	City	Resource Name	Address	Date Listed
92001875	Los Angeles	Los Angeles	Angelus Temple	1100 Glendale Blvd.	4/27/1992
93000269	Los Angeles	Loa Angeles	Baldwin Hills Village	5300 Village Green	1/30/2001
71000143	Los Angeles	Los Angeles	Barnsdall, Aline, Complex	4800 Hollywood Blvd.	3/29/2007
71000144	Los Angeles	Los Angeles	Bradbury Building	304 S. Broadway	5/5/1977
06000978	Los Angeles	Pacific Palisades	Eames House	203 N Chautauqua Blvd.	9/20/2006
71000155	Los Angeles	Pasadena	Gamble House	4 Westmoreland Pl.	12/22/1977
86000103	Los Angeles	Pasadena	Hale Solar Laboratory	740 Holladay Rd.	12/20/1989
76000494	Los Angeles	San Marino	Hubble, Edwin, House	1340 Woodstock Rd.	12/8/1976
90002222	Los Angeles	San Pedro	LANE VICTORY	Berth 4, Port of San Pedro	12/14/1990
86001479	Los Angeles	Los Angeles	Little Tokyo Historic District	301--369 First and 106--120 San Pedro Sts.	6/12/1995
84003866	Los Angeles	Los Angeles	Los Angeles Memorial Coliseum	3911 S. Figueroa St.	7/27/1984
70000135	Los Angeles	Long Beach	Los Cerritos Ranch House	4600 Virginia Rd.	4/15/1970
100000831	Los Angeles	Los Angeles	Neutra, Richard and Dion, VDL Research Houses and Studio	2300 Silver Lake Blvd. and 2351 Edgewater Terrace	12/23/2016
89001430	Los Angeles	San Pedro	RALPH J. SCOTT	Berth 85, Port of San Pedro	6/30/1989
87000755	Los Angeles	Pasadena	Rose Bowl, The	991 Rosemont Ave., Brookside Park	2/27/1987
90002218	Los Angeles	Malibu	Saddle Rock Ranch Pictograph Site	Confidential	1/1/1999
87000766	Los Angeles	Santa Monica	Santa Monica Looff Hippodrome	276 Santa Monica Pier	2/27/1987
71000153	Los Angeles	Monrovia	Sinclair, Upton, House	464 N. Myrtle Ave.	11/11/1971
85002814	Los Angeles	Pasadena	Space Flight Operations Facility	Jet Propulsion Laboratory	10/3/1985
85002812	Los Angeles	Pasadena	Twenty-Five Foot Space Simulator	Jet Propulsion Laboratory	10/3/1985

Ref#	County	City	Resource Name	Address	Date Listed
92001875	Los Angeles	Los Angeles	Angelus Temple	1100 Glendale Blvd.	4/27/1992
93000269	Los Angeles	Loa Angeles	Baldwin Hills Village	5300 Village Green	1/30/2001
71000143	Los Angeles	Los Angeles	Barnsdall, Aline, Complex	4800 Hollywood Blvd.	3/29/2007
71000144	Los Angeles	Los Angeles	Bradbury Building	304 S. Broadway	5/5/1977
06000978	Los Angeles	Pacific Palisades	Eames House	203 N Chautauqua Blvd.	9/20/2006
71000155	Los Angeles	Pasadena	Gamble House	4 Westmoreland Pl.	12/22/1977
06000001	Los Angeles	Los Angeles	US Court House and Post Office	312 N. Spring St.	10/16/2012
77000297	Los Angeles	Los Angeles	Watts Towers of Simon Rodia	1765 E. 107th St.	12/14/1990
66000212	Los Angeles	San Fernando	Well No. 4, Pico Canyon Oil Field	9.5 mi. N of San Fernando, W of U.S. 99	11/13/1966
72000244	Orange	Modjeska	Modjeska House	Modjeska Canyon Rd.	12/14/1990
71000171	Orange	Yorba Linda	Nixon, Richard, Birthplace	18061 Yorba Linda Blvd.	5/31/1973
77000325	Riverside	Riverside	Harada House	3356 Lemon St.	12/14/1990
71000173	Riverside	Riverside	Mission Inn	3649 7th St.	5/5/1977
85002813	San Bernardino	Fort Irwin	Pioneer Deep Space Station	Goldstone Deep Space Communications Complex	10/3/1985
96001137	Ventura	Piru	Rancho Camulos	5164 E. Telegraph Rd.	2/16/2000

APPENDIX C

California State Historical Landmarks Listed by Historical Period

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Table C-1. California Historical Landmarks of the Prehistoric and Protohistoric Period

CA Historic Landmark No.	Site Name	County	General Location	Period(s)	Date
CHL 101	Blythe Intaglios (also Giant Desert Figures)	Riverside	Blythe	Prehistoric, Protohistoric	No date
CHL 104	Indian Village of Pochea	Riverside	Hemet	Prehistoric, Protohistoric	No date
CHL 187	Carved Rock	Riverside	Hemet	Prehistoric, Protohistoric	No date
CHL 190	Painted Rock	Riverside	Corona	Prehistoric, Protohistoric	No date
CHL 217	Black Star Canyon Indian Village Site	Orange	Silverado	Prehistoric, Mexican	No date, 1878
CHL 363	Centinela Springs	Los Angeles	Inglewood	Prehistoric, Protohistoric	No date
CHL 373	Old Salt Lake	Los Angeles	Redondo Beach	Prehistoric, American	No date, 1850s
CHL 557	The Hemet Maze Stone	Riverside	Hemet	Prehistoric, Protohistoric	No date
CHL 638	Old Temescal Road	Riverside	South of Corona	Prehistoric, Protohistoric, Spanish	No date, 1820
CHL 749	Saahatpa	Riverside	Brookside Rest Area	Protohistoric	1851
CHL 781	National Old Trails	San Bernardino	Needles	Prehistoric, Protohistoric, Spanish	No date, 1776
CHL 963	Mojave Road	Los Angeles and San Bernardino	Northeast of Barstow	Prehistoric, Protohistoric, Mexican	No date, 1826
CHL 977	The Arrowhead	San Bernardino	San Bernardino	Prehistoric, Protohistoric	No date
CHL 1005	Santa Rosa Rancho	Riverside	Murrieta	Prehistoric, Mexican	No date, 1846

Source: OHP (accessed 7/1/2019); Sapphos Environmental (2015)

Table C-2. California Historical Landmarks of the Spanish Period (1769–1821)

CA Historic Landmark No.	Site Name	County	General Location	Period(s)	Date(s)
CHL 43	The Zanja	San Bernardino	Redlands	Spanish	1819–1820
CHL 95	Guahama Rancheria	San Bernardino	Redlands	Spanish	1810
CHL 103	De Anza Camp Site	Riverside	Southeast of Anza	Spanish	1774
CHL 113	Site of Junipero Serra's Cross	Ventura	Ventura	Spanish	1782
CHL 114	Old Mission Reservoir	Ventura	Ventura	Spanish	1805–1815
CHL 114-1	San Buenaventura Aqueduct	Ventura	Ventura	Spanish	1805–1815
CHL 145	Avila Adobe	Los Angeles	Los Angeles	Spanish	1818
CHL 156	Los Angeles Plaza Historic District	Los Angeles	Los Angeles	Spanish	1781
CHL 157	Mission San Fernando Rey de Espana	Los Angeles	Mission Hills	Spanish	1797
CHL 158	Mission San Gabriel Archangel	Los Angeles	San Gabriel	Spanish	1771
CHL 161	Site of Mission Vieja	Los Angeles	Montebello	Spanish	1770s
CHL 186	Serrano Tanning Vats	Riverside	Southeast of Corona	Spanish	1819
CHL 200	Mission San Juan Capistrano	Orange	San Juan Capistrano	Spanish	1776
CHL 204	Old Santa Ana	Orange	Orange	Spanish	1769
CHL 302	Old Mill	Los Angeles	San Marino	Spanish	1816
CHL 310	Mission San Buenaventura	Ventura	Ventura	Spanish	1782
CHL 350	Mission Purisima Concepcion	Imperial	South of Winterhaven	Spanish	1780
CHL 383	Site of Jose Dolores Sepulveda Adobe	Los Angeles	Torrance	Spanish	1818
CHL 451	Ortega-Vigare Adobe	Los Angeles	San Gabriel	Spanish	1792–1805
CHL 522	Serra Springs	Los Angeles	Los Angeles	Spanish	1769
CHL 556	Rancho San Francisco	Los Angeles	Valencia	Spanish	1804
CHL 568	Hernando de Alarcon Expedition	Imperial	Andrade	Spanish	1540
CHL 618	Garces-Smith Monument	San Bernardino	San Bernardino National Forest	Spanish	1776
CHL 620	Yucaipa Rancheria	San Bernardino	Yucaipa	Spanish	1822
CHL 624	Warring Park	Ventura	Piru	Spanish	1769
CHL 638	Old Temescal Road	Riverside	South of Corona	Prehistoric, Protohistoric, Spanish	No date, 1820
CHL 655	Portola Trail Campsite (I)	Los Angeles	Los Angeles	Spanish	1769
CHL 659	Stagecoach Inn	Ventura	Newbury Park	Spanish	1876

CA Historic Landmark No.	Site Name	County	General Location	Period(s)	Date(s)
CHL 665	Portola Camp Site (II)	Los Angeles	Beverly Hills	Spanish	1769
CHL 689	Los Encinos State Historic Park	Los Angeles	Encino	Spanish	1797
CHL 727	Portola Expedition Campsite	Ventura	Santa Paula	Spanish	1769
CHL 753	San Fernando Cemetery	Los Angeles	Sylmar	Spanish	1800s
CHL 781	National Old Trails	San Bernardino	Needles	Prehistoric, Protohistoric, Spanish	No date, 1776
CHL 787	De Anza Crossing	Riverside	Riverside	Spanish	1775, 1776
CHL 911	Chatsworth Calera Site	Los Angeles	Chatsworth	Spanish	1800s
CHL 921	Site of Mission San Pedro y San Pablo	Imperial	Northeast of Bard	Spanish	1781
CHL 965	Point Dume	Los Angeles	Malibu	Spanish	1793
CHL 984	Casa Rancho San Antonio	Los Angeles	Bell Gardens	Spanish	1810
CHL 1008	Yuha Well	Imperial	Near Seeley	Spanish	1774

Source: OHP (accessed 7/1/2019); Sapphos Environmental (2015)

Table C-3. California Historical Landmarks of the Mexican Period (1822–1848)

CA Historic Landmark No.	Site Name	County	General Location	Period(s)	Date(s)
CHL 42	San Bernardino Asistencia	San Bernardino	Redlands	Mexican	1830
CHL 44	Mormon Stockade	San Bernardino	San Bernardino	Mexican	1839
CHL 102	Site of Old Rubidoux Grist Mill	Riverside	Rubidoux	Mexican	1846–7
CHL 115	Olivas Adobe	Ventura	Ventura	Mexican	1837, 1849
CHL 121	Agua Mensa	San Bernardino	Colton	Mexican	1845
CHL 127	Casa de Governor Pió Pico	Los Angeles	Whittier	Mexican	1830s
CHL 144	Nuestra Señora la Reina de Los Angeles	Los Angeles	Los Angeles	Mexican	1822
CHL 151	Campo de Cahuenga	Los Angeles	North Hollywood	Mexican	1847
CHL 152	Domínguez Ranch House	Los Angeles	Compton	Mexican	1826
CHL 167	La Mesa Battlefield	Los Angeles	Vernon	Mexican	1847
CHL 168	Oak of the Golden dream	Los Angeles	Newhall	Mexican	1842
CHL 185	Serrano Adobe Site	Riverside	South of Corona	Mexican	1824
CHL 189	Dana Point	Orange	Dana Point	Mexican	1835
CHL 199	Serrano Adobe	Orange	El Toro	Mexican	1842
CHL 217	Black Star Canyon Indian Village Site	Orange	Silverado	Prehistoric, Protohistoric, Mexican	No date, 1878
CHL 224	Site of Third Serrano House	Riverside	Southeast of Corona	Mexican	1840s
CHL 226	Bernardo Yorba Ranch Site	Orange	Yorba Linda	Mexican	1834
CHL 227	Diego Sepulveda Adobe Costa Mesa	Orange	Costa Mesa	Mexican	Late 1820s
CHL 301	Site of Lugo Adobe	Los Angeles	Los Angeles	Mexican	1840s
CHL 303	Site of Louis Rubidoux House	Riverside	Rubidoux	Mexican	1844
CHL 360	Tapia Adobe	San Bernardino	Rancho Cucamonga	Mexican	1839
CHL 362	Romulo Pico Adobe	Los Angeles	Mission Hills	Mexican	1834
CHL 368	Hugo Reid Adobe	Los Angeles	Arcadia	Mexican	1839
CHL 385	Rio San Gabriel Battlefield	Los Angeles	Montebello	Mexican	1847
CHL 490	Cucamonga Rancho Winery	San Bernardino	Rancho Cucamonga	Mexican	1839
CHL 528	Yucaipa Adobe	San Bernardino	Yucaipa	Mexican	1842
CHL 553	Rancho Camulos	Ventura	East of Piru	Mexican	1839
CHL 637	Catalina Adobe	Los Angeles	Glendale	Mexican	1830s

CA Historic Landmark No.	Site Name	County	General Location	Period(s)	Date(s)
CHL 756	Sycamore Tree	Ventura	East of Santa Paula	Mexican	1846
CHL 920	Casa de San Pedro	Los Angeles	San Pedro	Mexican	1823
CHL 942	Site of Rancho Chino Adobe	San Bernardino	Chino	Mexican	1841
CHL 944	Site of Fort Romualdo Pacheco	Imperial	West of Imperial	Mexican	1822
CHL 963	Mojave Road	Los Angeles & San Bernardino	Northeast of Barstow	Prehistoric, Protohistoric, Mexican	No date, 1826
CHL 978	Rancho Los Cerritos	Los Angeles	Long Beach	Mexican	1844
CHL 979	Rancho Simi	Ventura	Simi Valley	Mexican	1842
CHL 1005	Santa Rosa Rancho	Riverside	Murrieta	Prehistoric, Protohistoric, Mexican	No date, 1846

Source OHP (accessed 7/1/2019); Sapphos Environmental (2015)

Table C-4. California Historical Landmarks of the American Period (1849–Present)

CA Historic Landmark No.	Site Name	County	General Location	Period(s)	Date(s)
CHL 20	Parent Orange Tree	Riverside	Riverside	American	1870
CHL 96	Mormon Road	San Bernardino	West of Crestline	American	1851
CHL 112	North Gate of City of Anaheim	Orange	Anaheim	American	1857
CHL 147	Banning Park	Los Angeles	Wilmington	American	1850s
CHL 150	Brand Park (Memory Garden)	Los Angeles	Los Angeles	American	1920
CHL 159	Pico House (Hotel)	Los Angeles	Los Angeles	American	1869–1870
CHL 160	Oldest House in Hollywood	Los Angeles	Hollywood	American	1870s
CHL 169	Drum Barracks	Los Angeles	Wilmington	American	1862
CHL 170	Hancock Park La Brea	Los Angeles	Los Angeles	American	1916
CHL 171	Merced Theater	Los Angeles	Los Angeles	American	1870
CHL 172	Pioneer Oil Refinery	Los Angeles	Newhall	American	1870
CHL 182	Tumco Mines	Imperial	Northeast of Ogilby	American	1884
CHL 188	Butterfield Stage Station	Riverside	South of Corona	American	1858
CHL 191	Yorba-Slaughter Adobe	San Bernardino	South of Chino	American	1850–1853
CHL 193	Picacho Mines	Imperial	North of Winterhaven	American	1852
CHL 194	Mountain Springs Stage Station	Imperial	Mountain Springs	American	1850s
CHL 198	Old Landing	Orange	Newport Beach	American	1870
CHL 201	Pioneer House of the Mother Colony	Orange	Anaheim	American	1857
CHL 202	Silverado	Orange	Silverado	American	1878
CHL 203	Red Hill	Orange	Santa Ana	American	1893
CHL 205	Modjeska's Home	Orange	Northeast of Lake Forest	American	1888
CHL 218	Barton's Mound	Orange	Irvine	American	1857
CHL 219	Anaheim Landing	Orange	Seal Beach	American	1857
CHL 225	Flores Peak	Orange	Modjeska Canyon	American	1857
CHL 228	Carbondale	Orange	Silverado	American	1878
CHL 235	Casa de San Rafael	Los Angeles	Glendale	American	1875
CHL 289	First Home of Pomona College	Los Angeles	Pomona	American	1887
CHL 367	E.J. Baldwin's Queen Anne Cottage	Los Angeles	Arcadia	American	1865
CHL 372	Adobe de Palomares	Los Angeles	Pomona	American	1881
CHL 373	Old Salt Lake	Los Angeles	Redondo Beach	Prehistoric, American	No date, 1850s
CHL 380	Site of Diego Sepulveda Adobe	Los Angeles	San Pedro	American	1854
CHL 381	Old Whaling Station	Los Angeles	Rancho Palos Verdes	American	1850s
CHL 384	Timm's Point and Landing	Los Angeles	San Pedro	American	1852
CHL 386	La Casa de Carrión	Los Angeles	La Verne	American	1864

CA Historic Landmark No.	Site Name	County	General Location	Period(s)	Date(s)
CHL 514	Pomona Power Plant	Los Angeles	Claremont	American	1892
CHL 516	Well No. 4 CSO	Los Angeles	Newhall	American	1876
CHL 516-2	Mentryville	Los Angeles	Newhall	American	1876
CHL 531	Lummis House	Los Angeles	Los Angeles	American	1895
CHL 536	Original Building of the University of Southern California	Los Angeles	Los Angeles	American	1880
CHL 554	DeMille Studio	Los Angeles	Hollywood	American	1913
CHL 567	St. Vicent's Place	Los Angeles	Los Angeles	American	1868
CHL 573	Sycamore Grove	San Bernardino	West of Devore	American	1851
CHL 576	Santa Fe/Salt Lake Trail	San Bernardino	North of San Bernardino	American	1917
CHL 577	Mormon Trail Monument	San Bernardino	North of San Bernardino	American	1851
CHL 578	Stoddard-White Monument	San Bernardino	North of San Bernardino	American	1849
CHL 579	Daly Road Monument	San Bernardino	East of Rim Forest	American	1870
CHL 580	Alamitos 1	Los Angeles	Long Beach	American	1921
CHL 590	Lang Station	Los Angeles	East of Canyon Country	American	1876
CHL 617	Fort Benson	San Bernardino	Colton	American	1856–1857
CHL 619	Holcomb Valley	San Bernardino	Northeast of Big Bear	American	1860
CHL 622	Harry Wade Exit Route	San Bernardino	Near Baker	American	1849
CHL 632	Old Short Cut	Los Angeles	Angeles National Forest	American	1900
CHL 646	Grave of George Caralambo, Greek George	Los Angeles	Whittier	American	1867
CHL 653	The Cascades	Los Angeles	San Fernando Valley	American	1913
CHL 656	Bella Union Hotel Site	Los Angeles	Los Angeles	American	1858
CHL 658	Western Hotel	Los Angeles	Lancaster	American	1913
CHL 664	Heritage House	Los Angeles	Compton	American	1869
CHL 669	Gov. Stoneman Adobe, Los Robles	Los Angeles	San Marino	American	1880
CHL 681	Paradox Hybrid Walnut Tree	Los Angeles	Whittier	American	1907
CHL 688	Lyons Station Stagecoach Stop	Los Angeles	Newhall	American	1850s
CHL 716	Griffith Ranch	Los Angeles	San Fernando	American	1912
CHL 717	Angeles National Forest	Los Angeles and San Bernardino	San Gabriel and San Bernardino Mountains	American	1892
CHL 718	First International Air Meet	Los Angeles	Carson	American	1910
CHL 725	Old Bear Valley Dam	San Bernardino	West of Big Bear	American	1884
CHL 729	Old Maizeland School	Orange	Buena Park	American	1868
CHL 730	Old Plaza Firehouse	Los Angeles	Los Angeles	American	1884
CHL 737	Chimney Rock	San Bernardino	Lucerne Valley	American	1867

CA Historic Landmark No.	Site Name	County	General Location	Period(s)	Date(s)
CHL 738	Corona Founders Monument	Riverside	Corona	American	1886
CHL 744	Butterfield State Station Site	Los Angeles	Los Angeles	American	1858
CHL 761	Mission Inn	Riverside	Riverside	American	1876
CHL 774	Searles Lake Borax Discovery	San Bernardino	Trona	American	1862
CHL 775	Site of First Water-to-Water Flight	Orange	Newport Beach	American	1912
CHL 782	Calico	San Bernardino	Near Yermo	American	1881
CHL 789	Site of the Los Angeles Star	Los Angeles	Los Angeles	American	1851
CHL 794	McFadden Wharf	Orange	Newport Beach	American	1888
CHL 806	Fort Yuma	Imperial	Winterhaven	American	1849
CHL 808	Camp Salvation	Imperial	Calexico	American	1849
CHL 822	First Jewish Cemetery in Los Angeles	Los Angeles	Los Angeles	American	1854
CHL 837	Santa Ana Courthouse	Orange	Santa Ana	American	1900
CHL 840	Old Santa Monica Forestry Station	Los Angeles	Los Angeles	American	1887
CHL 845	Plank Road	Imperial	West of Winterhaven	American	ca.1915
CHL 847	Ventura County Courthouse	Ventura	Ventura	American	1913
CHL 859	Von Schmidt Boundary	San Bernardino	North of Needles	American	1873
CHL 871	The Gamble House	Los Angeles	Pasadena	American	1908
CHL 874	Workman Home	Los Angeles	Industry	American	1842
CHL 881	Site of Port of Los Angeles Long Wharf	Los Angeles	Pacific Palisades	American	1893
CHL 887	Pasadena Playhouse	Los Angeles	Pasadena	American	1924
CHL 892	Harvey House	San Bernardino	Barstow	American	1893
CHL 894	S.S. Catalina	Los Angeles	Lost	American	1924
CHL 912	Glendora Bougainvillea	Los Angeles	Glendora	American	1901
CHL 918	Olinda	Orange	Brea	American	1897
CHL 919	St. Francis Dam Disaster Site	Los Angeles	North of Saugus	American	1928
CHL 933	Site of Llano Colony	Los Angeles	Llano	American	ca.1916
CHL 934	Japanese Detention Center	Los Angeles	Arcadia	American	1942
CHL 939	Charley's World of Lost Art	Imperial	Andrade	American	1967
CHL 939	Grandma Prisbrey's Bottle Village	Ventura	Simi Valley	American	1956
CHL 939	Hula Ville (Site of)	San Bernardino	Hesperia	American	1955
CHL 939	Old Trapper's Lodge	Los Angeles	Woodland Hills	American	1951–1981
CHL 939	Possum Trot	San Bernardino	Yermo	American	1954
CHL 943	Cornelius and Mercedes Jenson Ranch	Riverside	Rubidoux	American	1854
CHL 947	Reform School Juvenile Offenders (F.C. Nelles)	Los Angeles	Whittier	American	1891
CHL 948	Site of Blythe Intake	Riverside	North of Blythe	American	1877

CA Historic Landmark No.	Site Name	County	General Location	Period(s)	Date(s)
CHL 950	U.S. Rabb Experimental Station	San Bernardino	Fontana	American	1928
CHL 959	Balboa Pavilion	Orange	Balboa	American	1905
CHL 960	Los Angeles Memorial Coliseum	Los Angeles	Los Angeles	American	1923
CHL 961	Harold Lloyd Estate, Green Acres	Los Angeles	Beverly Hills	American	1929
CHL 963-1	Camp Cady	San Bernardino	North of Barstow	American	1860
CHL 966	Adamson House	Los Angeles	Malibu	American	1926
CHL 972	Navy and Marine Corps Reserve Center	Los Angeles	Los Angeles	American	1941
CHL 975	El Monte-1st So. Cal. Settlement by U.S. Immigrants	Los Angeles	El Monte	American	1850s
CHL 985	Camp Clipper—Desert Training Center, California-Arizona Maneuver Area	San Bernardino	West of Needles	American	1942
CHL 985	Camp Coxcomb—Desert Training Center, California-Arizona Maneuver Area	Riverside	East of Indio	American	1942
CHL 985	Camp Granite—Desert Training Center, California-Arizona Maneuver Area	Riverside	East of Indio	American	1942
CHL 985	Camp Ibis—Desert Training Center, California-Arizona Maneuver Area	San Bernardino	East of Needles	American	1942
CHL 985	Camp Iron Mountain—Desert Training Center, California-Arizona Maneuver Area	San Bernardino	East of Indio	American	1942
CHL 985	Camp Young—Desert Training Center, California-Arizona Maneuver Area	Riverside	East of Indio	American	1942
CHL 985	Desert Training Center, California—Camp Pilot Knob	Imperial	Felicity	American	1942
CHL 988	Pacific Asia Museum	Los Angeles	Pasadena	American	1929
CHL 989	Soviet Transpolar Landing Site	Riverside	San Jacinto	American	1937
CHL 990	Christmas Tree Lane	Los Angeles	Pasadena	American	1920
CHL 992	Site of Contractor's General Hospital	Riverside	Desert Center	American	1933
CHL 993	Watts Towers	Los Angeles	Los Angeles	American	1955
CHL 994	A.K. Smiley Public Library	San Bernardino	Redlands	American	1898
CHL 996	Union Oil Company Building	Ventura	Santa Paula	American	1890
CHL 997	Tuna Club of Avalon	Los Angeles	Avalon	American	1898
CHL 1004	Old Town Irvine	Orange	Irvine	American	1887
CHL 1006	Beale's Cut Stagecoach Pass	Los Angeles	Santa Clarita	American	1862
CHL 1009	Ramona Bowl	Riverside	Hemet	American	1923
CHL 1011	Ennis House	Los Angeles	Los Angeles	American	1924
CHL 1011	Freeman House	Los Angeles	Los Angeles	American	1924
CHL 1014	Long Beach Marine Stadium	Los Angeles	Long Beach	American	1932

CA Historic Landmark No.	Site Name	County	General Location	Period(s)	Date(s)
CHL 1015	Richard Nixon Birthplace	Orange	Yorba Linda	American	1912
CHL 1018	Manhattan Beach State Pier	Los Angeles	Manhattan Beach	American	1920
CHL 1019	Kimberly Crest	San Bernardino	Redlands	American	1897
CHL 1021	Liberty Hill Site	Los Angeles	San Pedro	American	1923
CHL 1028	Madonna of the Trail	San Bernardino	Upland	American	1929
CHL 1034	Tecolote Rancho Site	Imperial	Holtville	American	1907
CHL 1038	Hay Tree	Los Angeles	Paramount	American	1930–1960
CHL 1041	Site of the Childhood Home of the Beach Boys	Los Angeles	Hawthorne	American	1961
CHL 1046	Savannah Memorial Park	Los Angeles	Rosemead	American	1851–1853
CHL 1050	Crystal Cove Historic District	Orange	Laguna Beach	American	1925–1962

Source: OHP (accessed 7/1/2019); Sapphos Environmental (2015)

APPENDIX D

California State Historical Landmarks and Points of Historical Interest in the SCAG Region

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Table D-1. State of California Historical landmarks and Places of Historical Interest in SCAG Region

Landmark Plaque Number	Resource Name	California State Historic Landmark	California Register of Historical Resources*	Point of Interest	Date Listed	City	County
808	Camp Salvation	CHL	–	–	10/5/1965	Calexico	Imperial
P187	Crucifixion Thorns	–	–	CPHI	1/19/1971	Calexico	Imperial
806	Fort Yuma	CHL	–	–	6/28/1965	Winterhaven	Imperial
568	Hernando De Alarcón Expedition	CHL	–	–	4/1/1957	Andrade	Imperial
P842	Hotel Barbara Worth Site	–	–	CPHI	5/17/2001	El Centro	Imperial
350	Mission La Purínima Concepción (Site of)	CHL	–	–	10/9/1939	Winterhaven	Imperial
194	Mountain Springs Station	CHL	–	–	6/20/1935	Mountain Springs	Imperial
P526	Picacho	–	–	CPHI	1/10/1979	Winterhaven	Imperial
193	Picacho Mines	CHL	–	–	6/20/1935	Winterhaven	Imperial
845	Plank Road	CHL	–	–	1/21/1971	Winterhaven	Imperial
944	Site of Fort Romualdo Pacheco	CHL	–	–	9/15/1981	Imperial	Imperial
921	Site of Mission San Pedro y San Pablo De Bicuner	CHL	–	–	6/30/1978	Bard	Imperial
1034	Tecolote Rancho Site (Imperial Valley Home of Harold Bell Wright)	CHL	–	–	5/17/2001	Holtville	Imperial
P569	Townsite of Silsbee and Indian Well	–	–	CPHI	6/12/1981	El Centro	Imperial
182	Tumco Mines	CHL	–	–	3/6/1935	Ogilby	Imperial
1008	Yuha Well	CHL	–	–	2/16/1993	Seeley	Imperial
P701	Abraham Lincoln Elementary School	–	–	CPHI	8/23/1988	Pomona	Los Angeles
372	Adobe De Palomares	CHL	–	–	4/21/1941	Pomona	Los Angeles
P750	Altadena Town and Country Club	–	–	CPHI	8/8/1991	Altadena	Los Angeles
717	Angeles National Forest	CHL	–	–	12/2/1959	La Canada	Los Angeles

Landmark Plaque Number	Resource Name	California State Historic Landmark	California Register of Historical Resources*	Point of Interest	Date Listed	City	County
717	Angeles National Forest	CHL	–	–	12/2/1959	La Canada	Los Angeles
145	Avila Adobe	CHL	–	–	6/6/1934	Los Angeles	Los Angeles
147	Banning Park	CHL	–	–	1/11/1935	Wilmington	Los Angeles
P623	Bassett Elementary School	–	–	CPHI	12/15/1983	Bassett	Los Angeles
1006	Beale's Cut Stagecoach Pass	CHL	–	–	5/11/1992	Santa Clarita	Los Angeles
C3	Bell House	–	CRHR	–	8/6/1999	Bell	Los Angeles
656	Bella Union Hotel Site	CHL	–	–	9/26/1958	Los Angeles	Los Angeles
C11	Bembridge Aviary	–	CRHR	–	8/3/2001	Long Beach	Los Angeles
C12	Bembridge Carriage House	–	CRHR	–	8/3/2001	Long Beach	Los Angeles
C15	Bembridge House / Green House	–	CRHR	–	8/3/2001	Long Beach	Los Angeles
P779	Bob's Big Boy Restaurant and Sign	–	–	CPHI	11/12/1992	Burbank	Los Angeles
P84	Bolton Hall	–	–	CPHI	1/26/1968	Los Angeles	Los Angeles
P529	Boulevard Theatre / West Coast Theater	–	–	CPHI	3/30/1979	Los Angeles	Los Angeles
150	Brand Park (Memory Garden)	CHL	–	–	1/11/1935	Los Angeles	Los Angeles
151	Campo De Cahuenga	CHL	–	–	1/11/1935	North Hollywood	Los Angeles
P469	Captain William Banning Home	–	–	CPHI	2/27/1976	Walnut	Los Angeles

Landmark Plaque Number	Resource Name	California State Historic Landmark	California Register of Historical Resources*	Point of Interest	Date Listed	City	County
P638	Carpenter House Museum	–	–	CPHI	11/16/1984	Bellflower	Los Angeles
235	Casa Adobe De San Rafael	CHL	–	–	10/31/1935	Glendale	Los Angeles
127	Casa De Governor Pío Pico	CHL	–	–	1/31/1934	Whittier	Los Angeles
984	Casa De Rancho San Antonio (Henry Gage Mansion)	CHL	–	–	5/26/1989	Bell Gardens	Los Angeles
920	Casa De San Pedro	CHL	–	–	6/30/1978	San Pedro	Los Angeles
653	Cascades, The	CHL	–	–	7/28/1958	San Fernando	Los Angeles
637	Catalina Adobe	CHL	–	–	3/10/1958	Glendale	Los Angeles
554	Cecil B. Demille Studio Barn	CHL	–	–	7/10/1956	Hollywood	Los Angeles
363	Centinela Springs	CHL	–	–	10/9/1939	Inglewood	Los Angeles
P117	Charles Chaplin Film Studio, A & M Records Studio	–	–	CPHI	6/6/1969	Los Angeles	Los Angeles
911	Chatsworth Calera Site	CHL	–	–	6/27/1977	Chatsworth	Los Angeles
990	Christmas Tree Lane	CHL	–	–	11/20/1989	Altadena	Los Angeles
P138	Church of the Lighted Window	–	–	CPHI	8/6/1969	La Canada Flintridge	Los Angeles
P835	David Familian Chapel	–	–	CPHI	9/22/1999	North Hollywood	Los Angeles
P104	Descanso Gardens	–	–	CPHI	8/15/1968	La Canada Flintridge	Los Angeles
152	Domínguez Ranchhouse	CHL	–	–	1/11/1935	Compton	Los Angeles

Landmark Plaque Number	Resource Name	California State Historic Landmark	California Register of Historical Resources*	Point of Interest	Date Listed	City	County
367	E. J. Baldwin's Queen Anne Cottage	CHL	–	–	4/3/1940	Arcadia	Los Angeles
P789	East Los Angeles Railroad Station	–	–	CPHI	8/16/1993	Commerce	Los Angeles
P671	East Whittier Woman's Improvement Club	–	–	CPHI	9/2/1986	Whittier	Los Angeles
975	El Monte-First Southern California Settlement By Immigrants from United States	CHL	–	–	8/13/1987	El Monte	Los Angeles
289	First Home of Pomona Colle	CHL	–	–	6/27/1938	Pomona	Los Angeles
P769	First Japanese Farm, Palos Verdes Peninsula	–	–	CPHI	5/11/1992	Rancho Palos Verdes	Los Angeles
822	First Jewish Site in Los Angeles	CHL	–	–	1/26/1968	Los Angeles	Los Angeles
P562	Good Templars Hall Aka Pardee Home	–	–	CPHI	3/13/1981	Santa Clarita	Los Angeles
669	Governor Stoneman Adobe, Los Robles	CHL	–	–	12/1/1958	San Marino	Los Angeles
646	Grave of George Caralambo, (Greek George)	CHL	–	–	5/29/1958	–	Los Angeles
716	Griffith Ranch	CHL	–	–	12/2/1959	San Fernando	Los Angeles
P794	Hamilton Aero Hangar, United Airport	–	–	CPHI	3/11/1994	Burbank	Los Angeles
170	Hancock Park La Brea	CHL	–	–	3/6/1935	Los Angeles	Los Angeles
961	Harold Lloyd Estate (Greenacres)	CHL	–	–	5/31/1984	Beverly Hills	Los Angeles
P846	Hay Tree	–	–	CPHI	8/8/2003	Paramount	Los Angeles
664	Heritage House	CHL	–	–	11/5/1958	Compton	Los Angeles

Landmark Plaque Number	Resource Name	California State Historic Landmark	California Register of Historical Resources*	Point of Interest	Date Listed	City	County
P497	Heritage Square	–	–	CPHI	1/13/1977	Los Angeles	Los Angeles
P414	Historical Park	–	–	CPHI	8/7/1975	Rosemead	Los Angeles
P564	Horseshoe Ranch, William S. Hart Park Ranch and Museum	–	–	CPHI	3/13/1981	Santa Clarita	Los Angeles
P696	Huntington Building - Pacific Electric Building	–	–	CPHI	3/30/1988	Los Angeles	Los Angeles
P795	J.D. Palomares House	–	–	CPHI	3/11/1994	La Verne	Los Angeles
C1	Jardin Del Encanto & Cascades Park	–	CRHR	–	11/13/1998	Monterey Park	Los Angeles
P238	Juan Matias Sanchez Adobe	–	–	CPHI	1/19/1972	Montebello	Los Angeles
386	La Casa De Carrión	CHL	–	–	12/14/1945	La Verne	Los Angeles
167	La Mesa Battlefield	CHL	–	–	3/6/1935	Vernon	Los Angeles
P733	La Venta Inn	–	–	CPHI	9/15/1990	Palos Verdes Estates	Los Angeles
590	Lang	CHL	–	–	5/22/1957	Canyon Country	Los Angeles
P830	Lanterman House/El Retiro	–	–	CPHI	2/5/1998	La Canada Flintridge	Los Angeles
P781	Leonis Adobe	–	–	CPHI	2/16/1993	Calabasas	Los Angeles
1021	Liberty Hill Site	CHL	–	–	3/3/1997	San Pedro	Los Angeles
P482	Lizzies Trail End Museum / Lizzies Trail End Inn	–	–	CPHI	6/1/1976	Sierra Madre	Los Angeles
1014	Long Beach Marine Stadium	CHL	–	–	8/5/1994	Long Beach	Los Angeles

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P330	Looff Pier, Santa Monica Pier	–	–	CPHI	5/15/1974	Santa Monica	Los Angeles
P105	Lopez Adobe / La Casa De Geronimo Lopez	–	–	CPHI	8/15/1968	San Fernando	Los Angeles
P471	Los Angeles High School	–	–	CPHI	2/27/1976	Los Angeles	Los Angeles
960	Los Angeles Memorial Coliseum	CHL	–	–	5/31/1984	Los Angeles	Los Angeles
689	Los Encinos State Historic Park	CHL	–	–	7/31/1959	Encino	Los Angeles
P178	Louis Xllips Mansion	–	–	CPHI	7/28/1970	Pomona	Los Angeles
301	Lugo Adobe (Site of)	CHL	–	–	7/12/1939	Los Angeles	Los Angeles
531	Lummis Home	CHL	–	–	3/7/1955	Los Angeles	Los Angeles
688	Lyons Station Stagecoach Stop	CHL	–	–	7/31/1959	Newhall	Los Angeles
P654	Malibu Pier	–	–	CPHI	7/2/1985	Malibu	Los Angeles
1018	Manhattan Beach State Pier	CHL	–	–	5/5/1995	Redlands	Los Angeles
P782	Marine Stadium	–	–	CPHI	2/16/1993	Long Beach	Los Angeles
171	Merced Theatre	CHL	–	–	3/6/1935	Los Angeles	Los Angeles
744	Mirror Building (Site of Butterfield Stage Station)	CHL	–	–	7/5/1960	Los Angeles	Los Angeles
157	Mission San Fernando Rey De España	CHL	–	–	1/11/1935	Mission Hills	Los Angeles
158	Mission San Gabriel Arcángel	CHL	–	–	1/11/1935	San Gabriel	Los Angeles

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963	Mojave Road, The	CHL	–	–	3/11/1994	Wilmington	Los Angeles
972	Navy and Marine Corps Reserve Center	CHL	CRHR	–	3/6/1987	Los Angeles	Los Angeles
C27	North Arnaz Drive Historic District	–	CRHR	–	1/1/1900	Beverly Hills	Los Angeles
144	Nuestra Señora La Reina De Los Angeles	CHL	–	–	6/6/1934	Los Angeles	Los Angeles
168	Oak of the Golden Dream	CHL	–	–	3/6/1935	Newhall	Los Angeles
P715	Old El Monte Jail	–	–	CPHI	6/12/1989	El Monte	Los Angeles
302	Old Mill	CHL	–	–	7/12/1939	San Marino	Los Angeles
730	Old Plaza Firehouse	CHL	–	–	4/8/1960	Los Angeles	Los Angeles
373	Old Salt Lake	CHL	–	–	9/6/1941	Redondo Beach	Los Angeles
840	Old Santa Monica Forestry Station	CHL	–	–	3/20/1970	Los Angeles	Los Angeles
632	Old Short Cut	CHL	–	–	3/3/1958	La Canada	Los Angeles
536	Original Building of the University of Southern California	CHL	–	–	9/14/1955	Los Angeles	Los Angeles
451	Ortega-Vigare Adobe	CHL	–	–	11/2/1949	San Gabriel	Los Angeles
988	Pacific Asia Museum (Grace Nicholson's Treasure House of Oriental and Western Art)	CHL	–	–	11/20/1989	Pasadena	Los Angeles
P680	Pacific Electric Railway, Firestone Blvd Grade Separation	–	–	CPHI	11/28/1986	Florence	Los Angeles
681	Paradox Hybrid Walnut Tree	CHL	–	–	5/29/1959	Whittier	Los Angeles

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P707	Patricio Ontiveros Adobe, Hawkins-Nimocks Estate	–	–	CPHI	11/22/1988	Santa Fe Springs	Los Angeles
P470	Patriotic Hall	–	–	CPHI	2/27/1976	Los Angeles	Los Angeles
159	Pico House (Hotel)	CHL	–	–	1/11/1935	Los Angeles	Los Angeles
172	Pioneer Oil Refinery	CHL	–	–	3/6/1935	Newhall	Los Angeles
160	Plummer Park and Oldest House in Hollywood	CHL	–	–	1/11/1935	Calabasas	Los Angeles
965	Point Dume	CHL	–	–	6/27/1985	Malibu	Los Angeles
514	Pomona Water Powerplant	CHL	–	–	11/25/1953	Claremont	Los Angeles
655	Portolá Trail Campsite (1)	CHL	–	–	9/26/1958	Los Angeles	Los Angeles
665	Portolá Trail Campsite (2)	CHL	–	–	11/5/1958	Beverly Hills	Los Angeles
362	Rómulo Pico Adobe (Ranchito Rómulo)	CHL	–	–	10/9/1939	Mission Hills	Los Angeles
978	Rancho Los Cerritos Historic Site	CHL	–	–	8/23/1988	Long Beach	Los Angeles
556	Rancho San Francisco	CHL	–	–	8/24/1956	Valencia	Los Angeles
947	Reform School For Juvenile Offenders (Fred C. Nelles School)	CHL	–	–	3/1/1982	Whittier	Los Angeles
368	Reid-Baldwin Adobe	CHL	–	–	4/3/1940	Arcadia	Los Angeles
P481	Richardson House	–	–	CPHI	6/1/1976	Sierra Madre	Los Angeles
385	Rio San Gabriel Battlefield	CHL	–	–	12/14/1945	Montebello	Los Angeles

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P140	Rivera First Baptist Church	–	–	CPHI	8/29/1969	Pico Rivera	Los Angeles
753	San Fernando Cemetery	CHL	–	–	12/22/1960	Sylmar	Los Angeles
P33	Santa Anita Depot	–	–	CPHI	6/2/1967	Arcadia	Los Angeles
P227	Santa Susana Stage Road	–	–	CPHI	10/5/1971	San Fernando	Los Angeles
P563	Saugus Southern Pacific Railroad Depot / Saugus Station	–	–	CPHI	3/13/1981	Newhall	Los Angeles
1046	Savannah Memorial Park	CHL	–	–	3/6/2012	Rosemead	Los Angeles
P682	Scripps Hall / Pasadena Waldorf School	–	–	CPHI	3/6/1987	Altadena	Los Angeles
522	Serra Springs	CHL	–	–	11/1/1954	Los Angeles	Los Angeles
P628	Shoreline Looff Carousel	–	–	CPHI	5/31/1984	Long Beach	Los Angeles
383	Site of Adobe Home of José Dolores Sepulveda	CHL	–	–	1/3/1944	Torrance	Los Angeles
380	Site of Home of Diego Sepúlveda	CHL	–	–	1/3/1944	San Pedro	Los Angeles
933	Site of Llano Del Rio Cooperative Colony	CHL	–	–	5/13/1980	Llano	Los Angeles
161	Site of Mission Vieja	CHL	–	–	1/11/1935	Montebello	Los Angeles
381	Site of Old Whaling Station	CHL	–	–	1/3/1944	Rancho Palos Verdes	Los Angeles
881	Site of Port Los Angeles Long Wharf	CHL	–	–	5/9/1975	Pacific Palisades	Los Angeles
718	Site of the Initial United States Air Meet	CHL	–	–	12/2/1959	Carson	Los Angeles

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789	Site of the Los Angeles Star	CHL	–	–	3/18/1964	Los Angeles	Los Angeles
P316	Soledad-Acton Schoolhouse	–	–	CPHI	9/12/1973	Acton	Los Angeles
919	St. Francis Dam Disaster Site	CHL	–	–	4/26/1978	Saugus	Los Angeles
567	St. Vincent's Place	CHL	–	–	2/25/1957	Los Angeles	Los Angeles
P256	Suangna Indian Village	–	–	CPHI	6/22/1972	Carson	Los Angeles
P788	Sylvia Park Country Club Clubhouse	–	–	CPHI	8/16/1993	Topanga	Los Angeles
P334	Temple Hall	–	–	CPHI	7/12/1974	City of Industry	Los Angeles
934	Temporary Detention Camps for Japanese Americans-Santa Anita Assembly Center and Pomona Assembly Center	CHL	–	–	5/13/1980	–	Los Angeles
384	Timm's Point and Landing	CHL	–	–	2/16/1977	San Pedro	Los Angeles
P849	Topanga Christian Fellowship Church	–	–	CPHI	8/5/2005	Topanga	Los Angeles
P445	W.R. Rowland Adobe Redwood Ranch House	–	–	CPHI	10/1/1975	Walnut	Los Angeles
580	Well, Alamitos 1	CHL	–	–	5/1/1957	Signal Hill	Los Angeles
658	Western Hotel	CHL	–	–	9/26/1958	Lancaster	Los Angeles
P721	Wichstand	–	–	CPHI	11/20/1989	Los Angeles	Los Angeles
P695	William andrews Clark Library	–	–	CPHI	3/30/1988	Los Angeles	Los Angeles
P722	Womans Club of Claremont	–	–	CPHI	11/20/1989	Claremont	Los Angeles

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P513	1953 National Boy Scout Jamboree Site	–	–	CPHI	10/14/1977	Newport Beach	Orange
219	Anaheim Landing	CHL	–	–	6/20/1935	Seal Beach	Orange
P834	Bartlett Building	–	–	CPHI	6/22/1999	San Clemente	Orange
218	Barton Mound	CHL	–	–	6/20/1935	Irvine	Orange
P524	Birch Park	–	–	CPHI	12/6/1978	Santa Ana	Orange
217	Black Star Canyon Indian Village Site	CHL	–	–	6/20/1935	Silverado	Orange
228	Carbondale	CHL	–	–	6/20/1935	Silverado	Orange
189	Dana Point	CHL	–	–	6/20/1935	Dana Point	Orange
227	Diego Sepúlveda Adobe	CHL	–	–	6/20/1935	Costa Mesa	Orange
226	Don Bernardo Yorba Ranchhouse Site	CHL	–	–	6/20/1935	Yorba Linda	Orange
P483	Dr. George C. Clark Home, Fullerton State Heritage House	–	–	CPHI	9/1/1976	Fullerton	Orange
P341	Dr. Howe Waffle House	–	–	CPHI	9/13/1974	Santa Ana	Orange
P515	Episcopal Church of the Messiah	–	–	CPHI	12/1/1977	Santa Ana	Orange
P589	First Macadamia Tetraphylla Planted in California	–	–	CPHI	3/1/1982	Placentia	Orange
225	Flores Peak	CHL	–	–	6/20/1935	Modjeska Canyon	Orange
P629	Foundation of Rancho San Joaquin Adobe	–	–	CPHI	5/31/1984	Irvine	Orange
P753	Irvine Bean and Grain Growers Building	–	–	CPHI	8/8/1991	Irvine	Orange
P630	Irvine Historical Society Museum / Rancho San Joaquin Hea	–	–	CPHI	5/31/1984	Irvine	Orange
P512	Laguna Beach Art Gallery, Museum of Art	–	–	CPHI	10/14/1977	Laguna Beach	Orange
P516	Lily Creamery	–	–	CPHI	12/1/1977	Buena Park	Orange
794	Mcfadden Wharf	CHL	–	–	7/3/1964	Newport Beach	Orange
205	Modjeska's Home	CHL	–	–	6/20/1935	El Toro	Orange
112	North Gate of City of Anaheim	CHL	–	–	3/29/1933	Anaheim	Orange
198	Old Landing	CHL	–	–	6/20/1935	Newport Beach	Orange

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729	Old Maizeland School (Rivera School)	CHL	–	–	4/8/1960	Buena Park	Orange
P179	Old Saddleback, or, Santiago and Modjeska Mountain Peaks	–	–	CPHI	7/28/1970	Cle Nf	Orange
204	Old Santa Ana	CHL	–	–	6/20/1935	Orange	Orange
1004	Old Town Irvine	CHL	–	–	11/8/1991	Irvine	Orange
918	Olinda	CHL	–	–	1/31/1978	Brea	Orange
837	Orange County's Original Courthouse	CHL	–	–	11/3/1969	Santa Ana	Orange
201	Pioneer House of the Mother Colony	CHL	–	–	6/20/1935	Anaheim	Orange
P631	Placentia Mutual Orange Association Packing House	–	–	CPHI	5/31/1984	Placentia	Orange
203	Red Hill	CHL	–	–	6/20/1935	Santa Ana	Orange
P180	Santa Ana Army Air Base Site	–	–	CPHI	7/28/1970	Costa Mesa	Orange
P663	Seal Beach Red Car	–	–	CPHI	8/20/1985	Seal Beach	Orange
199	Serrano Adobe	CHL	–	–	6/20/1935	El Toro	Orange
P641	Sievers Adobe	–	–	CPHI	11/16/1984	San Juan Capistrano	Orange
202	Silverado	CHL	–	–	6/20/1935	Silverado	Orange
775	Site of First Water-To-Water Flight	CHL	–	–	9/25/1962	Newport Beach	Orange
P487	Spurgeon Building	–	–	CPHI	10/29/1976	Santa Ana	Orange
P231	Agents Home	–	–	CPHI	10/5/1971	Thermal	Riverside
P822	Armory Hall, Grand Army of the Republic Building	–	–	CPHI	5/15/1996	Lake Elsinore	Riverside
P735	Atchison, Topeka, and Santa Fe Railway Depot at Blythe	–	–	CPHI	2/11/1991	Blythe	Riverside
P120	Bandini Adobe Site	–	–	CPHI	6/6/1969	Norco	Riverside
P122	Bandini-Cota Adobe Site	–	–	CPHI	6/6/1969	Corona	Riverside
P725	Banning Women's Club	–	–	CPHI	11/20/1989	Banning	Riverside
P807	Beaumont Carnegie Library	–	–	CPHI	12/4/1994	Beaumont	Riverside

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P195	Blythe Ferry Crossing	–	–	CPHI	5/19/1971	Blythe	Riverside
P808	Bogart House	–	–	CPHI	12/4/1994	Beaumont	Riverside
188	Butterfield Stage Station	CHL	–	–	6/20/1935	Corona	Riverside
P147	Camp Emerson	–	–	CPHI	11/3/1969	Idyllwild	Riverside
985	Camp Young—Desert Training Center, Cama	CHL	–	CPHI	6/2/1968	Desert Center	Riverside
985	Camp Coxcomb—Desert Training Center, California-Arizona Maneuver Area	CHL	–	–	n/a	Indio (45 miles east)	Riverside
985	Camp Granite—Desert Training Center, California-Arizona Maneuver Area	CHL	–	–	n/a	Indio (45 miles east)	Riverside
P773	Cantu Ranch/Galleano Winery	–	–	CPHI	8/21/1992	Mira Loma	Riverside
187	Carved Rock	CHL	–	–	6/20/1935	Corona	Riverside
P121	Citrus Experiment Station	–	–	CPHI	6/6/1969	Riverside	Riverside
P123	Citrus Machinery Pioneering	–	–	CPHI	6/6/1969	Riverside	Riverside
P141	Coachella Valley County Water District	–	–	CPHI	8/29/1969	Coachella	Riverside
P759	Coplin House Spokane Hotel Plueger Realty	–	–	CPHI	11/8/1991	Banning	Riverside
P80	Corn Springs	–	–	CPHI	1/24/1968	Desert Center	Riverside
943	Cornelius and Mercedes Jenson Ranch	CHL	–	–	6/12/1981	Rubidoux	Riverside
738	Corona Founders Monument	CHL	–	–	6/6/1960	Corona	Riverside
P520	Cottonwood School	–	–	CPHI	2/1/1978	Sage	Riverside
787	De Anza Crossing of the Santa Ana River, 1775 and 1776	CHL	–	–	9/18/1963	Riverside	Riverside
P307	Desert Inn	–	–	CPHI	7/13/1973	Palm Springs	Riverside
P78	Dos Palmas	–	–	CPHI	1/24/1968	Mecca	Riverside
P229	Eagle Mountain Iron	–	–	CPHI	10/5/1971	Desert Center	Riverside
P570	El Mirador Hotel and Tower	–	–	CPHI	6/12/1981	Palm Springs	Riverside
P832	Elsinore Women's Club	–	–	CPHI	2/5/1998	Lake Elsinore	Riverside
P97	Elsinore's Hottest Sulphur Springs	–	–	CPHI	6/7/1968	Lake Elsinore	Riverside

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P174	First Post Office	–	–	CPHI	3/19/1970	Temecula	Riverside
P94	Frink Ranch	–	–	CPHI	6/7/1968	Beaumont	Riverside
101	Giant Desert Figures	CHL	–	–	3/29/1933	Blythe	Riverside
P124	Hall City and Hall's Grade	–	–	CPHI	6/6/1969	Cabazon	Riverside
P746	Hamilton School (#1), Little Red School House	–	–	CPHI	8/2/1991	Anza	Riverside
P95	Hemet Dam and Lake Hemet	–	–	CPHI	6/7/1968	Hemet	Riverside
557	Hemet Maze Stone	CHL	–	–	8/24/1956	Hemet	Riverside
P774	Henderson/Reid Building	–	–	CPHI	8/21/1992	Banning	Riverside
P108	Highgrove Hydroelectric Plant	–	–	CPHI	12/11/1968	Riverside	Riverside
P38	Highland Springs	–	–	CPHI	6/2/1967	Banning	Riverside
P335	Idyllwild	–	–	CPHI	7/12/1974	Idyllwild	Riverside
P233	Indian School Agency Office, Indian School Agency	–	–	CPHI	10/5/1971	Thermal	Riverside
P83	Indian Wells	–	–	CPHI	1/24/1968	Palm Desert	Riverside
P308	John W. North Park / Seventh Street Historic District	–	–	CPHI	7/13/1973	Riverside	Riverside
P64	Loring Opera House, Golden State Theater	–	–	CPHI	9/22/1967	Riverside	Riverside
P93	March Field Historic District	–	–	CPHI	6/7/1968	Moreno Valley	Riverside
P232	Martinez Historical District/Martinez Indian Agency	–	–	CPHI	10/5/1971	Thermal	Riverside
P230	Morovian Church and Indian School, Indian School	–	–	CPHI	10/5/1971	Thermal	Riverside
P65	Mount Rubidoux	–	–	CPHI	9/22/1967	Riverside	Riverside
P82	Noble's Ranch	–	–	CPHI	1/24/1968	Beaumont	Riverside
P702	Old Moreno School	–	–	CPHI	8/23/1988	Moreno Valley	Riverside
638	Old Temescal Road	CHL	–	–	3/31/1958	Corona	Riverside
P118	Original Palm Springs, The	–	–	CPHI	6/6/1969	Palm Springs	Riverside
190	Painted Rock	CHL	–	–	6/20/1935	Corona	Riverside

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C21	Palm Canyon Theater / Stevens, Frances S., School	–	CRHR	–	11/7/2003	Palm Springs	Riverside
P146	Palmdale Railroad Site / Railroad That Failed	–	–	CPHI	11/3/1969	Palm Springs	Riverside
20	Parent Washington Navel Orange Tree	CHL	–	–	6/1/1932	Riverside	Riverside
P337	Pedley-Type Dam	–	–	CPHI	7/12/1974	Banning	Riverside
P553	Pinacate Mining District	–	–	CPHI	6/6/1980	Good Hope	Riverside
P554	Pinacate, Pinacate Mining District	–	–	CPHI	6/6/1980	Perris	Riverside
1009	Ramona Bowl, Site of the Ramona Pageant	CHL	–	–	2/16/1993	Hemet	Riverside
P719	Rancho Santa Rosa	–	–	CPHI	11/3/1989	Murrieta	Riverside
P336	Riverside Cement Company	–	–	CPHI	7/12/1974	Riverside	Riverside
P96	Riverside County Courthouse	–	–	CPHI	6/7/1968	Riverside	Riverside
P76	Riverside First Congregational Church	–	–	CPHI	1/24/1968	Riverside	Riverside
224	Ruins of Third Serrano Adobe	CHL	–	–	6/20/1935	Corona	Riverside
749	Saahatpa	CHL	–	–	8/17/1960	–	Riverside
P711	Santa Fe Railway Depot	–	–	CPHI	11/22/1988	Hemet	Riverside
1005	Santa Rosa Rancho	CHL	–	–	2/18/1992	Murieta	Riverside
185	Serrano Boulder	CHL	–	–	6/20/1935	Corona	Riverside
186	Serrano Tanning Vats	CHL	–	–	6/20/1935	Corona	Riverside
P148	Shaver's Well	–	–	CPHI	11/3/1969	Mecca	Riverside
948	Site of Blythe Intake	CHL	–	–	3/1/1982	Blythe	Riverside
P63	Site of Blythe Intake	–	–	CPHI	9/22/1967	Blythe	Riverside
992	Site of Contractor's General Hospital	CHL	–	–	8/17/1990	–	Riverside
103	Site of De Anza Camp, March 1774	CHL	–	–	3/29/1933	Anza	Riverside
104	Site of Indian Village of Pochea	CHL	–	–	3/29/1933	Hemet	Riverside
102	Site of Louis Rubidoux House	CHL	–	–	3/29/1933	Rubidoux	Riverside
303	Site of Old Rubidoux Grist Mill	CHL	–	–	7/12/1939	Rubidoux	Riverside

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P760	Smiley Place	–	–	CPHI	11/8/1991	Indio	Riverside
989	Soviet Transpolar Landing Site	CHL	–	–	10/20/1989	San Jacinto	Riverside
P119	Speed of Light Experiment Site	–	–	CPHI	6/6/1969	Idyllwild	Riverside
P415	St. Boniface School	–	–	CPHI	8/7/1975	Beaumont	Riverside
P175	Temecula Quarries	–	–	CPHI	3/19/1970	Temecula	Riverside
P79	Temescal Tin Mines	–	–	CPHI	1/24/1968	Corona	Riverside
P176	Thomas-Garner Ranch	–	–	CPHI	3/19/1970	Idyllwild	Riverside
P81	Toro Village	–	–	CPHI	1/24/1968	Indio	Riverside
P75	Trujillo Adobe	–	–	CPHI	1/24/1968	Riverside	Riverside
P306	U.S. Experimental Date Station, Date Industry Birthplace	–	–	CPHI	7/13/1973	Mecca	Riverside
P736	Valerie Jean's Date Shop,Russell Nicoll Home/Ol King Solo	–	–	CPHI	2/11/1991	Thermal	Riverside
P39	Weaver Adobe	–	–	CPHI	6/2/1967	Banning	Riverside
P40	Whitewater	–	–	CPHI	6/2/1967	Banning	Riverside
P77	Wiley's Well	–	–	CPHI	1/24/1968	Blythe	Riverside
P560	Yerxa's Discovery	–	–	CPHI	12/19/1980	Desert Hot Springs	Riverside
P776	25th Street Historic District	–	–	CPHI	8/21/1992	San Bernardino	San Bernardino
P626	A. B. Miller Community Park and Plunge	–	–	CPHI	12/31/1983	Fontana	San Bernardino
P433	A. C. Burrage Mansion	–	–	CPHI	8/7/1975	Redlands	San Bernardino
994	A.K. Smiley Public Library	CHL	–	–	8/17/1990	Redlands	San Bernardino
121	Agua Mansa	CHL	–	–	5/15/1933	Colton	San Bernardino
P362	Alf's Blacksmith Shop	–	–	CPHI	11/19/1974	Daggett	San Bernardino

Landmark Plaque Number	Resource Name	California State Historic Landmark	California Register of Historical Resources*	Point of Interest	Date Listed	City	County
P549	Andreson Building	–	–	CPHI	3/31/1980	San Bernardino	San Bernardino
P249	Anson Van Leuven House and Orange Grove	–	–	CPHI	4/25/1972	Loma Linda	San Bernardino
P700	Antlers Inn	–	–	CPHI	3/31/1988	Twin Peaks	San Bernardino
977	Arrowhead, The	CHL	–	–	4/1/1988	San Bernardino	San Bernardino
P489	Atchison, Topeka, and Santa Fe Railway-Redlands Station	–	–	CPHI	10/29/1976	Redlands	San Bernardino
P251	Atwood Adobe Site	–	–	CPHI	4/25/1972	San Bernardino	San Bernardino
P369	Bairdstown	–	–	CPHI	1/17/1975	Big Bear City	San Bernardino
P280	Baldwin Lake	–	–	CPHI	1/31/1973	Big Bear City	San Bernardino
P278	Baseline Road	–	–	CPHI	1/31/1973	Highland	San Bernardino
P338	Battle of Chino	–	–	CPHI	7/12/1974	Chino	San Bernardino
P281	Bella Union Hotel Site	–	–	CPHI	1/31/1973	San Bernardino	San Bernardino
P420	Bismark	–	–	CPHI	8/7/1975	Yermo	San Bernardino
P755	Bloomington Garage and La Gue Residence	–	–	CPHI	8/8/1991	Bloomington	San Bernardino
P419	Borate	–	–	CPHI	8/7/1975	Yermo	San Bernardino
P343	Brookings Sawmill Site	–	–	CPHI	9/13/1974	Arrowbear Lake	San Bernardino
P347	Buzzard Rock Barstow - Petroglyph	–	–	CPHI	9/13/1974	Barstow	San Bernardino

Landmark Plaque Number	Resource Name	California State Historic Landmark	California Register of Historical Resources*	Point of Interest	Date Listed	City	County
P811	California Department of Forestry (Yucaipa Station)	–	–	CPHI	5/30/1995	Yucaipa	San Bernardino
963-1/P405	Camp Cady (On the Mojave Road)	CHL	–	CPHI	3/19/1985 (X); 5/9/1975 (X)	Barstow	San Bernardino
985	Camp Iron Mountain—Desert Training Center, California-Arizona Maneuver Area	CHL	–	–	n/a	Indio (45 miles east)	San Bernardino
985	Camp Clipper—Desert Training Center, California-Arizona Maneuver Area	CHL	–	–	n/a	Needles (37 miles west)	San Bernardino
985	Camp Ibis—Desert Training Center, California-Arizona Maneuver Area	CHL	–	–	n/a	Needles (8 miles east)	San Bernardino
P408	Camp Rock Spring	–	–	CPHI	5/9/1975	Cima	San Bernardino
P282	Center of San Bernardino, 1853	–	–	CPHI	1/31/1973	San Bernardino	San Bernardino
P345	Chemehuevi Cemetery	–	–	CPHI	9/13/1974	Twentynine Palms	San Bernardino
737	Chimney Rock	CHL	–	–	6/6/1960	Lucerne Valley	San Bernardino
P593	Chino Opera House Site	–	–	CPHI	6/9/1982	Chino	San Bernardino
P454	Christmas House	–	–	CPHI	12/22/1975	Rancho Cucamonga	San Bernardino
P457	Church of San Secondo D`Asti, Guasti Church	–	–	CPHI	12/22/1975	Guasti	San Bernardino
P771	City Creek Civilian Conservation Corps Camp	–	–	CPHI	5/11/1992	Highland	San Bernardino
P590	Colton Carnegie Public Library / Colton Public Library	–	–	CPHI	3/1/1982	Colton	San Bernardino
P432	Confederate Attack Marker Site	–	–	CPHI	8/7/1975	San Bernardino	San Bernardino
P417	Cooley Adobe	–	–	CPHI	8/7/1975	Colton	San Bernardino

Landmark Plaque Number	Resource Name	California State Historic Landmark	California Register of Historical Resources*	Point of Interest	Date Listed	City	County
P291	Cottonwood Spring	–	–	CPHI	1/31/1973	Lucerne Valley	San Bernardino
P686	Cox-Bradley Home	–	–	CPHI	7/1/1987	San Bernardino	San Bernardino
P283	Coxey Road	–	–	CPHI	1/31/1973	Fawnskin	San Bernardino
P424	Crafts House	–	–	CPHI	8/7/1975	Redlands	San Bernardino
P331	Cram Ranch and House	–	–	CPHI	5/15/1974	Highland	San Bernardino
P458	Cucamonga Chinatown Site	–	–	CPHI	12/22/1975	Rancho Cucamonga	San Bernardino
490	Cucamonga Rancho Winery	CHL	–	–	10/10/1951	Cucamonga	San Bernardino
579	Daley Toll Road Monument	CHL	–	–	5/17/1957	Rim Forest	San Bernardino
P292	De Anza Park Marker / Anza Trail	–	–	CPHI	1/31/1973	Ontario	San Bernardino
P596	Declez Ranch; Felice Pagliuso Winery	–	–	CPHI	6/9/1982	Fontana	San Bernardino
P430	Del Rosa Swamp	–	–	CPHI	8/7/1975	San Bernardino	San Bernardino
P461	Dr. Grainger Hyer Home	–	–	CPHI	12/22/1975	Upland	San Bernardino
P804	Fawn Lodge	–	–	CPHI	8/23/1994	Fawnskin	San Bernardino
P426	Fisher House	–	–	CPHI	8/7/1975	Redlands	San Bernardino
P598	Fontana Community Church Complex	–	–	CPHI	6/9/1982	Fontana	San Bernardino
P595	Fontana Company Tract Office/Library/C of C Building	–	–	CPHI	6/9/1982	Fontana	San Bernardino

Landmark Plaque Number	Resource Name	California State Historic Landmark	California Register of Historical Resources*	Point of Interest	Date Listed	City	County
P594	Fontana Farms Ranch House, Pepper Street House	–	–	CPHI	6/9/1982	Fontana	San Bernardino
P597	Fontana Woman's Club House	–	–	CPHI	6/9/1982	Fontana	San Bernardino
617	Fort Benson	CHL	–	–	9/11/1957	Colton	San Bernardino
P250	Fort Piute/Piute Springs/Fort Beale/Piute Creek/Piute Hil	–	–	CPHI	4/25/1972	Needles	San Bernardino
P425	Fred T. Perris House Site	–	–	CPHI	8/7/1975	San Bernardino	San Bernardino
C20	Frink Adobe	–	CRHR	–	11/7/2003	Loma Linda	San Bernardino
P293	Frink Adobe	–	–	CPHI	1/31/1973	Bryn Mawr	San Bernardino
618	Garcés Smith Monument	CHL	–	–	9/11/1957	–	San Bernardino
P462	Garcia Ranch House	–	–	CPHI	12/22/1975	Etiwanda	San Bernardino
P756	Grapeland Homesteads and Water Works	–	–	CPHI	8/8/1991	Fontana	San Bernardino
95	Guachama Rancheria	CHL	–	–	3/29/1933	Redlands	San Bernardino
P403	Guapiabit	–	–	CPHI	5/9/1975	Crestline	San Bernardino
P464	Guasti (Brookside) Winery	–	–	CPHI	12/22/1975	Guasti	San Bernardino
P667	Happy Hill Resort: Tidwell House	–	–	CPHI	12/17/1985	Big Bear Lake	San Bernardino
622	Harry Wade Exit Route	CHL	–	–	10/9/1957	Baker	San Bernardino
892	Harvey House	CHL	–	–	2/20/1976	Barstow	San Bernardino

Landmark Plaque Number	Resource Name	California State Historic Landmark	California Register of Historical Resources*	Point of Interest	Date Listed	City	County
P406	Henry Washington Survey Marker	–	–	CPHI	5/9/1975	Big Bear City	San Bernardino
P632	Heritage House (Judge George E. Otis House)	–	–	CPHI	5/31/1984	San Bernardino	San Bernardino
619	Holcomb Valley	CHL	–	–	9/11/1957	Big Bear	San Bernardino
P383	Home of Eternity Cemetery of Congregation Emanu El	–	–	CPHI	3/20/1975	San Bernardino	San Bernardino
P488	Home of Neighborly Service	–	–	CPHI	10/29/1976	San Bernardino	San Bernardino
P260	Hunsaker Flats—Running Springs Logging Wheels Historical	–	–	CPHI	6/22/1972	Arrowbear Lake	San Bernardino
P416	Jedediah Smith Monument	–	–	CPHI	8/7/1975	San Bernardino	San Bernardino
P452	Kaiser Steel	–	–	CPHI	12/22/1975	Fontana	San Bernardino
P684	Kelso Depot	–	–	CPHI	7/1/1987	Kelso	San Bernardino
P344	Keys Ranch	–	–	CPHI	9/13/1974	Joshua Tree	San Bernardino
1019	Kimberly Crest	CHL	–	–	12/8/1995	Carlsbad	San Bernardino
P527	Lanfair	–	–	CPHI	1/31/1979	Cima	San Bernardino
P258	Lugonia School Monument	–	–	CPHI	6/22/1972	Redlands	San Bernardino
1028	Madonna of the Trail	CHL	–	–	11/7/1998	Upland	San Bernardino
P450	Madonna of the Trail	–	–	CPHI	12/22/1975	Upland	San Bernardino
P685	Martin Adobe Site	–	–	CPHI	7/1/1987	San Bernardino	San Bernardino

Landmark Plaque Number	Resource Name	California State Historic Landmark	California Register of Historical Resources*	Point of Interest	Date Listed	City	County
P456	Milliken Ranch	–	–	CPHI	12/22/1975	Rancho Cucamonga	San Bernardino
P429	Morey House / Morey-Cheney House	–	–	CPHI	8/7/1975	Redlands	San Bernardino
P428	Mormon Flour Mill Site	–	–	CPHI	8/7/1975	San Bernardino	San Bernardino
96	Mormon Road	CHL	–	–	3/29/1933	Crestline	San Bernardino
P427	Mormon Schools Site	–	–	CPHI	8/7/1975	San Bernardino	San Bernardino
577	Mormon Trail Monument	CHL	–	–	5/17/1957	San Bernardino	San Bernardino
P285	Mound City (Loma Linda)	–	–	CPHI	1/31/1973	Redlands	San Bernardino
P342	Mule Car	–	–	CPHI	9/13/1974	Ontario	San Bernardino
781	National Old Trails Monument	CHL	–	–	11/20/1962	Needles	San Bernardino
P259	National Orange Show	–	–	CPHI	6/22/1972	San Bernardino	San Bernardino
P422	Nordoff Home	–	–	CPHI	8/7/1975	Redlands	San Bernardino
725	Old Bear Valley Dam	CHL	–	–	2/5/1960	Big Bear Lake	San Bernardino
P815	Old Guest House Museum	–	–	CPHI	12/15/1995	Trona	San Bernardino
P460	Old Harwood House	–	–	CPHI	12/22/1975	Upland	San Bernardino
P455	Old Pioneer Catholic Cemetery	–	–	CPHI	12/22/1975	San Bernardino	San Bernardino
P290	Old Woman Springs	–	–	CPHI	1/31/1973	Lucerne Valley	San Bernardino

Landmark Plaque Number	Resource Name	California State Historic Landmark	California Register of Historical Resources*	Point of Interest	Date Listed	City	County
P370	Ontario State Bank Block Site, Howells House Site	–	–	CPHI	1/17/1975	Ontario	San Bernardino
P404	Oro Grande Cemetery	–	–	CPHI	5/9/1975	Oro Grande	San Bernardino
P423	Partridge House, Paul F Allen House	–	–	CPHI	8/7/1975	Redlands	San Bernardino
P649	Pinecrest Resort Dining Hall	–	–	CPHI	2/20/1985	Sbr Nf	San Bernardino
P289	Pioneer Cemetery	–	–	CPHI	1/31/1973	San Bernardino	San Bernardino
P431	Pioneer Monument	–	–	CPHI	8/7/1975	San Bernardino	San Bernardino
P279	Pozos De San Juan De Dios, Marl Springs	–	–	CPHI	1/31/1973	Cima	San Bernardino
P181	Prospect Park	–	–	CPHI	7/28/1970	Redlands	San Bernardino
P288	Rabbit Springs	–	–	CPHI	1/31/1973	Lucerne Valley	San Bernardino
P473	Railroad Summit, Cajon Pass	–	–	CPHI	2/27/1976	Hesperia	San Bernardino
P348	Rattlesnake Rock - Daggett - Petroglyphs	–	–	CPHI	9/13/1974	Daggett	San Bernardino
P275	Rock Camp - Lake Arrowhead	–	–	CPHI	11/1/1972	Lake Arrowhead	San Bernardino
P287	Rose Mine	–	–	CPHI	1/31/1973	Big Bear City	San Bernardino
P669	Saddleback Inn Arrowhead	–	–	CPHI	6/5/1986	Lake Arrowhead	San Bernardino
P286	San Bernardino - Sonora Road	–	–	CPHI	1/31/1973	Ontario	San Bernardino
42	San Bernardino Asistencia	CHL	–	–	8/1/1932	Redlands	San Bernardino

Landmark Plaque Number	Resource Name	California State Historic Landmark	California Register of Historical Resources*	Point of Interest	Date Listed	City	County
P642	San Bernardino California Theatre	–	–	CPHI	11/16/1984	San Bernardino	San Bernardino
P142	San Bernardino County Museum	–	–	CPHI	8/29/1969	Bloomington	San Bernardino
P474	San Salvador School Adobe	–	–	CPHI	2/27/1976	Colton	San Bernardino
576	Santa Fe and Salt Lake Trail Monument	CHL	–	–	5/17/1957	San Bernardino	San Bernardino
P418	Santa Fe Station Building	–	–	CPHI	8/7/1975	San Bernardino	San Bernardino
P729	Schoolhouse/Thimble Club, Old Schoolhouse Museum	–	–	CPHI	8/17/1990	Chino	San Bernardino
774	Searles Lake Borax Discovery	CHL	–	–	8/16/1962	Trona	San Bernardino
P261	Seely Sawmill Monument	–	–	CPHI	6/22/1972	Crestline	San Bernardino
P617	Sinclair Commercial Block	–	–	CPHI	7/12/1983	Fontana	San Bernardino
44	Site of Mormon Stockade	CHL	–	–	8/1/1932	San Bernardino	San Bernardino
942	Site of the Rancho Chino Adobe of Isaac Williams	CHL	–	–	2/19/1981	Chino	San Bernardino
P284	Slover Mountain	–	–	CPHI	1/31/1973	Colton	San Bernardino
P407	Soda Spring	–	–	CPHI	5/9/1975	Baker	San Bernardino
P463	South Fontana Indian Pit and Groove Petroglyph Site	–	–	CPHI	12/22/1975	Fontana	San Bernardino
P657	St. Bernardine of Siena Catholic Church	–	–	CPHI	7/2/1985	San Bernardino	San Bernardino
P459	St. Mark's Episcopal Church/Chaffey Communities Cultural	–	–	CPHI	12/22/1975	Upland	San Bernardino

Landmark Plaque Number	Resource Name	California State Historic Landmark	California Register of Historical Resources*	Point of Interest	Date Listed	City	County
C26	Stephens & Bobbitt Mortuary / Victory Chapel	–	CRHR	–	8/5/2005	San Bernardino	San Bernardino
578	Stoddard-Waite Monument	CHL	–	–	5/17/1957	San Bernardino	San Bernardino
P453	Stone Castle Powerhouse, Ontario Electric Company	–	–	CPHI	12/22/1975	Upland	San Bernardino
P658	Stone Hotel & People's General Store	–	–	CPHI	7/2/1985	Daggett	San Bernardino
P608	Sturges Auditorium	–	–	CPHI	1/14/1983	San Bernardino	San Bernardino
573	Sycamore Grove	CHL	–	–	4/1/1957	Devore	San Bernardino
P451	Sycamore Inn	–	–	CPHI	12/22/1975	Rancho Cucamonga	San Bernardino
360	Tapia Adobe (Site of)	CHL	–	–	10/9/1939	Cucamonga	San Bernardino
782	Town of Calico	CHL	–	–	11/20/1962	Yermo	San Bernardino
P340	Twentynine Palms Oasis	–	–	CPHI	9/3/1974	Twentynine Palms	San Bernardino
950	United States Rabbit Experimental Station	CHL	–	–	6/9/1982	Fontana	San Bernardino
P472	Upland Waiting System	–	–	CPHI	2/27/1976	Upland	San Bernardino
859	Von Schmidt State Boundary Monument	CHL	–	–	4/26/1973	Needles	San Bernardino
P605	Weir Building, The	–	–	CPHI	12/31/1982	Upland	San Bernardino
P421	Wells House	–	–	CPHI	8/7/1975	Redlands	San Bernardino
P643	West Twin Creek Water Co. System Flume	–	–	CPHI	11/16/1984	San Bernardino	San Bernardino

Landmark Plaque Number	Resource Name	California State Historic Landmark	California Register of Historical Resources*	Point of Interest	Date Listed	City	County
P322	Willis Well - Stone Monument and Petroglyphs	–	–	CPHI	1/15/1974	Daggett	San Bernardino
528	Yucaipa Adobe	CHL	–	–	9/11/1957	Yucaipa	San Bernardino
620	Yucaipa Rancheria	CHL	–	–	9/11/1957	Yucaipa	San Bernardino
P775	Yucaipa Woman's Club Clubhouse	–	–	CPHI	8/21/1992	Yucaipa	San Bernardino
43	Zanja	CHL	–	–	8/1/1932	Redlands	San Bernardino
P346	Zzyzx Springs	–	–	CPHI	9/13/1974	Baker	San Bernardino
310	Mission San Buenaventura	CHL	–	–	7/12/1939	Ventura	Ventura
115	Olivas Adobe	CHL	–	–	3/29/1933	Ventura	Ventura
P503	Ortega Adobe, Ortega Adobe Historic Res	–	–	CPHI	5/5/1977	Ventura	Ventura
727	Portolá Expedition	CHL	–	–	2/5/1960	Santa Paula	Ventura
979	Rancho Simi	CHL	–	–	6/30/1988	Simi Valley	Ventura
P302	Santa Clara School/Little Red Schoolhouse	–	–	CPHI	5/2/1973	Santa Paula	Ventura
P777	Simi Valley Public Cemetery, Pioneer Section	–	–	CPHI	8/21/1992	Simi Valley	Ventura
113	Site of Junápero Serra's Cross	CHL	–	–	3/29/1933	Ventura	Ventura
659	Stagecoach Inn	CHL	–	–	9/26/1958	Newbury Park	Ventura
756	Sycamore Tree	CHL	–	–	12/22/1960	Santa Paula	Ventura
996	Union Oil Company Building	CHL	–	–	2/11/1991	Santa Paula	Ventura
624	Warring Park	CHL	–	–	10/31/1957	Piru	Ventura

*This list does not include all sites listed in the California Register.

APPENDIX E

Native American Heritage Commission
Sacred Lands File Search Results

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APPENDIX 3.7

Paleontological Resources Technical Report

DRAFT Paleontological Resources Technical Report for the 2020–2045 Regional Transportation Plan and Sustainable Communities Strategy for the Southern California Association of Governments

OCTOBER 2019

PREPARED FOR

Impact Sciences

PREPARED BY

SWCA Environmental Consultants

DRAFT PALEONTOLOGICAL RESOURCES TECHNICAL REPORT FOR THE 2020–2045 REGIONAL TRANSPORTATION PLAN AND SUSTAINABLE COMMUNITIES STRATEGY FOR THE SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS

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SWCA Project No. 049443

October 2019

Keywords: Paleontological resources; Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties, California

ABSTRACT/EXECUTIVE SUMMARY

Purpose and Scope: In support of the Southern California Association of Governments (SCAG) 2020–2045 Regional Transportation Plan and Sustainable Communities Strategy (2020 RTP/SCS, Connect SoCal or the Plan), Impact Sciences retained SWCA Environmental Consultants (SWCA) to summarize the existing conditions of paleontological resources within the study area, evaluate potential impacts that could occur to these resources because of the Plan, and to provide mitigation measures for potential impacts.

The SCAG region consists of six counties (Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura) and 191 cities. The 2020 RTP/SCS is a regional planning document updated every four years for the SCAG region. The 2020 RTP/SCS will outline the region's goals and policies for meeting current and future mobility needs, provide a foundation for transportation decisions by local, regional and state officials that are ultimately aimed at achieving a coordinated and balanced transportation system. The 2020 RTP/SCS will also identify the region's transportation needs and issues, recommended actions, programs, and a list of projects to address the needs consistent with adopted regional policies and goals, and document the financial resources needed to implement the 2020 RTP/SCS. It is important to note that SCAG does not implement individual projects in the RTP, as they will be implemented by local and state jurisdictions, and other agencies. SCAG has already initiated the development of the 2020 RTP/SCS and is working closely with county transportation commission to compile a regional transportation project list that will build upon the list identified in the 2016 RTP/SCS.

The following paleontological resources assessment was prepared under contract to Impact Sciences in order to characterize existing conditions in regard to the potential for paleontological resources in the six county area. This report compiles an extensive survey of geologic mapping and the scientific literature of paleontological discoveries in southern California. The assessment was conducted according to the methods and standards defined by the Society of Vertebrate Paleontology (1995, 2010) and the Bureau of Land Management (2009, 2016) and is consistent with laws, ordinances, and regulations pertaining to paleontological resources such as the California Environmental Quality Act (Appendix G) and the National Environmental Protection Act.

Dates of Investigation: This report was completed in July 2019.

Findings of the Investigation: The review of geologic mapping and scientific literature indicates southern California, including the six counties included in the SCAG region, has a rich history of fossil discoveries and a strong potential for future findings. Paleontological sensitivity varies across the region: igneous and high-grade metamorphic units have no paleontological sensitivity, whereas sedimentary units range from low to high sensitivities. Growth and development will inevitably lead to impacts on paleontological resources, but with the implementation of planning and mitigation measures, impacts to paleontological resources can be managed and minimized. Recommendations are provided for avoiding impacts to fossil resources during project planning and implementation.

Disposition of Data: Copies of this report will be retained by SWCA and submitted to Impact Sciences and SCAG.

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CONTENTS

Abstract/Executive Summary ..... **i**
Introduction **1**
Project Description **2**
Regulatory Setting **4**
Federal Regulations 4
Antiquities Act of 1906 4
The National Environmental Policy Act of 1969 4
Federal Land Policy and Management Act of 1976 4
Paleontological Resources Preservation, Omnibus Public Lands Act of 2009 5
State Regulations 5
California Environmental Quality Act 5
Public Resources Code Sections 5097.5 6
Local Regulations 6
Imperial County 6
Los Angeles County 6
Orange County 6
Riverside County 7
San Bernardino County 7
Ventura County 8
Existing Conditions **9**
Methods 9
Professional Standards 9
SVP Categories of Paleontological Potential 11
BLM Potential Fossil Yield Classification 12
Results 15
Geologic Setting 15
Paleontologic Setting 20
Sensitivity Assessment 24
References Cited **24**

Figures

Figure 1. SCAG region. 3
Figure 2. Geologic timescale. 16
Figure 3. Geomorphic provinces in SCAG region. 17

INTRODUCTION

In support of the Southern California Association of Governments (SCAG) 2020–2045 Regional Transportation Plan and Sustainable Communities Strategy (2020 RTP/SCS, Connect SoCal or the Plan), Impact Sciences retained SWCA Environmental Consultants (SWCA) to summarize the existing conditions of paleontological resources within the study area, evaluate potential impacts that could occur to these resources because of the Plan, and to provide mitigation measures for potential impacts.

SCAG is the lead California Environmental Quality Act (CEQA) agency for the proposed 2020 RTP/SCS. As the lead agency, SCAG has determined to prepare a Program Environmental Impact Report for the 2020 RTP/SCS.

SCAG is a federally designated Metropolitan Planning Organization (MPO) under Title 23, United States Code (USC) 134(d)(1). The SCAG region consists of six counties (Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties) and 191 cities. The 2020 RTP/SCS is a regional planning document updated every 4 years for the SCAG region. The 2020 RTP/SCS will outline the region's goals and policies for meeting current and future mobility needs, provide a foundation for transportation decisions by local, regional and state officials that are ultimately aimed at achieving a coordinated and balanced transportation system. The 2020 RTP/SCS will also identify the region's transportation needs and issues, recommended actions, programs, and a list of projects to address the needs consistent with adopted regional policies and goals, and document the financial resources needed to implement the 2020 RTP/SCS. It is important to note that SCAG does not implement individual projects in the RTP, as they will be implemented by local and state jurisdictions, and other agencies. SCAG has already initiated the development of the 2020 RTP/SCS and is working closely with county transportation commissions to compile a regional transportation project list that will build upon the list identified in the 2016 RTP/SCS.

The following paleontological resources assessment was prepared for Impact Sciences, in support of the Program Environmental Impact Report, in order to characterize existing conditions in regard to the potential for paleontological resources in the six county area. This report compiles an extensive survey of geologic mapping and the scientific literature of paleontological discoveries in southern California. The assessment was conducted according to the methods and standards defined by the Society of Vertebrate Paleontology (SVP) (1995, 2010) and the Bureau of Land Management (BLM) (BLM 2009, 2016) and is consistent with laws, ordnances, and regulations pertaining to paleontological resources such as the CEQA (Appendix G) and the National Environmental Protection Act of 1969 (NEPA).

SWCA relied upon three main sources of data to conduct this paleontological assessment: 1) geologic mapping, 2) scientific literature, and 3) online records publicly available from the University of California Museum of Paleontology (UCMP) and the San Diego Natural History Museum (SDNHM). Due to the large size of the SCAG region, it is not feasible to analyze every geologic formation within the area. Rather, this analysis focuses on the broad geologic regions, referred to as geomorphological provinces, as commonly recognized in the paleontological community and summarized by Norris and Webb (1990), among others. For each region, the types of geologic units known for preserving paleontological resources are discussed.

SWCA used the paleontological assessment conducted here to develop a series of recommendations for the development of appropriate mitigation measures for potential projects within the SCAG region. Implementation of these recommendations will ensure CEQA and NEPA compliance and reduce the impacts to fossil resources to less than significant.

SWCA Senior Paleontologist Alyssa Bell, Ph.D. served as Principal Investigator and conducted the research and authored this report. SWCA Senior Paleontologist Russell Shapiro, Ph.D. reviewed this report for quality assurance/quality control. Heather Gibson, Ph.D., Registered Professional Archaeologist, served as project manager for SWCA's technical studies. Copies of the report will be retained SWCA and submitted to Impact Sciences and SCAG.

PROJECT DESCRIPTION

SCAG is the lead CEQA agency for the proposed 2020 RTP/SCS. SCAG is a federally designated Metropolitan Planning Organization under Title 23, USC 134(d)(1). The SCAG region consists of six counties (Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura) and 191 cities (Figure 1). The 2020 RTP/SCS is a regional planning document updated every four years for the SCAG region. The 2020 RTP/SCS will outline the region's goals and policies for meeting current and future mobility needs, provide a foundation for transportation decisions by local, regional and state officials that are ultimately aimed at achieving a coordinated and balanced transportation system. The 2020 RTP/SCS will also identify the region's transportation needs and issues, recommended actions, programs, and a list of projects to address the needs consistent with adopted regional policies and goals, and document the financial resources needed to implement the 2020 RTP/SCS. It is important to note that SCAG does not implement individual projects in the RTP, as they will be implemented by local and state jurisdictions and other agencies. SCAG has already initiated the development of the 2020 RTP/SCS and is working closely with county transportation commissions to compile a regional transportation project list that will build upon the list identified in the 2016 RTP/SCS.

In accordance with California Government Code 65080(b)(2)(B), the 2020 RTP/SCS will include a SCS, which details land use, housing and transportation strategies to reduce greenhouse gas emissions from passenger vehicles (automobiles and light-duty trucks). SCAG's SCS is required to meet reduction targets for greenhouse gas emissions of 8 percent per capita by 2020 and 19 percent per capita by 2035, as compared to 2005 emission levels, as set by the California Air Resources Board.

Figure 1. SCAG region.

REGULATORY SETTING

Paleontological resources are limited, nonrenewable resources of scientific, cultural, and educational value and are afforded protection under federal and state laws and regulations. This study satisfies project requirements in accordance with both federal and state regulations. This analysis also complies with guidelines and significance criteria specified by the SVP (1995, 2010).

Federal Regulations

Antiquities Act of 1906

The Antiquities Act of 1906 (16 USC 431–433) states, in part,

> That any person who shall appropriate, excavate, injure or destroy any historic or prehistoric ruin or monument, or any object of antiquity, situated on lands owned or controlled by the Government of the United States, without the permission of the Secretary of the Department of the Government having jurisdiction over the lands on which said antiquities are situated, shall upon conviction, be fined in a sum of not more than five hundred dollars or be imprisoned for a period of not more than ninety days, or shall suffer both fine and imprisonment, in the discretion of the court.

Although there is no specific mention of natural or paleontological resources in the Act itself, or in the Act's uniform rules and regulations (Title 43 Part 3, Code of Federal Regulations [43 CFR 3]), the term "objects of antiquity" has been interpreted to include fossils by the National Park Service (NPS), BLM, U.S. Forest Service (USFS), and other federal agencies. Permits to collect fossils on lands administered by federal agencies are authorized under this Act. However, due to the large gray areas left open to interpretation due to the imprecision of the wording, agencies are hesitant to interpret this act as governing paleontological resources.

The National Environmental Policy Act of 1969

NEPA, as amended (Public Law [PL] 91-190, 42 USC 4321–4347, January 1 1970, as amended by PL 94-52, July 3 1975, PL 94-83, August 9 1975, and PL 97-258 4(b), Sept. 13 1982) recognizes the continuing responsibility of the federal government to "preserve important historic, cultural, and natural aspects of our national heritage…" (Sec. 101 [42 USC 4321]). With the passage of the Paleontological Resources Preservation Act (PRPA), paleontological resources are considered a significant resource and it is therefore now standard practice to include paleontological resources in NEPA studies in all instances where there is a possible impact.

Federal Land Policy and Management Act of 1976

The Federal Land Policy and Management Act (FLPMA) of 1976 (43 USC 1712(c), 1732(b)); Section 2 of the Federal Land Management and Policy Act of 1962 [30 USC 611]; Subpart 3631.0 et seq.), *Federal Register* Vol. 47, No. 159, pg. 35914 (1982) do not refer specifically to fossils. However, "significant fossils" are understood and recognized in policy as scientific resources. Permits, which authorize the collection of significant fossils for scientific purposes, are issued under the authority of FLPMA. Under FLPMA, federal agencies are charged to

- manage public lands in a manner that protects the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, archaeological, and water resources, and, where

appropriate, preserve and protect certain public lands in their natural condition (Section 102 (a)(8)(11));

- periodically inventory public lands so that the data can be used to make informed land-use decisions (Section 102(a)(2)); and

- regulate the use and development of public lands and resources through easements, licenses, and permits (Section 302(b)).

Paleontological Resources Preservation, Omnibus Public Lands Act of 2009

The Paleontological Resources Preservation Act was enacted as a result of the passage of the Omnibus Public Lands Act of 2009 (PL 111-011, Title VI, Subtitle D), which directs the Secretaries of the U.S. Department of the Interior (USDI) and U.S. Department of Agriculture to manage and protect paleontological resources on federal land using "scientific principles and expertise." To formulate a consistent paleontological resources management framework, PRPA incorporates most of the recommendations from the report of the Secretary of the Interior titled *Assessment of Fossil Management on Federal and Indian Lands* (USDI 2000). In passing the PRPA, Congress officially recognized the scientific importance of paleontological resources on some federal lands by declaring that fossils from these lands are federal property that must be preserved and protected. PRPA codifies existing policies of the BLM, NPS, USFS, Bureau of Reclamation, and U.S. Fish and Wildlife Service, and provides the following:

- uniform criminal and civil penalties for illegal sale and transport, and theft and vandalism of fossils from federal lands;

- uniform minimum requirements for paleontological resource-use permit issuance (terms, conditions, and qualifications of applicants);

- uniform definitions for "paleontological resources" and "casual collecting;" and

- uniform requirements for curation of federal fossils in approved repositories.

State Regulations

California Environmental Quality Act

CEQA is the principal statute governing environmental review of projects occurring in the state and is codified at Public Resources Code (PRC) Section 21000 et seq. CEQA requires lead agencies to determine if a proposed project would have a significant effect on the environment, including significant effects on paleontological resources. Guidelines for the Implementation of CEQA, as amended March 29 1999 (California Code of Regulations [CCR], Title 14, Chapter 3, Section 15000 et seq.), define procedures, types of activities, persons, and public agencies required to comply with CEQA, and include as one of the questions to be answered in the Environmental Checklist (14 CCR Section 15023, Appendix G, Section 14, Part a) the following: "Will the proposed project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?"

Public Resources Code Sections 5097.5

Requirements for paleontological resource management are included in the PRC Section 5097.5 , which states the following:

> No person shall knowingly and willfully excavate upon, or remove, destroy, injure or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor.

These statutes prohibit the removal, without permission, of any paleontological site or feature from lands under the jurisdiction of the state or any city, county, district, authority, or public corporation, or any agency thereof. As a result, local agencies are required to comply with PRC Section 5097.5 for their own activities, including construction and maintenance, as well as for permit actions (e.g., encroachment permits) undertaken by others. PRC Section 5097.5 also establishes the removal of paleontological resources as a misdemeanor and requires reasonable mitigation of adverse impacts to paleontological resources from developments on public (state, county, city, and district) lands.

Local Regulations

Imperial County

The Imperial County General Plan does not address paleontological resources.

Los Angeles County

The Los Angeles County General Plan (Los Angeles County 2015) addresses paleontological resources in Section 8 of Chapter 9: Conservation and Natural Resources Element. This section identifies six policies for the protection of historic, cultural, and paleontological resources, of which Policies 1, 2, 5 and 6 pertain to paleontological resources:

> **Policy C/NR 14.1**: Mitigate all impacts from new development on or adjacent to historic, cultural, and paleontological resources to the greatest extent feasible.
>
> **Policy C/NR 14.2**: Support an inter-jurisdictional collaborative system that protects and enhances historic, cultural, and paleontological resources.
>
> **Policy C/NR 14.5**: Promote public awareness of historic, cultural, and paleontological resources.
>
> **Policy C/NR 14.6**: Ensure proper notification and recovery processes are carried out for development on or near historic, cultural, and paleontological resources.

Orange County

The Orange County General Plan includes paleontological resources in the cultural resources' management program (Orange County 2005:Chapter VI). Goal 2 states, "to encourage through a resource

management effort the preservation of the county's cultural and historic heritage," (Orange County 2005:VI-123) and identifies the following objectives to preserve paleontological resources:

> **Objective 2.2**: Take all reasonable and proper steps to achieve the preservation of archaeological and paleontological remains, or their recovery and analysis to preserve cultural, scientific, and educational values.

Specifically, the General Plan identifies the following three policies to guide the management of paleontological resources:

1. To identify paleontological resources through literature and records research and surface surveys.
2. To monitor and salvage paleontological resources during the grading of a project.
3. To preserve paleontological resources by maintaining them in an undisturbed condition.

Riverside County

Paleontological resources are addressed in the Multipurpose Open Space Element (Chapter 5) of the Riverside County General Plan (Riverside County 2015). The following policies provide direction for paleontological resources:

> **Open Space Policy 19.6** – Whenever existing information indicates that a site proposed for development has high paleontological sensitivity… a paleontological resource impact mitigation program (PRIMP) shall be filed with the County Geologist prior to site grading. The PRIMP shall specify the steps to be taken to mitigate impacts to paleontological resources.
>
> **Open Space Policy 19.7** – Whenever existing information indicates that a site proposed for development has low paleontological sensitivity… no direct mitigation is required unless a fossil is encountered during site development. Should a fossil be encountered, the County Geologist shall be notified, and a paleontologist shall be retained by the project proponent. The paleontologist shall document the extent and potential significance of the paleontological resources on the site and establish appropriate mitigation measures for further site development.
>
> **Open Space Policy 19.8** – Whenever existing information indicates that a site proposed for development has undetermined paleontological sensitivity… a report shall be filed with the County Geologist documenting the extent and potential significance of the paleontological resources on site and identifying mitigation measures for the fossil and for impacts to significant paleontological resources prior to approval of that department.
>
> **Open Space Policy 19.9** – Whenever paleontological resources are found, the County Geologist shall direct them to a facility within Riverside County for their curation, including the Western Science Center in the city of Hemet.

San Bernardino County

The Conservation Element of the San Bernardino County General Plan (San Bernardino County 2007: Chapter 5) identifies paleontological resources as part of the heritage of San Bernardino County. Goal

CO3 states, "the County will preserve and promote its historic and prehistoric cultural heritage," and identifies the following policies to preserve paleontological resources:

> **Policy CO 3.4, program 4**: In areas of potential but unknown sensitivity, field surveys prior to grading will be required to establish the need for paleontologic monitoring.
>
> **Policy CO 3.4, program 5**: Projects requiring grading plans that are located in areas of known fossil occurrences, or demonstrated in a field survey to have fossils present, will have all rough grading (cuts greater than 3 feet) monitored by trained paleontologic crews working under the direction of a qualified professional, so that fossils exposed during grading can be recovered and preserved. Fossils include large and small vertebrate fossils, the latter recovered by screen washing of bulk samples.
>
> **Policy CO 3.4, program 6**: A report of findings with an itemized accession inventory will be prepared as evidence that monitoring has been successfully completed. A preliminary report will be submitted and approved prior to granting of building permits, and a final report will be submitted and approved prior to granting of occupancy permits. The adequacy of paleontologic reports will be determined in consultation with the Curator of Earth Science, San Bernardino County Museum.

Ventura County

The Ventura County General Plan addresses paleontological resources in Section 1.8: Paleontological and Cultural Resources (Ventura County 2019). The Plan identifies two goals, six policies, and three programs for the protection of paleontological resources, of which the following apply to paleontological resources:

> **1.8.1 Goals**
>
> 1. Identify, inventory, preserve and protect the paleontological and cultural resources of Ventura County (including archaeological, historical and Native American resources) for their scientific, educational and cultural value.
>
> 2. Enhance cooperation with cities, special districts, other appropriate organizations, and private landowners in acknowledging and preserving the County's paleontological and cultural resources.
>
> **1.8.2 Policies**
>
> 1. Discretionary developments shall be assessed for potential paleontological and cultural resource impacts, except when exempt from such requirements by CEQA. Such assessments shall be incorporated into a Countywide paleontological and cultural resource data base.
>
> 2. Discretionary development shall be designed or re-designed to avoid potential impacts to significant paleontological or cultural resources whenever possible. Unavoidable impacts, whenever possible, shall be reduced to a less than significant level and/or shall be mitigated by extracting maximum recoverable data. Determinations of impacts, significance and mitigation shall be made by qualified archaeological (in consultation with recognized local Native American groups), historical or paleontological consultants, depending on the type of resource in question.
>
> 3. Mitigation of significant impacts on cultural or paleontological resources shall follow the Guidelines of the State Office of Historic Preservation, the State Native American Heritage

Commission, and shall be performed in consultation with professionals in their respective areas of expertise

1.8.3 Programs

2. The Planning Division will continue to compile and retain a list of qualified archaeological, historical, and paleontological consultants to provide additional information to complete Initial Studies and Environmental Analyses.

EXISTING CONDITIONS

Methods

The following section presents an overview of the methodology used to identify the potential for paleontological resources within the SCAG region. This report is based on a desktop review of available scientific literature, geologic maps, and online museum records searches from the UCMP and SDNHM.

Professional Standards

Both the SVP (1995, 2010) and the BLM (2009, 2016) have established standard guidelines that outline professional protocols and practices for conducting paleontological resource assessments and surveys, monitoring and mitigation, data and fossil recovery, sampling procedures, and specimen preparation, identification, analysis, and curation. Most practicing professional vertebrate paleontologists adhere closely to the SVP's assessment, mitigation, and monitoring requirements, as specifically provided in its standard guidelines. Most state regulatory agencies with paleontological laws, ordinances, regulations, and standards accept and use the professional standards set forth by the SVP to meet the requirements of CEQA. The BLM's paleontological guidelines are designed to meet the requirements of NEPA and the FLPMA and are, in general, only relevant to projects on BLM-administered land or under the oversight of the BLM.

As defined by the SVP (2010:11), significant paleontological resources are

> …fossils and fossiliferous deposits, here defined as consisting of identifiable vertebrate fossils, large or small, uncommon invertebrate, plant, and trace fossils, and other data that provide taphonomic, taxonomic, phylogenetic, paleoecologic, stratigraphic, and/or biochronologic information. Paleontological resources are considered to be older than recorded human history and/or older than middle Holocene (i.e., older than about 5,000 radiocarbon years).

As defined by the BLM (2009:19), significant paleontological resources are

> …any paleontological resource that is considered to be of scientific interest, including most vertebrate fossil remains and traces, and certain rare or unusual invertebrate and plant fossils. A significant paleontological resource is considered to be scientifically important because it is a rare or previously unknown species, it is of high quality and well-preserved, it preserves a previously unknown anatomical or other characteristic, provides new information about the history of life on earth, or has identified educational or recreational value. Paleontological resources that may be considered to not have paleontological significance include those that lack provenience or context, lack physical integrity because of decay or natural erosion, or that are overly redundant or are otherwise not useful for

> research. Vertebrate fossil remains and traces include bone, scales, scutes, skin impressions, burrows, tracks, tail drag marks, vertebrate coprolites (feces), gastroliths (stomach stones), or other physical evidence of past vertebrate life or activities.

These definitions of significant resources are similar in that both recognize any type of fossil (invertebrate, vertebrate, plant, or trace fossils) can be scientifically significant if it is identifiable or well preserved and contributes scientifically valuable data.

A geologic unit known to contain significant fossils is considered sensitive to adverse impacts if there is a high probability that earth-moving or ground-disturbing activities in that rock unit will either disturb or destroy fossil remains directly or indirectly. This definition of sensitivity differs fundamentally from the definition for archaeological resources, as follows:

> It is extremely important to distinguish between archaeological and paleontological resources when discussing the paleontological potential of rock units. The boundaries of an archaeological resource site define the areal/geographic extent of an archaeological resource, which is generally independent from the rock unit on which it sits. However, paleontological sites indicate that the containing rock unit or formation is fossiliferous. Therefore, the limits of the entire rock unit, both areal and stratigraphic, define the extent of paleontological potential. (SVP 2010)

Many archaeological sites contain features that are visually detectable on the surface. In contrast, fossils are often contained within surficial sediments or bedrock and are, therefore, not observable or detectable unless exposed by erosion or human activity.

Numerous paleontological studies have developed criteria for the assessment of significance for fossil discoveries (e.g., Eisentraut and Cooper 2002; Murphey and Daitch 2007; Scott and Springer 2003). In general, these studies assess fossils as significant if one or more of the following criteria apply:

1. The fossils provide information on the evolutionary relationships and developmental trends among organisms, living or extinct;
2. The fossils provide data useful in determining the age(s) of the rock unit or sedimentary stratum, including data important in determining the depositional history of the region and the timing of geologic events therein;
3. The fossils provide data regarding the development of biological communities or interaction between paleobotanical and paleozoological biotas;
4. The fossils demonstrate unusual or spectacular circumstances in the history of life; or
5. The fossils are in short supply and/or in danger of being depleted or destroyed by the elements, vandalism, or commercial exploitation, and are not found in other geographic locations.

In summary, paleontologists cannot know either the quality or quantity of fossils prior to natural erosion or human-caused exposure. As a result, even in the absence of fossils on the surface, it is necessary to assess the sensitivity of rock units based on their known potential to produce significant fossils elsewhere within the same geologic unit (both within and outside the study area), a similar geologic unit, or based on whether the unit in question was deposited in a type of environment known to be favorable for fossil preservation. Monitoring by experienced paleontologists greatly increases the probability that fossils will be discovered during ground-disturbing activities and that, if these remains are significant, successful mitigation and salvage efforts may be undertaken to prevent adverse impacts to these resources.

Both the SVP and the BLM have developed a ranking system for assessing the paleontological sensitivity of a geologic formation. For projects with a state nexus, the SVP classification system is generally used, while for federal projects, the BLM's classification system is used. These systems are discussed below.

SVP Categories of Paleontological Potential

Paleontological potential is defined as the potential for a geologic unit to produce scientifically significant fossils. This is determined by rock type, history of the geologic unit in producing significant fossils, and fossil localities recorded from that unit. Paleontological sensitivity is derived from the known fossil data collected from the entire geologic unit, not just from a specific survey. In its *Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources*, the SVP (2010:1–2) defines four categories of paleontological sensitivity (potential) for rock units: high, low, undetermined, and no potential. These categories are defined as follows:

> **High Potential**. "Rock units from which vertebrate or significant invertebrate, plant, or trace fossils have been recovered are considered to have a high potential for containing additional significant paleontological resources. Rocks units classified as having high potential for producing paleontological resources include, but are not limited to, sedimentary formations and some volcaniclastic formations (e.g., ash or tephra), and some low-grade metamorphic rocks which contain significant paleontological resources anywhere within their geographical extent, and sedimentary rock units temporally or lithologically suitable for the preservation of fossils (e.g., middle Holocene and older, fine-grained fluvial sandstone, argillaceous and carbonate-rich paleosols, cross-bedded point bar sandstone, fine-grained marine sandstone, etc.). Paleontological potential consists of both a) the potential for yielding abundant or significant vertebrate fossils or for yielding a few significant fossils, large or small, vertebrate, invertebrate, plant, or trace fossils and b) the importance of recovered evidence for new and significant taxonomic, phylogenetic, paleoecologic, taphonomic, biochronologic, or stratigraphic data. Rock units which contain potentially datable organic remains older than late Holocene, including deposits associated with animal nests or middens, and rock units which may contain new vertebrate deposits, traces, or trackways are also classified as having high potential."
>
> **Low Potential**. "Reports in the paleontological literature or field surveys by a qualified professional paleontologist may allow determination that some rock units have low potential for yielding significant fossils. Such rock units will be poorly represented by fossil specimens in institutional collections, or based on general scientific consensus only preserve fossils in rare circumstances and the presence of fossils is the exception not the rule, e.g. basalt flows or Recent colluvium. Rock units with low potential typically will not require impact mitigation measures to protect fossils."
>
> **Undetermined Potential**. "Rock units for which little information is available concerning their paleontological content, geologic age, and depositional environment are considered to have undetermined potential. Further study is necessary to determine if these rock units have high or low potential to contain significant paleontological resources. A field survey by a qualified professional paleontologist to specifically determine the paleontological resource potential of these rock units is required before a PRIMP can be developed. In cases where no subsurface data are available, paleontological potential can sometimes be determined by strategically located excavations into subsurface stratigraphy."
>
> **No Potential**. "Some rock units have no potential to contain significant paleontological resources, for instance high-grade metamorphic rocks (such as gneisses and schists) and plutonic igneous

rocks (such as granites and diorites). Rock units with no potential require no protection or impact mitigation measures relative to paleontological resources" (SVP 2010:1–2).

BLM Potential Fossil Yield Classification

The Potential Fossil Yield Classification (PFYC) system was developed to provide baseline guidance for assessing paleontological resources and allow BLM employees to make initial assessments of paleontological resources. The presence of paleontological resources is correlated with mapped geologic units, and the PFYC was based on available geologic maps. The system assigns a class value to each geological unit, representing the potential abundance and significance of paleontological resources that occur in that geological unit. A complete discussion of the background and context for the PFYC system is provided in the BLM IM2016-124 document (BLM 2016). The following descriptions of paleontological sensitivity class rankings pertinent to this project and drawn directly from the BLM Guidelines are provided here:

Class 1–Very Low. Geologic units that are not likely to contain recognizable paleontological resources. Units assigned to Class 1 typically have one or more of the following characteristics:

- Geologic units are igneous or metamorphic, excluding air-fall and reworked volcanic ash units.
- Geologic Units are Precambrian in age.

(1) Management concerns for paleontological resources in Class 1 units are usually negligible or not applicable.

(2) Paleontological mitigation is unlikely to be necessary except in very rare or isolated circumstances that result in the unanticipated presence of paleontological resources, such as unmapped geology contained within a mapped geologic unit. For example, young fissure-fill deposits often contain fossils but are too limited in extent to be represented on a geological map; a lava flow that preserves evidence of past life, or caves that contain important paleontological resources. Such exceptions are the reason that no geologic unit is assigned a Class 0.

Overall, the probability of impacting significant paleontological resources is very low and further assessment of paleontological resources is usually unnecessary. An assignment of Class 1 normally does not trigger further analysis unless paleontological resources are known or found to exist. However, standard stipulations should be put in place prior to authorizing any land use action in order to accommodate an unanticipated discovery.

Class 2–Low. Geologic units that are not likely to contain paleontological resources. Units assigned to Class 2 typically have one or more of the following characteristics:

- Field surveys have verified that significant paleontological resources are not present or are very rare.
- Units are generally younger than 10,000 years before present.
- Recent aeolian deposits.
- Sediments exhibit significant physical and chemical changes (i.e., diagenetic alteration) that make fossil preservation unlikely.

(1) Except where paleontological resources are known or found to exist, management concerns for paleontological resources are generally low and further assessment is usually unnecessary except in occasional or isolated circumstances.

(2) Paleontological mitigation is only necessary where paleontological resources are known or found to exist.

The probability of impacting significant paleontological resources is low. Localities containing important paleontological resources may exist, but are occasional and should be managed on a case-by-case basis. An assignment of Class 2 may not trigger further analysis unless paleontological resources are known or found to exist. However, standard stipulations should be put in place prior to authorizing any land use action in order to accommodate unanticipated discoveries.

Class 3–Moderate. Sedimentary geologic units where fossil content varies in significance, abundance, and predictable occurrence. Units assigned to Class 3 have some of the following characteristics:

- Marine in origin with sporadic known occurrences of paleontological resources.
- Paleontological resources may occur intermittently, but abundance is known to be low.
- Units may contain significant paleontological resources, but these occurrences are widely scattered.
- The potential for an authorized land use to impact a significant paleontological resource is known to be low-to-moderate.

(1) Management concerns for paleontological resources are moderate because the existence of significant paleontological resources is known to be low. Common invertebrate or plant fossils may be found in the area, and opportunities may exist for casual collecting.

(2) Paleontological mitigation strategies will be proposed based on the nature of the proposed activity.

This classification includes units of moderate or infrequent occurrence of paleontological resources. Management considerations cover a broad range of options that may include record searches, pre-disturbance surveys, monitoring, mitigation, or avoidance. Surface-disturbing activities may require assessment by a qualified paleontologist to determine whether significant paleontological resources occur in the area of a proposed action, and whether the action could affect the paleontological resources.

Class 4–High. Geologic units that are known to contain a high occurrence of paleontological resources. Units assigned to Class 4 typically have the following characteristics:

- Significant paleontological resources have been documented but may vary in occurrence and predictability.
- Surface disturbing activities may adversely affect paleontological resources.
- Rare or uncommon fossils, including nonvertebrate (such as soft body preservation) or unusual plant fossils, may be present.
- Illegal collecting activities may impact some areas.

(1) Management concerns for paleontological resources in Class 4 are moderate to high, depending on the proposed action.

(2) Paleontological mitigation strategies will depend on the nature of the proposed activity, but field assessment by a qualified paleontologist is normally needed to assess local conditions.

The probability for impacting significant paleontological resources is moderate to high, and is dependent on the proposed action. Mitigation plans must consider the nature of the proposed disturbance, such as removal or penetration of protective surface alluvium or soils, potential for future accelerated erosion, or increased ease of access that could result in looting. Detailed field assessment is normally required and on-site monitoring or spot-checking may be necessary during land disturbing activities. In some cases avoidance of known paleontological resources may be necessary.

Class 5–Very High. Highly fossiliferous geologic units that consistently and predictably produce significant paleontological resources. Units assigned to Class 5 have some or all of the following characteristics:

- Significant paleontological resources have been documented and occur consistently.
- Paleontological resources are highly susceptible to adverse impacts from surface disturbing activities.
- Unit is frequently the focus of illegal collecting activities.

(1) Management concerns for paleontological resources in Class 5 areas are high to very high.

(2) A field survey by a qualified paleontologist is almost always needed. Paleontological mitigation may be necessary before or during surface disturbing activities.

The probability for impacting significant paleontological resources is high. The area should be assessed prior to land tenure adjustments. Pre-work surveys are usually needed and on-site monitoring may be necessary during land use activities. Avoidance or resource preservation through controlled access, designation of areas of avoidance, or special management designations should be considered.

Class U–Unknown Potential. Geologic units that cannot receive an informed PFYC assignment. Characteristics of Class U may include:

- Geological units may exhibit features or preservational conditions that suggest significant paleontological resources could be present, but little information about the actual paleontological resources of the unit or area is known.
- Geological units represented on a map are based on lithologic character or basis of origin, but have not been studied in detail.
- Scientific literature does not exist or does not reveal the nature of paleontological resources.
- Reports of paleontological resources are anecdotal or have not been verified.
- Area or geologic unit is poorly or under-studied.
- BLM staff has not yet been able to assess the nature of the geologic unit.

(1) Until a provisional assignment is made, geologic units that have an unknown potential have medium to high management concerns.

(2) Lacking other information, field surveys are normally necessary, especially prior to authorizing a ground-disturbing activity.

An assignment of "Unknown" may indicate the unit or area is poorly studied, and field surveys are needed to verify the presence or absence of paleontological resources. Literature searches or consultation with professional colleagues may allow an unknown unit to be provisionally assigned to another Class, but the geological unit should be formally assigned to a Class after adequate survey and research is performed to make an informed determination.

Results

Geologic Setting

The SCAG region covers most of southern California and an incredible diversity of geology. Rocks found in the region span over two billion years of Earth's history, from Precambrian granite and metasedimentary rocks to Holocene alluvium, the deposition of which is ongoing today (see Figure 2 for geologic time scale). The state of California has been divided into 11 geomorphic provinces in order to accurately generalize the distinctive geologic regions of the state. Five of these provinces compose the SCAG region: Basin and Range, Colorado Desert, Mojave Desert, Peninsular Ranges, and Transverse Ranges (Figure 3). These provinces and their generalized geology and paleontology are discussed below.

BASIN AND RANGE

Within the SCAG region, the southernmost edge of the Basin and Range Geomorphic Province occurs in northern San Bernardino County. The Basin and Range Geomorphic Province extends from the Sierra Nevada Mountains in the north and east into Nevada in the west and is bounded by the Garlock Fault in northern San Bernardino County to the south (Norris and Webb 1990). This province is characterized by high geographic relief, with steep mountain ranges separated by deep valleys, such as Death Valley, Owens Valley, and Saline Valley. These basins have very little permanent water supplies, with the exception of Mono Lake and the Owens River (Norris and Webb 1990).

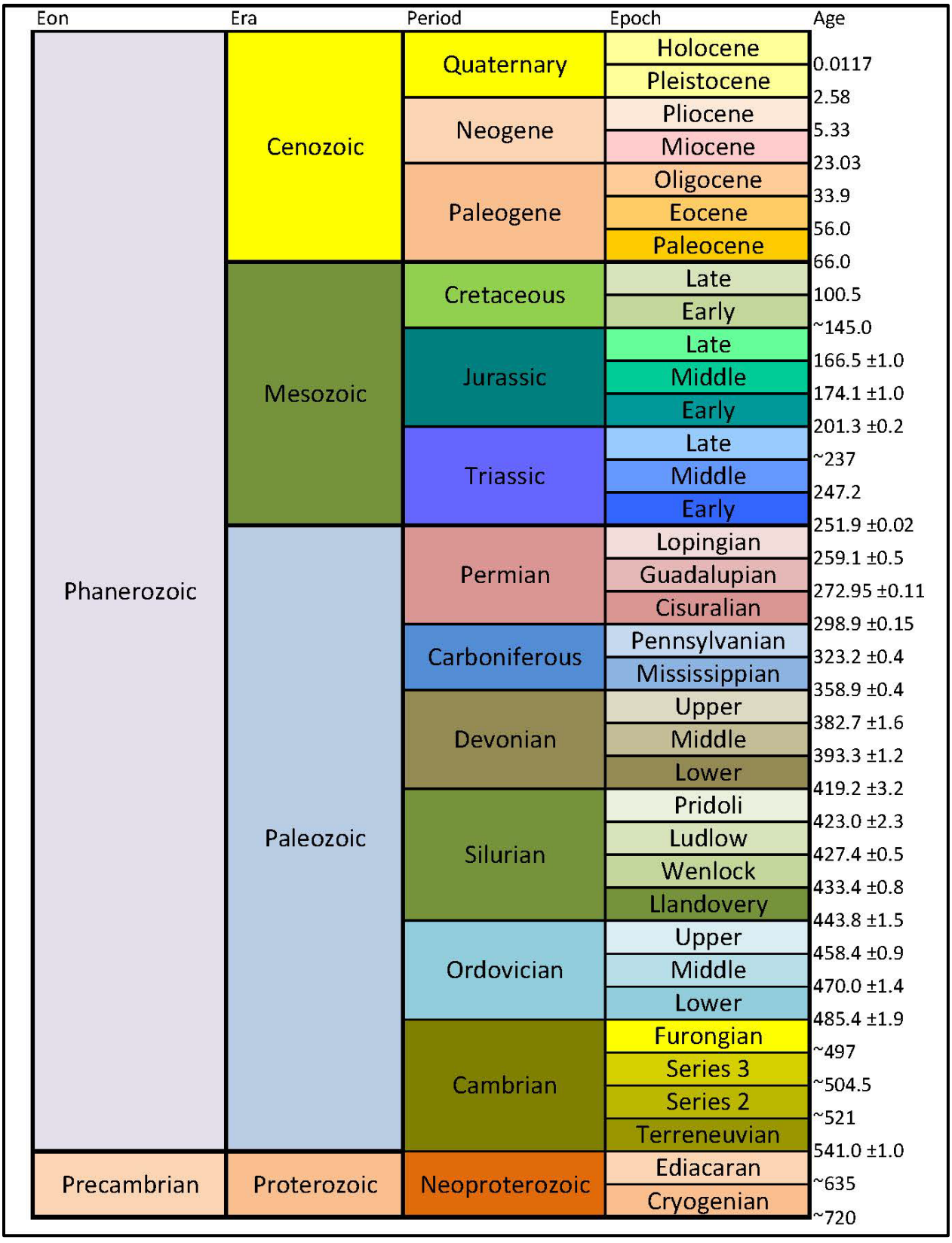

Figure 2. Geologic timescale.

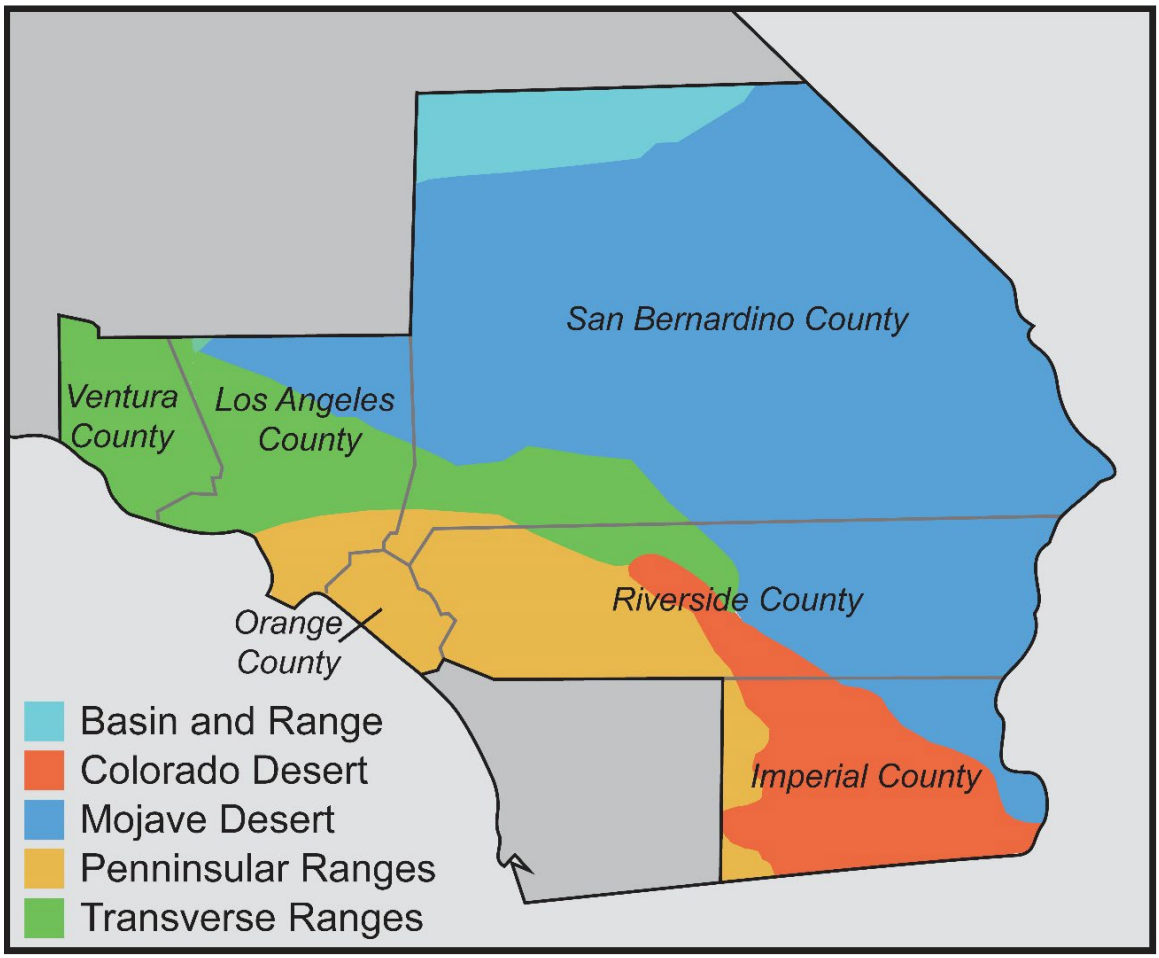

Figure 3. Geomorphic provinces in SCAG region.

The Basin and Range Province preserves some of the oldest rocks in the state, exposed around Death Valley, a sequence of early to middle Proterozoic metamorphic and granitic rocks that date to 1.8 billion years old (Norris and Webb 1990). A thick sequence of younger Proterozoic rocks composed of slightly metamorphosed sedimentary rocks deposited in a nearshore marine environment overlies these basement rocks, which are best exposed around Death Valley and in the Mojave as well (Corsetti and Hagadorn 2000). This sequence is in turn overlain by rocks that preserve the Proterozoic-Paleozoic transition, with rocks in the White-Inyo Mountains preserving fossils of the first organisms to evolve hard shells at the beginning of an evolutionary radiation paleontologists refer to as the Cambrian Explosion (Waggoner and Hagadorn 2005). Younger Paleozoic rocks are represented by beds of limestone and dolomite that are thickest in the Inyo Mountains and thin towards the east and indicate deposition along the slope and shelf of an ancient ocean margin (Norris and Webb 1990). Few sedimentary rocks are preserved from the Mesozoic in the Basin and Range Province, where rocks of this age are primarily intrusive igneous rocks and volcanic deposits (Ingersoll 1983). Cenozoic deposits in the Basin and Range date back to the Oligocene and preserve terrestrial environments with continued volcanic input (Norris and Webb 1990).

The modern topography of the Basin and Range began forming in the Miocene, when crustal extension, or stretching, began as a result of a change in plate motion between the Pacific and North American plates (Zoback 1989). This extension resulted in prominent horst-and-graben fault block patterns, where basins are formed along normal faults between down-dropped blocks lowered relative to the upward moving mountain blocks (Zoback 1989). Continual tectonic activity resulted in the basins observed today, many

of which host playa beds and saline deposits deposited during wetter periods toward the end of the last glaciation (Reheis et al. 2002). Volcanism also continued in the Basin and Range, with abundant volcanic rocks dating from the Late Pliocene to Holocene. The youngest of these deposits are in the Coso Mountains around Red Hill, and date to slightly over 10,000 years old (Crowley et al. 2007).

COLORADO DESERT

The Colorado Desert Geomorphic Province is bounded to the east by the Colorado River, to the south by the international border, and to the west by the Peninsular Ranges, occupying the majority of Imperial County and extending northwards into central Riverside County within the SCAG region. Norris and Webb (1990) define the northern border as the southern edge of the eastern Transverse Ranges and the San Bernardino-Riverside County line.

The Colorado Desert is similar geologically to the Mojave Desert (see below) and generally only distinguished from the Mojave by being lower in elevation, and, thereby, with a slightly different climate and vegetation (Norris and Webb 1990). The dominant feature of this province is the Salton Trough, a large depression extending from the San Gorgonio Pass in the north to the Gulf of California in Mexico. Within this large structural depression, the Salton Basin is restricted to the portion draining into the Salton Sea in southern Riverside and northern Imperial counties (Dorsey 2010).

The stratigraphy of the Colorado Desert is much like that of the Mojave, discussed in more detail below, with Proterozoic granitic rocks forming the core of scattered mountain ranges, which have been intruded by younger igneous bodies dating from the late Paleozoic to the middle Cenozoic (Norris and Webb 1990). Preserved sediment dates to the Eocene, with alternating periods of terrestrial and marine-dominated deposition. Uplift of the mountains present in the Colorado Desert today began in the Mesozoic, and, since that time, the uplifted areas have been actively eroding, leading to large deposits of sedimentary rocks that date from the middle Cenozoic to modern times (Davis et al. 1994).

MOJAVE DESERT

The Mojave Desert occupies about 65,000 square kilometers (km) (25,097 square miles), bounded to the northwest by the Transverse Ranges and to the southeast by the Colorado Desert. The Sierra Nevada and the Basin and Ranges provinces establish the northern boundary and the Nevada state line and Colorado River establish the eastern boundary (Norris and Webb 1990). The Mojave Desert province is wedged in a sharp angle between the Garlock Fault (southern boundary Sierra Nevada) and the San Andreas Fault, where the latter bends east from its northwest trend. The northern boundary of the Mojave is separated from the prominent Basin and Range by the eastern extension of the Garlock Fault (Dokka and Travis 1990). Roughly half of the SCAG region, divided diagonally, occurs in the Mojave Desert: the majority of San Bernardino County, the eastern half of Riverside County, and the northeastern corners of Los Angeles and Imperial counties.

The province is very similar in terms of geology to the Colorado Desert, discussed above, differing by being at a generally higher elevation. The Mojave Desert is characterized by scattered mountain blocks bounded by normal and strike-slip faults and the broad alluvial basins between them (Dibblee 1967). Basin fill ranges from thick sequences of Miocene sediments north of Barstow to more recent Quaternary depressions north of Baker, and even rock-floored pediments in the northeastern Mojave (Norris and Webb 1990). Lava flows that date from the Cenozoic are also common features across the Mojave, such as Amboy Crater, Cima Dome, and around Pisgah, with volcanic sediments intermixed with terrestrial sediments dating as far back as the Miocene (Dibblee 1967). A more recent feature are the many playas scattered across Mojave, these being particularly numerous in the eastern Mojave (Norris and Webb 1990).

The sedimentary record in the western Mojave is dominated by Cenozoic deposits, with earlier deposits of Mesozoic and Paleozoic to Precambrian age generally limited to the eastern Mojave (Dibblee 1967). The Cenozoic record in the western Mojave is predominantly non-marine except for a few thin, restricted lower Miocene marine sediments. The western Mojave region includes extensive thicknesses of non-marine alluvium, with widespread tuff, ash and other volcaniclastics, interbedded with lake-bed sediments and evaporates. Miocene-aged rocks are prominent among the Cenozoic basins of the western Mojave, and occur where tectonic activity has exposed these sequences, such as within the Barstow Basin north of Barstow (Norris and Webb 1990).

PENINSULAR RANGES

The Peninsular Ranges extend from the Mexican border in the south to the Transverse Ranges in the north and northeast and are bordered by the Pacific Ocean on the west and the Colorado Desert on the east. Within the SCGA region, southern Los Angeles County, southeastern-most San Bernardino County, western Riverside and Imperial Counties, and all of Orange County occur in the Peninsular Ranges. The Peninsular Ranges are a series of northwest-trending mountain ranges extending approximately 240 km (149 miles) to the Mexican border, where they then continue for an additional 1,200 km (746 miles) along the Baja Peninsula (Harden 2004).

The core of the Peninsular Ranges is made up of Mesozoic plutonic rocks and represents the roots of a magmatic arc formed by active subduction along the Pacific Plate boundary (Harden 2004). Two main batholiths (western and eastern) form the core of the Peninsular Ranges. The western batholith is 140 to 105 million years old (Ma) and consists of mafic plutonic rocks, while the eastern batholith is 99 to 92 Ma and is made of more silica-rich granodiorites and tonalities (Kimbrough et al. 2001). These plutonic rocks intruded into the older rocks of a Paleozoic through Jurassic carbonate platform and forearc basin, heavily metamorphosing them locally (Harden 2004). Above these plutonic rocks, around 130 to 120 Ma, the Santiago Peak Volcanics were deposited as primarily andesitic and silicic flows, and then metamorphosed by the batholith emplacement (Fife et al. 1967). Cretaceous sedimentary rocks deposited as turbidity currents overlie the plutons and volcanic rocks (Kimbrough et al. 2001). These rocks are in turn overlain by more recent sedimentary deposits leading up to the present day. These deposits were marine through the Eocene and then shifted to terrestrial volcanic and sedimentary strata by the Oligocene and lower Miocene (Powell 1993).

TRANSVERSE RANGES

The Transverse Ranges run from west to east across the northwestern SCAG region, crossing all of Ventura County, central Los Angeles County, southwestern San Bernardino County, and north-central Riverside County. The Transverse Ranges Geomorphic Province consists of a complex series of young, east/west-trending mountain ranges and valleys that contradict the general north/south orientation of California's other mountain ranges, such as the Peninsular Ranges and Coastal Ranges (Matti et al. 1992). The Transverse Ranges begin at Point Conception in Santa Barbara County and extend in an easterly direction, terminating at the San Bernardino Mountains in San Bernardino County. Westerly, the Transverse Ranges continue offshore as the northern Channel Islands. Most of the ranges are bounded to the north and east by the San Andreas Fault System, which separates the ranges from the Coastal Ranges and Peninsular Ranges. Components of the ranges that lie north of the San Andreas Fault are the Tehachapi Mountains and San Bernardino Mountains. Most of the tallest peaks are in the eastern portion of the range and include Mount San Gorgonio and San Bernardino Peak. The Transverse Ranges are noted for being extremely steep and difficult to traverse.

The Transverse Ranges include a wide variety of geologic units, ranging in age from the Proterozoic to the recent (Norris and Web 1990). The Transverse Ranges are underlain by a thick sequence of late

Mesozoic- and Cenozoic-age strata that rest uncomfortably on a variety of basement rocks (Namson and Davis 1988). These ranges are undergoing active north/south shortening due to faulting (Dibblee 1967), which causes a significant rise in elevation on an annual scale. These fault-bounded ranges are mainly composed of two distinct types of crystalline basement rocks that are separated by thrust faults. The lower rocks consist of metamorphosed sedimentary and volcanic rocks known as the Pelona Schist.
The uppermost rock comprises older metamorphic and plutonic rocks that originally formed part of the ancient North American continental platform known as Mendenhall Gneiss and gabbro (Norris and Web 1990).

Paleontologic Setting

Given the diversity of geologic units found in the SCAG region, the paleontology is equally diverse, and, in some areas, fossils are quite abundant. A detailed analysis of the paleontological sensitivity of each geologic formation in the SCAG region is beyond the scope of this analysis and should be the subject of project-specific paleontological assessments (see recommendations below). The SVP (2010) defines fossils as being over 5,000 years in age, while the BLM (2009, 2016) generally considers fossils to be Pleistocene in age or older (11,700 years in age). Therefore, sediments younger than middle or early Holocene are too young to preserve fossil resources and have low (SVP) or PFYC 2 (BLM) paleontological sensitivity. Other types of geologic units with low sensitivity are moderately metamorphosed rocks, as the heat and pressure associated with metamorphism is likely to destroy fossils. High grade metamorphic rocks, as well as igneous rocks, have no paleontological sensitivity.

Some generalizations about the primary types of fossil bearing rocks can be made, based on the 1:750,000 scale geologic mapping by Jennings et al. (2010), as discussed below.

CENOZOIC MARINE DEPOSITS

Cenozoic marine deposits date from the Paleocene to the Pliocene and were deposited on the ancient seafloor. These geologic formations are well known for being highly fossiliferous in southern California and may preserve a wide variety of marine fauna: invertebrates such as mollusks, crustaceans, echinoderms, and others; marine vertebrates such as shark and other fish, whales, seals, sea lions, and others; and even terrestrial vertebrates such as horse, camel, bison, and others that washed out to sea and where buried in the near-shore marine deposits.

These deposits are particularly common at the surface in the Transverse Ranges in Ventura County, where Eocene and Miocene units are prevalent, coastal Orange County, central Imperial County as scattered outcrops around the Salton Sea, and central Los Angeles County. In the subsurface, these deposits are likely to be encountered underlying the younger surficial alluvium across large parts of the Los Angeles and San Bernardino basins.

Some of these units with the highest paleontological sensitivity (BLM PFYC class 4 or 5, SVP high potential) are discussed below:

> **Shallow Marine Deposits**. Shallow marine deposits such as the San Pedro Sand and the Palos Verdes Sand have a strong record of preserving Pleistocene-aged marine and terrestrial fossils. The San Pedro Sand has yielded a diverse fauna of nearshore marine invertebrates such as crabs, snails, bivalves, gastropods, and echinoids (Kennedy 1975; Valentine 1989; Woodring 1957) and vertebrates such as sharks, bony fish, amphibians, reptiles, birds, whales, antelopes, mammoth, dire wolves, rodents, and bison (Barnes and McLeod 1984; Fitch 1967; Kennedy 1975; Woodring 1957). These units are common along coastal southern California, including Ventura, Los Angeles, and Orange Counties in the SCAG region. Many abundant fossil localities have been collected from excavations in San Pedro around the Port of Los Angeles, where the setting is very

similar to that of the program area, with artificial fill covering old marine deposits. These deposits have yielded thousands of specimens of marine invertebrates that are significant for reconstructing changes in shallow marine ecosystems as the climate has changed since the Pleistocene (DeBusk et al. 2009; Jacobs 2005; Powell and Stevens 2000).

Fernando Formation. The Fernando Formation dates to the Pliocene and consists of marine siltstone, sandstone, pebbly sandstone, and conglomerate (Morton and Miller 2006). The Fernando is common in the Transverse Ranges, particularly in Los Angeles County, where it is found extensively in the subsurface throughout the Los Angeles Basin. The lower part of the Fernando Formation consists of a pebble-cobble conglomerate in a sandstone matrix that fines upwards into a coarse sandstone and then a silty sandstone (Schoellhamer et al. 1981). The upper Fernando Formation consists of coarse-grained sandstone with conglomerate lenses (Schoellhamer et al. 1981). The Fernando Formation has an extensive record of preserving scientifically significant fossils, including invertebrates such as mollusks, echinoids, and bryozoans (Groves 1992; Morris 1976; Woodring 1938), fish (Huddleston and Takeuchi 2006), squid (Clarke et al. 1980), and a number of unidentified megafossils (Schoellhamer et al. 1981).

Bouse Formation. The Bouse Formation spans the early Pliocene to the late Miocene and has been interpreted to represent either a marine estuarian or lacustrine depositional environment (Spencer and Patchett 1997). The Bouse Formation is found in the Mojave Desert Geomorphic Province and consists of calcareous clay, silt, and sand (Carr and Dickey 1980). Abundant common invertebrate fossils such as gastropods, ostracodes, barnacles, and foraminifera, as well as fish and plants are known from the Bouse Formation (Carr and Dickey 1980; Spencer and Patchett 1997).

Puente Formation. The Puente Formation, often synonymous with the Modelo Formation, consists of marine sandstone, siltstone, and shale that dates from the early Pliocene to the Miocene (Critelli et al. 1995; Morton and Miller 2006). The Puente Formation has a history of preserving both invertebrate and vertebrate marine fossils, such as cephalopods (Saul and Stadum 2005), crustaceans (Feldman 2003), fishes (Carnevale et al. 2008; David 1943; Hilton and Grande 2006; Huddleston and Takeuchi 2006), and other marine and terrestrial vertebrates (Barboza et al. 2017; Leatham and North 2017). The Puente Formation is common in the Peninsular Ranges and Transverse Ranges provinces.

Monterey Formation. The Monterey Formation records the filling of a deep basin formed by tectonism along the California margin (Pisciotto and Garrison 1981) and constitutes one of the major elements of California geology and can range up to several thousands of feet thick (Bramlette 1946). The Monterey ranges in age from the Pliocene to middle Miocene (Obradovich and Naeser 1981) and can be found throughout the basins of the Peninsular Ranges and Transverse Ranges provinces in the subsurface. The Monterey has yielded a diverse fauna consisting of some mollusks (Bramlette 1946) and common fish skeletons (Bramlette 1946; Dibblee 1973), and remains of larger marine macrofauna such as whales (Pyenson and Haasl 2007) and the giant extinct Desmostylus (Hannibal 1922), as well as birds (Warheit 1992), crocodiles (Barboza et al. 2017) and rare land organisms such as horse and land plants (Bramlette 1946).

Vaqueros Formation. The Vaqueros Formation consists of predominately limey sandstone interbedded with siltstone and shale deposited in an offshore basin (Bartow 1974; Morton and Miller 2006). The Vaqueros Formation is common in the Peninsular Ranges and Transverse Ranges provinces and dates from the early Miocene to the late Eocene (Morton and Miller 2006). Common fossils in the Vaqueros include marine invertebrates such as barnacles, ostreids, pectinids and marine ichnofossils (Bartow 1974), as well as terrestrial vertebrates (Whistler and Lander 2003) and marine megafauna (Morton and Miller 2006).

CENOZOIC TERRESTRIAL DEPOSITS

Cenozoic terrestrial deposits date from the Paleocene to the Pleistocene and were deposited in terrestrial environments as alluvial sediments, fluvial sediments, and lacustrine deposits. These geologic formations are well known for being highly fossiliferous in southern California and may preserve a wide variety of terrestrial fauna: invertebrates such as mollusks; plants; and abundant terrestrial vertebrates such as horse, camel, bison, and others.

These deposits are particularly common at the surface in the Mojave and Colorado Desert provinces but are found scattered across the entire SCAG region. Some of these units with the highest paleontological sensitivity (BLM PFYC class 4 or 5, SVP high potential) are discussed below.

Pleistocene Alluvium. Pleistocene alluvium consists of sand, silt, and gravel deposited in terrestrial environments as the result of erosion of surrounding highlands and dates to the Pleistocene (11,000–2.58 ma; Jennings et al. 2010). Pleistocene sediments have a rich fossil history in southern California (Hudson and Brattstrom 1977; Jefferson 1991a, 1991b; McDonald and Jefferson 2008; Miller 1941, 1971; Roth 1984; Scott 2010; Scott and Cox 2008; Springer et al. 2009). The most common Pleistocene terrestrial mammal fossils include the bones of mammoth, horse, bison, camel, and small mammals, but other taxa, including lion, cheetah, wolf, antelope, peccary, mastodon, capybara, and giant ground sloth, have been reported (Graham and Lundelius 1994), as well as birds, amphibians, and reptiles such as frogs, salamanders, snakes, and turtles (Hudson and Brattstrom 1977). In addition to illuminating the striking differences between Southern California in the Pleistocene and today, this abundant fossil record has been vital in studies of extinction (e.g., Sandom, et al. 2014; Scott 2010), ecology (e.g., Connin et al. 1998), and climate change (e.g., Roy et al. 1996).

An excellent example of the striking abundance and diversity of these Pleistocene sediments comes from Riverside County, just south of San Bernardino County, where nearly 100,000 identifiable fossil specimens representing 105 vertebrate, invertebrate, and plant species were collected from more than 2,000 individual localities during the construction of the dam at Diamond Valley Lake (Springer et al. 2009) and are now housed at the Western Science Center in Hemet, California. This site represents the second largest late Pleistocene fossil assemblage known from the American Southwest after the La Brea Tar Pits in Los Angeles (Springer et al. 2009). Other Ice Age fossils have been found throughout the inland valleys (Miller 1971; Reynolds and Reynolds 1991; Reynolds et al. 2012) and the Mojave Desert (Jefferson 1987, 1988; Scott et al. 2004, 2006; Scott and Cox 2008).

Manix Formation. The Manix Formation consists of around 40 m of lacustrine, fluvial, and alluvial sediments deposited in and around the Middle to late Pleistocene Lake Manix (Jefferson et al. 2003). This formation occurs to the east of Barstow in the Mojave Desert. The lacustrine and fluvial deposits in this formation have yielded a diverse fauna, preserving invertebrates such as mollusks and ostracods as well as aquatic and terrestrial vertebrates such as fish, birds, and numerous Ice Age mammals (Jefferson et al. 2003).

San Timoteo Formation. The San Timoteo Formation dates from the Pleistocene to the Pliocene and consists of stream-deposited alluvial sediments that are made up of detritus eroded from the San Bernardino Mountains in the Mojave Desert and southeastern Transverse Ranges provinces. A number of significant fossil deposits have been discovered in the San Timoteo.
The construction of the El Casco Substation in San Timoteo Canyon between September 2009 and January 2011 produced numerous fossils, including riparian and aquatic plants, insects, slugs and snails, fish, tortoise, lizards, snakes, small mammals, birds, a giant camel, a llama, two ground sloths, and two different types of saber tooth cats (Reynolds et al. 2012). The Shutt Ranch fauna is a collection of hundreds of significant fossils belonging to 37 species of small mammals,

as well as larger macrofauna such as sloth, camel, deer, horse, and others, found in the San Timoteo beds (Albright 1999). The scientific literature records a rich fossil history from this unit that includes fossils of more than 30 plant taxa (Axelrod 1966, 1979) and over forty animal taxa, including camels, deer, sloth, elephants, bears, rabbits, and rodents (Albright 1999). This fauna has been the subject of study for almost 100 years (Frick 1921, 1933; Matti and Morton 1975; Reynolds and Reeder 1991).

Avawatz Formation. The Avawatz Formation consists of four members: conglomerate, siltstone and sandstone, breccias, and sandstone, siltstone, and tuff deposited in alluvial fans, floodplains, and lakes, spanning a period of around 40 Ma, during the late Miocene (Spencer 1977). The Avawatz Formation is found in the Avawatz Mountains in the Mojave Desert province (Spencer 1977). The Avawatz preserves a typical Miocene mammalian fauna of early ancestors of horses and camels, as well as abundant rodents and some reptiles. In addition, the Avawatz is known for preserving exceptional fossil trackways from dozens of different types of animals, including birds, camels, and cats (Lofgren et al. 2006; Reynolds and Milner 2012; Sarjeant and Reynolds 2001). Trackways are significant fossil resources, and provide valuable information on not only foot morphology, but also how an animal moved and potentially whether it was part of a herd. The Raymond M. Alf Museum in Claremont, California, has more than 100 fossil trackways collected from the Avawatz (Lofgren et al. 2006) in San Bernardino County.

Topanga Group. The Topanga Group is predominantly composed of sandstone but also some siltstone, breccia, and shale (Morton and Miller 2006; Vedder 1972). Formations within the Topanga Group are common across the basins of the Peninsular Ranges and Transverse Ranges provinces. The Topanga is interpreted to represent wave-dominated coastal deposits grading into river-dominated deltaic deposits and fluvial deposits in the upper parts of the formation (Critelli and Ingersoll 1995). The Topanga Formation dates to the middle Miocene, around 20 to 16 Ma (Morton and Miller 2006). Fossils from the Topanga Formation include numerous invertebrate and vertebrate remains from both marine and terrestrial settings, including sharks, bony fishes, birds, whales, dolphins, and land mammals (Boessenecker and Churchill 2015; Campbell and Yerkes 1980; Morton and Miller 2006; Whistler and Lander 2003).

Barstow Formation. The Barstow Formation is composed of fluvial and lacustrine sediments interbedded with air-fall tuff beds deposited in lakes from around 14.8 to 19.3 ma (Woodburne et al. 1990). This formation crops out across the Mojave Desert province (Woodburne et al. 1990). The fossil mammal fauna of the Barstow is so abundant it has been used to define a biostratigraphic portion of the middle Miocene called the Barstovian North American Land Mammal Age (Pagnac 2009; Wood et al. 1941). The University of California, Berkeley, conducted extensive excavations of the mammal fossils shortly after they were first discovered in the Mud Hills (Baker 1911). The most common fossils from the Barstow Formation include early ancestors of horses, antelope, and camels, as well as small mammals such as mice and rabbits, with birds, fish, invertebrates, reptiles, and early ancestors of canines and elephants less common but well represented. In addition to the vertebrate fauna, an extensive record of exceptionally preserved small organisms, such as insects and arthropods, are known from the Barstow (Leggitt 2006; Miller and Lubkin 2001; Park and Downing 2001). These fossils have been extensively studied and reported on in the scientific literature, leading to a better understanding of the early evolution of many modern animals ranging from horses (Forsten 1973; MacFadden 1986) and camels (Pagnac 2005) to insects (Lister 1981), as well as paleoecology (Brattstrom 1961; Park and Downing 2001).

Sensitivity Assessment

The review of geologic mapping, scientific literature, and online records of the UCMP and SDNHM indicate that the six counties comprising the SCGA region record the diverse geologic history of southern California, including an abundant and significant fossil record. Paleontological resources range from the fossils of ancient marine creatures to land-dwelling plants and animals.

Paleontological sensitivity is tied to the potential of mapped geologic units, whether at the surface or in the subsurface, to preserve fossils. This analysis has highlighted a number of the best examples of high sensitivity geologic formations in the SCAG region, such as the Monterey and Topanga formations, as well as alluvial sediments that date to the Pleistocene. This overview is not exhaustive as there are numerous other geologic units that are more limited in occurrence and therefore cannot be included in this overview. For example, the most abundant fossil deposits in the SCAG region are from the La Brea Tar Pits, which preserve millions of Pleistocene fossils outside downtown Los Angeles.

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APPENDIX 3.13

Aviation Noise Technical Report

VENEKLASEN ASSOCIATES
ENVIRONMENTAL SERVICES
AUGUST 28, 2019

SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS
AIRPORT NOISE OVERVIEW
DRAFT

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TABLE OF CONTENTS

1. iNTRODUCTION 3
2. SCAG Region 3
3. AIRPORT DESCRIPTIONS 4
Hollywood-Burbank Airport (BUR) 4
Imperial County Airport (IPL) 9
John Wayne Airport (SNA) 12
Los Angeles International Airport (LAX) 18
Long Beach Airport (LGB) 23
Ontario International Airport (ONT) 28
Palm Springs International Airport (PSP) 31
4. AIRPORT GROWTH FORECAST 35
5. AIRPORT OPERATION GROWTH AND IMPACT ON AIRCRAFT NOISE LEVELS AND NOISE CONTOURS 364

TABLE OF FIGURES

Figure 1 – Hollywood-Burbank Airport Location .....
Figure 2 – Burbank Airport – 70 CNEL Contour for 1st Quarter 2019 .....
Figure 3 – Burbank Airport – 65 CNEL Contour for 1st Quarter 2019 .....
Figure 4 – Imperial County Airport Location 1
Figure 5 - Imperial County Airport Future Noise Contours 1
Figure 6 – John Wayne Airport Location 1
Figure 7 – John Wayne Airport Noise Monitors and Residential Areas 1
Figure 8 – John Wayne Airport Noise Contours 1st Quarter 2019 1
Figure 9 – Los Angeles International Airport Location 2
Figure 10 - LAX First Quarter 2019 Noise Contours – Western Area 2
Figure 11 – LAX First Quarter 2019 Noise Contours – Eastern Area 2
Figure 12 – Long Beach Airport Location 2
Figure 13 – Long Beach Airport Noise Contours 2
Figure 14 – Ontario International Airport Location 2
Figure 15 – Ontario International Airport Noise Contours, 3rd Quarter 2016 3
Figure 16 – Palm Springs International Airport Location 3
Figure 17 – Palm Springs International Airport 2015 Noise Contours 3
Figure 18 – Palm Springs International Airport 2020 Noise Contours 3

1. INTRODUCTION

This report has been prepared for the Southern California Association of Governments (SCAG) to provide support for the 2020-2045 Connect SoCal Regional Transportation Plan (RTP)/Sustainable Communities Strategies (SCS) Program Environmental Impact Report (PEIR). The purpose of the report is to assess aviation noise impacts at a regional scale. SCAG is a metropolitan planning organization and does not have planning authority over airports but is primarily a regional surface transportation planning agency focused on airport activity as it affects the traffic accessing the airports. The seven commercial airports located in the SCAG region are the subject of this report, as these are the airports where employees, passengers, and cargo are traveling the region's transit systems. Detailed airport-specific noise analysis was not performed for this report due to SCAG's focus in ensuring adequate ground transportation access to the region's airports, as well as the limitation of available data to forecast future airport operations and potential changes in technology.

The report sections below refer to the noise metric Community Noise Exposure Level (CNEL). CNEL is a cumulative noise metric that reflects the noise exposure at a location over a 24-hour period for the average day of the year. For this report, the CNEL is reported on the basis of annual aircraft operations. An entire year of flight operations are examined utilizing specialized aircraft noise modeling programs. To account for the higher sensitivity to noise during the evening hours of 7:00 pm to 10:00 pm, CNEL adds a 4.77 dBA penalty, equivalent to multiplying the number of aircraft events by three in the noise modeling program. CNEL also adds a 10 dBA penalty for noise occurring during the sensitive nighttime hours of 10:00 pm to 7:00 am, equivalent to multiplying the number of aircraft events by ten[1]. Title 21 of the *California Code of Regulations* contains the State of California Airport Noise Standards which identifies the noise impact boundary of airports to be a noise exposure of CNEL 65 or greater[2].

This report also refers to airport runway nomenclature such as Runway 15/33. Runways are numbered between 01 and 36 representing the magnetic heading of the runway in degrees divided by ten. Runway 09 heads 90 degrees clockwise from magnetic north, or due east, Runway 27 is directed 270 degrees or due west, and Runway 36 (360 degrees, not 0 degrees) points north.[3] Runway 15/33 heads 150 degrees from magnetic north or southwest. If the runway operates in the opposite direction, 180 degrees difference, the heading is 330 degrees and the runway number is 33. Some airports have parallel runways with identical headings, and the letters L, R, and C are added to distinguish between the left, right, and center runways.

2. SCAG REGION

The SCAG Region includes the six counties of Ventura County, Los Angeles County, Orange County, San Bernardino County, Riverside County, and Imperial County, making it the largest metropolitan planning organization (MPO) in the nation. The region covers 191 cities, over 19 million residents, and 38,000 square miles. The area contains an expansive multiple airport system with seven commercial airports, seven government/military fields, and over 30 reliever and general aviation airports.

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[1] https://www.faa.gov/regulations_policies/policy_guidance/noise/community/; 8-29-2019

[2] Title 21, Chapter 6 *Noise Standards*, Article 1 Section 5012 *Airport Noise Standard*, 9/12/2019

[3] https://worldwide-aviation.blogspot.com/2016/03/naming-for-runways.html; 8-29-2019

3. AIRPORT DESCRIPTIONS

Hollywood-Burbank Airport (BUR)

Location

The Hollywood-Burbank Airport, or Bob Hope Airport, is located three miles northwest of downtown Burbank in the western portion of Los Angeles County. It is closer to Downtown Los Angeles than Los Angeles International Airport, located in the northern Los Angeles area, one mile south of Interstate 5, three miles north of State Highway 134, and three miles east of State Highway 170. The airport is surrounded by single family and multi-family residential land use within 0.2 miles of the runway on the north side and within 0.33 miles of the runway on the south side. The airport has some adjacent noise buffers including commercial land use directly east and west of the east-west runway and a cemetery to the south. Figure 1, *Hollywood-Burbank Airport Location*, indicates the airport general location and relationship to these adjacent uses.

Physical and Operational Characteristics

The airport is categorized as a medium-hub primary airport (serving between 0.25 percent and 1.0 percent of total national enplanements) utilizing two intersecting runways. Runway 15/33 is 6,886 feet long by 150 feet wide and runs in the northwest-southeast direction while cross Runway 8/26 is 5802 feet long by 150 feet wide and runs east-west[4]. Aircraft operations include general aviation aircraft, scheduled commercial flights and military operations. Aircraft generally take off to the south on Runway 15 due to prevailing winds, and most landings occur on Runway 8. There is no currently no limit on the number of aircraft operations at the airport, but the commercial airlines have agreed verbally to abide by a voluntary curfew on operations between 10 p.m. and 7 a.m. and the current plans are to maintain this voluntary curfew[5].

In 2014 a Regional Intermodal Transportation Center (RITC) was built adjacent to the airport providing the only area airport with a direct rail connection to Los Angeles. The Amtrak Pacific Surfliner and the Metrolink Ventura County Line provide service to the RITC as do the Metro Bus and BurbankBus. The Metrolink Antelope Valley Line provides service to the Burbank-Airport North Train Station where a complimentary airport shuttle service provides access to the airport.[6] The airport plans a replacement terminal in the future.

[4] www.airnav.com/airport/KBUR; 8/7/2019

[5] Mark Hardyment, Director Transportation & Environmental Programs, Hollywood Burbank Airport; phone call 8/6/2019

[6] https://hollywoodburbankairport.com/ground-transportation/buses-trains/; 8/29/2019

Figure 1 – Hollywood-Burbank Airport Location[7]

[7] Google Earth; 8/29/2019

Existing Conditions

BUR operations for 2018 included 5.3 million annual passengers (MAP) and 54,700 tons of cargo with 132,023 total aircraft operations[8]. The airport is closely located to single family and multi-family residential land use within 0.2 miles of the runway on the north side and within 0.33 miles of the runway on the south side. The airport completed a Residential Acoustical Treatment Program to sound insulate approximately 2,450[9] dwellings within the 65 CNEL noise impacted area[10]. Burbank-Glendale-Pasadena Airport Authority (BGPAA) operates a permanent noise monitoring system utilizing 20 noise monitors located in Burbank and the City of Los Angeles to assist in updating aircraft noise exposure on a quarterly basis[11]. The Airport provides access to the noise monitoring real-time measurements, flight tracking, and submission of noise complaints through the online *WebTrack* system[12]. The 65 CNEL and 70 CNEL contours from the *Quarterly Noise Monitoring at Hollywood Burbank Airport First Quarter 2019*[13] (updated airport noise report based on average airport operations over the preceding 12 months) are shown on Figure 2, *Burbank Airport – 70 CNEL Contour for 1st Quarter 2019*, and Figure 3, *Burbank Airport – 65 CNEL Contour for 1st Quarter 2019*. Contour information for the remainder of 2019 is not yet available at the time of this assessment. The flight operations data through May 2019[14] indicates operations are currently running approximately 4% higher than the operations included in the contours presented. However, the contours represent an annualized average and operations adjust seasonally; current operations include peak summer travel months that may be consistent this year with last year or may be slightly higher. Therefore, annualized operations may average out to be similar to or possibly slightly greater, resulting in similar or slightly larger assuming the same aircraft fleet mix. In the near term it is expected the aircraft fleet mix will remain similar; the fleet mix changes as air carriers replace aircraft with newer models or swap existing aircraft to accommodate changes in passenger demand.

[8] https://hollywoodburbankairport.com/about-us/airport-statistics/; 8/7/2019

[9] https://hollywoodburbankairport.com/wp-content/uploads/2019/04/BUR-NCP-Revision-032816-Final-Revised-Part-1_compressed.pdf, 9/12/2019; Mark Hardyment, Director, Transportation & Environmental Programs, Hollywood Burbank Airport, email 9/12/2019

[10] https://hollywoodburbankairport.com/noise-environment/noise-issues/; 8/29/2019

[11] https://hollywoodburbankairport.com/wp-content/uploads/2019/07/1Q-2019-Quarterly-Noise-Report.pdf; 8/29/2019

[12] https://webtrak.emsbk.com/bur1; 8/29/2019

[13] https://hollywoodburbankairport.com/wp-content/uploads/2019/07/1Q-2019-Quarterly-Noise-Report.pdf; 8/7/2019

[14] https://hollywoodburbankairport.com/about-us/airport-statistics/; 8/7/2019

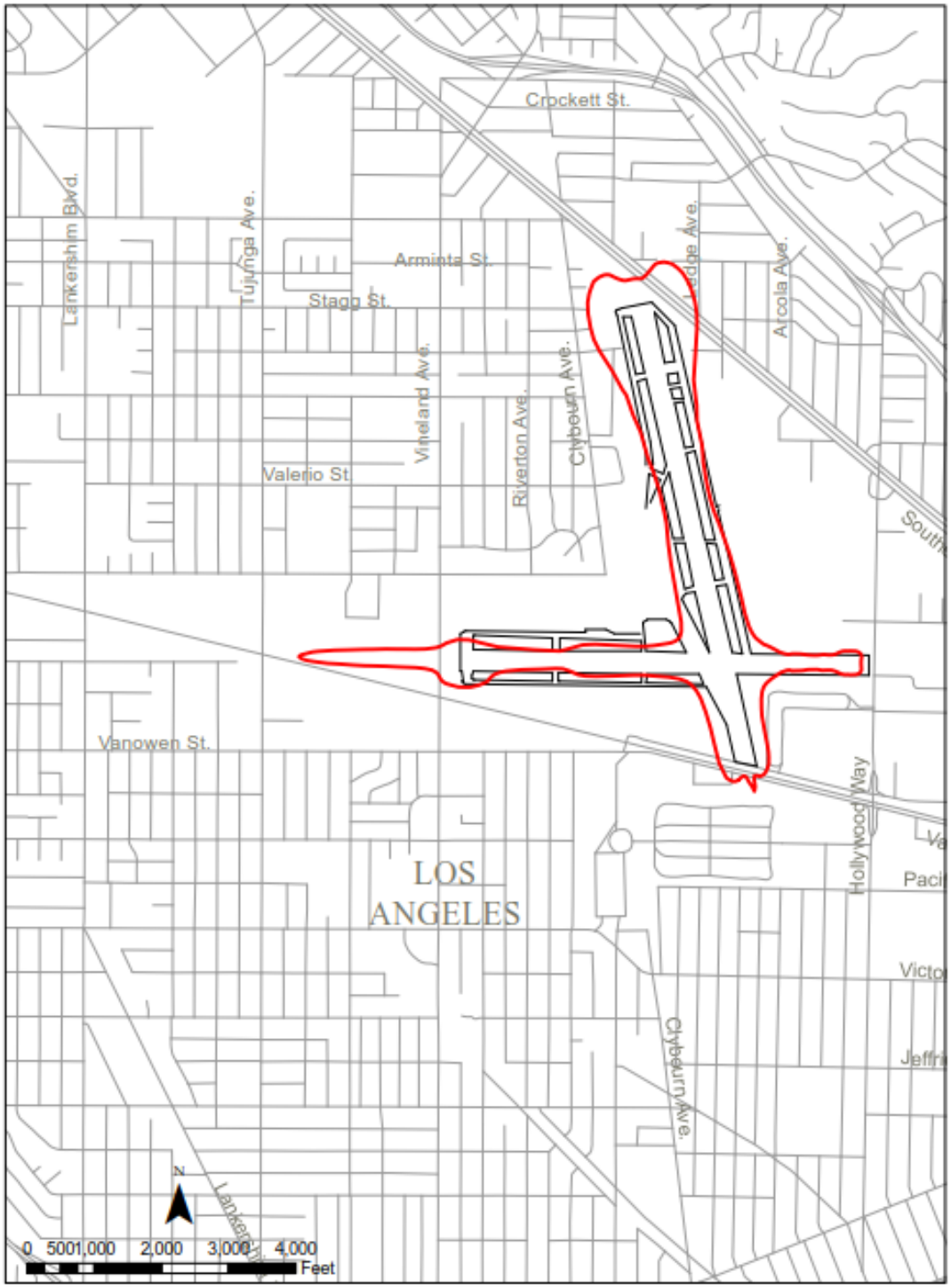

Figure 2 – Burbank Airport – 70 CNEL Contour for 1st Quarter 2019

Source: Quarterly Noise Monitoring at Hollywood Burbank Airport First Quarter 2019
by Acoustical Analysis Associates, Incorporated; AAAI Report 1550

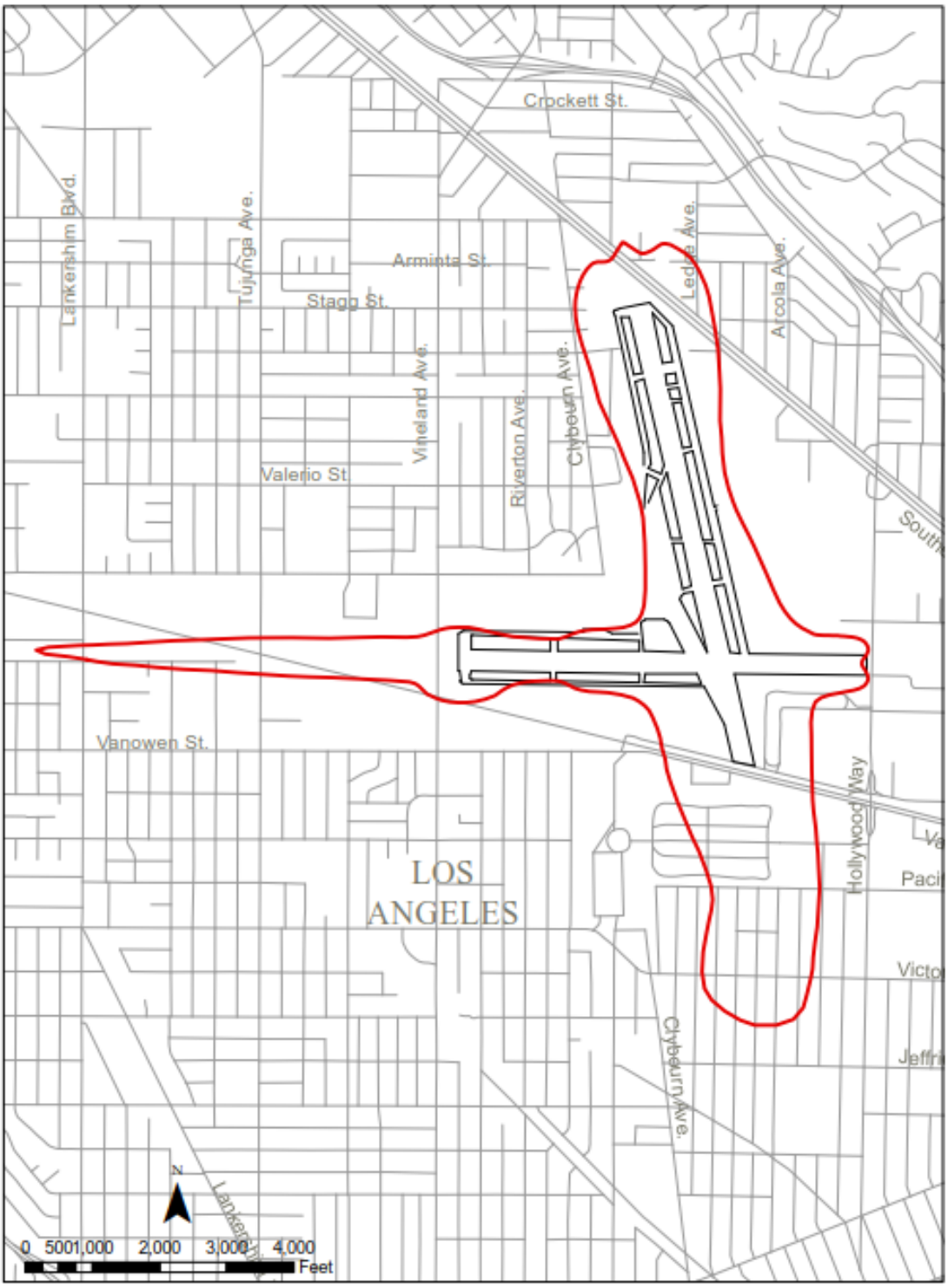

Figure 3 – Burbank Airport – 65 CNEL Contour for 1st Quarter 2019

Source: Quarterly Noise Monitoring at Hollywood Burbank Airport First Quarter 2019
by Acoustical Analysis Associates, Incorporated; AAAI Report 1550

Imperial County Airport (IPL)

Location

Imperial County Airport is located one-half mile south of the center of the business district of the City of Imperial and three miles north of El Centro, approximately 95 miles east of San Diego and 12 miles north of the California-Mexico border. It is north of Interstate 8 and west of State Highway 111. The airport is located partially in the City of Imperial and partially in the unincorporated area of Imperial County. The airport is surrounded by single family residential land use as close as 0.1 miles from the runway at the northeast, some agricultural land use to the north and west, and commercial/industrial land use to the south and east. Figure 4, *Imperial County Airport Location*, illustrates the airports relationship to these land uses. There are no residences within the 65 CNEL noise impact contour of the airport.

Physical and Operational Characteristics

The airport is a small public-use airport categorized as a non-hub primary commercial service airport (serving less than 0.05 percent of total national enplanements) with two asphalt runways: 8/26 runs east-west and measures 4,501 feet by 75 feet and 14/32 northwest-southeast and measures 5,308 feet by 100 feet[15]. Aircraft operations include general aviation aircraft, scheduled commercial flights and military operations. There is currently no limit on the number of aircraft operations at the airport.

Existing Conditions

IPL operations for 2018 included approximately 0.0133 million passengers per year (MAP) with 14,573 aircraft operations and cargo operations totaled 1,448 tons[16]. Imperial County adopted an updated *Airport Land Use Compatibility Plan, Imperial County Airport*[17], in 1996, which indicated projected future noise contours for use in land use planning. The earlier compatibility plan included noise contours based on more than double the number of operations considered plausible in the updated plan, and the aircraft mix included aircraft and business jets much noisier than those in use at the time of the update. Therefore, these earlier predicted noise contours were much larger than the actual noise contours of the airport. The future predicted noise contours for the 1996 update indicating the 55, 60, and 65 CNEL contours are shown in Figure 5, *Imperial County Airport Future Noise Contours*[18]. These future noise contours were developed considering a 20-year projection (i.e., theoretically through the year 2016) for 102,000 aircraft operations. As aircraft operations are well below this projected number, the current noise contours are significantly smaller than those indicated and no update to the ALUP is needed.

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[15] www.airnav.com/airport/KIPL; 8/7/2019

[16] Sandra Gutierez-Carver, IPL Airport Manager; 8/12/2019

[17] http://www.icpds.com/CMS/Media/ALUC-Compatibility-Plan-1996-Part-I.pdf; 8/7/2019

[18] http://www.icpds.com/CMS/Media/ALUC-Compatibility-Plan-1996-Part-I.pdf; 8/7/2019

Figure 4 – Imperial County Airport Location[19]

[19] Google Earth; 8/29/2019

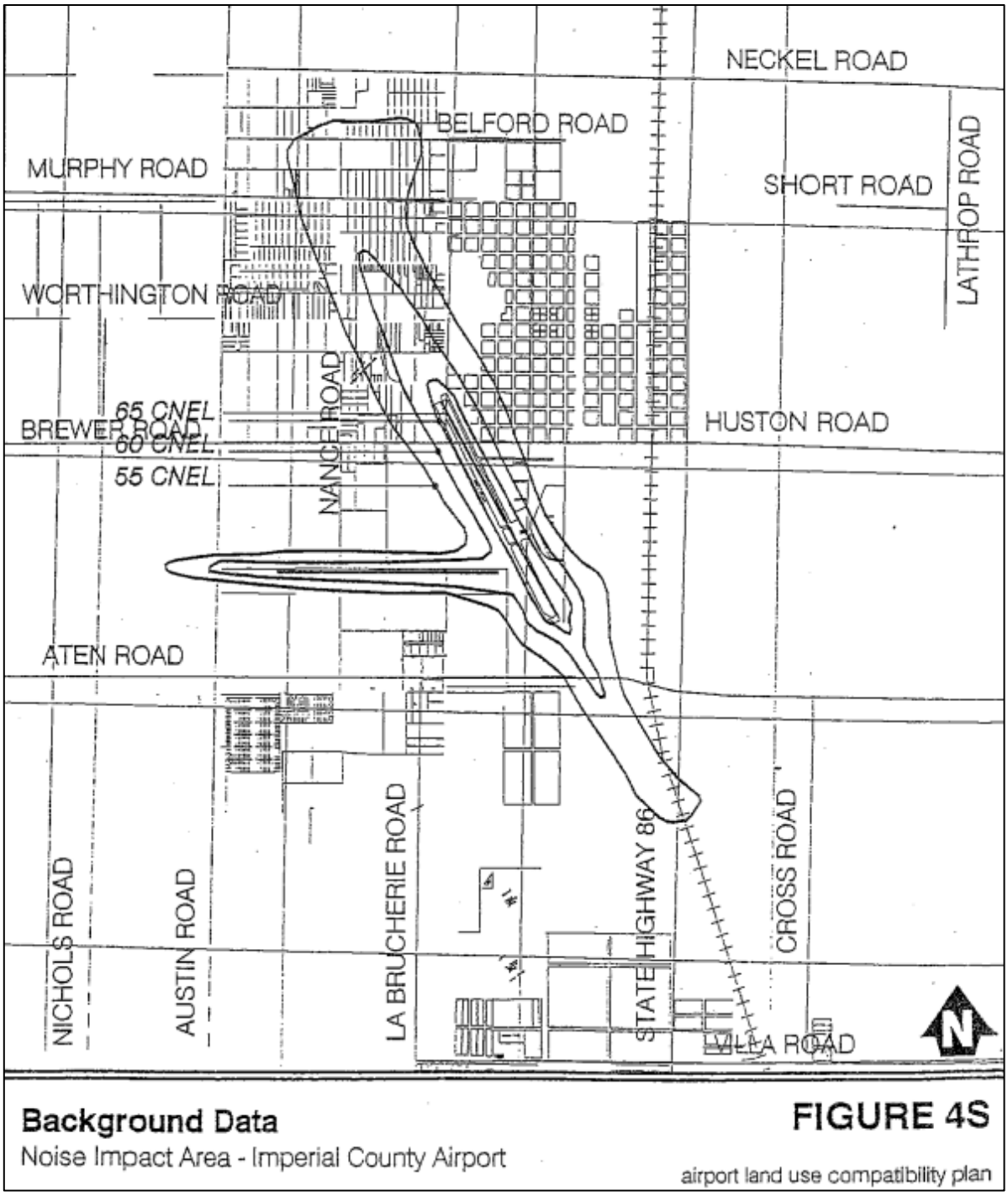

Figure 5 - Imperial County Airport Future Noise Contours

Source: *Airport Land Use Compatibility plan, Imperial County Airport*; http://www.icpds.com/?pid=2202

John Wayne Airport (SNA)

Location

John Wayne Airport is located on unincorporated land in Orange County approximately 0.5 miles southeast of the intersection of Interstate 405 and State Highway 55 with the north end of the airport abutting Interstate 405 and the south end of the airport adjacent on the east side of State Highway 73. The airport is surrounded by the cities of Irvine, Costa Mesa and Newport Beach with commercial land use adjacencies to the north, east and west. There is residential land use interspersed among the commercial use with multi-family land use 0.25 west of the runway, and residential land use (single family and multi-family) beyond the commercial land use approximately 0.75 miles to the north, 0.5 miles to the west, 1 mile to the east, and approximately 0.25 miles to the south. Figure 6, *John Wayne Airport Location*, illustrates the airports relationship to these land uses.

Physical and Operational Characteristics

The airport is categorized as a medium-hub primary airport (serving between 0.25 percent and 1.0 percent of total national enplanements) and utilizes two parallel north-south runways. Runway 2L/20R is 5,701 feet long by 150 feet wide and is used for commercial aircraft activity, and Runway 2R/20L is 2,887 feet long and 75 feet wide and serves general aviation aircraft[20]. Aircraft operations include general aviation aircraft, scheduled commercial flights and military operations. Due to the short length of the commercial runway and the proximity of residential land use, commercial aircraft typically depart at or near full power to reach takeoff speed and larger/heavier aircraft may require a steep climb to allow for a power reduction to quiet the overflight of residential land one-half mile from the airport. Aircraft types and number of passengers are limited to meet the community noise levels agreed to in the 1985 Settlement Agreement[21] and in the updated *Phase 2 Commercial Airline Access Plan and Regulation*[22] (Phase 2 Access Plan) amended through December 2, 2015. These plans limit aircraft to 200,000 pounds gross weight for aircraft with dual gear main landing gear-type and to 300,000 pounds gross weight for aircraft with dual tandem gear main landing gear-type. They also classify the noise of the aircraft into Type A and Type E, and they require compliance with the noise levels set forth in Table 1, *Class A Aircraft Energy Averaged SENEL Levels*, and Table 2, *Class E Aircraft Energy Averaged SENEL Levels*.

The airport has a limit of 10.8 MAP through December 31, 2020 but no limit on the number of aircraft flights[23]. While the amount of cargo is not limited, there is a limit of four cargo arrival

[20] www.airnav.com/airport/KSNA; 8/7/2019

[21] https://www.ocair.com/communityrelations/settlementagreement/docs/1985%20Settlement%20Agreement.pdf; 8/8/2019

[22] https://www.ocair.com/reportspublications/AccessNoise/AccessPlan_2015-12-4.pdf; 8/30/2019

[23] Anthony Cangey, Airport Access & Noise Specialist II, John Wayne Airport, email 8/9/2019

flights and four cargo departure flights in effect until 2030 with no current plan for expansion[24]. The MAP limit increases to 11.8 in January 2021 and to either 12.2 or 12.5 in January 2026 through December 2030, depending on passenger demand experienced between 2021 and 2025. The Phase 2 Access Plan terminates December 31, 2030 without further action from the County of Orange Board of Supervisors. Commercial flights are restricted by County Ordinance to departure hours of 7:00 am to 10:00 pm Monday through Saturday and 8:00 am to 10:00 pm on Sunday, and arrival hours of 7:00 am to 11:00 pm Monday through Saturday and 8:00 am to 11:00 pm on Sunday. General aviation aircraft are allowed to operate 24 hours a day as long as the aircraft meets the general aviation noise limits for daytime/nighttime operations as measured at specified airport noise monitoring stations[25]. General aviation passengers are not included in the airport MAP counts.

CLASS A AIRCRAFT
ENERGY AVERAGED SENEL LEVELS

NOISE MONITORING STATION	ENERGY AVERAGED DECIBELS
NMS1S:	102.5 *dB SENEL*
NMS2S:	101.8 *dB SENEL*
NMS3S:	101.1 *dB SENEL*
NMS4S:	94.8 *dB SENEL*
NMS5S:	95.3 *dB SENEL*
NMS6S:	96.8 *dB SENEL*
NMS7S:	93.7 *dB SENEL*

Table 1 – Class A Aircraft Energy Averaged SENEL Levels

CLASS E AIRCRAFT
ENERGY AVERAGED SENEL LEVELS

NOISE MONITORING STATION	ENERGY AVERAGED DECIBELS
NMS1S:	94.1 *dB SENEL*
NMS2S:	93.5 *dB SENEL*
NMS3S:	90.3 *dB SENEL*
NMS4S:	86.6 *dB SENEL*
NMS5S:	87.2 *dB SENEL*
NMS6S:	87.2 *dB SENEL*
NMS7S:	86.6 *dB SENEL*

[24] Anthony Cangey, Airport Access & Noise Specialist II, John Wayne Airport, email 9/3/2019

[25] Anthony Cangey, Airport Access & Noise Specialist II, John Wayne Airport, email 8/9/2019

Table 2 – Class E Aircraft Energy Averaged SENEL Levels

Figure 6 – John Wayne Airport Location[26]

[26] Google Earth; 8/30/2019

Existing Conditions

SNA 2018 operations consisted of 10.7 million annual passengers (MAP), 19,552 tons of cargo, and 316,783 aircraft operations[27]. The airport is closely located to residential land use (as noted above multi-family residential is located 0.25 miles west and multi-family/single family residential use surrounds the airport within 0.25 to 1.0 miles), and the airport completed a residential sound insulation program to sound insulate 418 dwellings[28] within the 65 CNEL noise impacted area[29]. The John Wayne Airport Access and Noise Office operates a permanent noise monitoring system with 10 monitors to monitor individual aircraft compliance with airport-permitted noise levels (as indicated in Tables 1 and 2 above), commercial carrier compliance with the allowable quarterly average noise level per aircraft type, and to assist with updating quarterly noise contours. The noise monitor locations and the respective residential area is shown on Figure 7, *John Wayne Airport Noise Monitors and Residential Area.* The 65 CNEL contour from the first quarter of 2019 (updated airport noise report based on average airport operations over the preceding 12 months) is shown on Figure 8, *John Wayne Airport Noise Contours 1st Quarter 2019*[30]. The residential properties highlighted on this figure represent the remaining incompatible land use. Contour information for the remainder of 2019 is not yet available at the time of this assessment. Operations measured for April and May[31] indicate a slight decrease in operations due to air carriers utilizing larger capacity aircraft and maintaining a higher percentage of passengers which would tend to reduce the noise contour area. Operations for the remainder of 2019[32] are anticipated to be similar to operations included in the contours presented in Figure 8 so that the contours are anticipated to also be similar assuming the same aircraft fleet mix. In the near term it is expected the aircraft fleet mix will remain similar; the fleet mix changes as air carriers replace aircraft with newer models or swap existing aircraft to accommodate changes in passenger demand.

[27] www.ocair.com/newsroom/news/airportstats; 8/7/2019

[28] https://www.ocair.com/reportspublications/AccessNoise/noiseabatementquarterly/2019/na2019-q1.pdf; 9/12/2019

[29] https://www.ocair.com/reportspublications/AccessNoise/noiseabatementquarterly/2018/na2018-q1.pdf; 8/30/2019

[30] https://www.ocair.com/reportspublications/AccessNoise/noiseabatementquarterly/2019/na2019-q1.pdf; 8/12/2019

[31] www.ocair.com/newsroom/news/airportstats; 8/7/2019

[32] www.ocair.com/newsroom/news/airportstats; 8/7/2019

Figure 7 – John Wayne Airport Noise Monitors and Residential Areas[33]

[33] https://www.ocair.com/reportspublications/publications/ganoguide.pdf#page=2; 8/30/2019

Figure 8 – John Wayne Airport Noise Contours 1st Quarter 2019
Source: www.ocair.com/reportspublications/AccessNoise/

Los Angeles International Airport (LAX)

The Los Angeles International Airport is currently in the middle of an *Airfield & Terminal Modernization Project* study with plans to complete environmental documents in the 4th quarter of 2020. These environmental documents will assess aviation noise impacts in detail.

Location

Los Angeles International Airport is located in the Westchester district in the southwestern portion of the City of Los Angeles, with residential and commercial areas of the El Segundo to the south, Westchester and Playa del Rey to the north, and Inglewood and unincorporated portions of Los Angeles County to the east. It is bordered by Intestate 105 to the south, Interstate 405 to the east, and State Highway 42 to the north. Figure 9, *Los Angeles International Airport Location*, illustrates the airports relationship to these land uses.

Physical and Operational Characteristics

The airport is categorized as a large-hub primary airport (serving between 1.0 percent or more of total national enplanements), it is the busiest airport in the Los Angeles area, and it is the second busiest airport in the U.S.[34] The airport utilizes two sets of parallel runways running in the east-west direction. Runways 24R/06L and 24L/06R are north of the airport terminals, running 8,926 feet long by 150 feet wide and 10,885 feet long by 150 feet wide, respectively. Runways 7L/25R and 7R/25L are south of the airport terminals and measure 12,923 feet long by 150 feet wide and 11,095 feet long by 200 feet wide, respectively[35]. Aircraft operations include general aviation aircraft, scheduled commercial flights and military operations. Due to prevailing winds, aircraft generally depart to the west and approach from the east. The Los Angeles World Airports (LAWA) department of the City of Los Angeles is currently constructing an Automated People Mover (APM) electric train to reduce ground traffic congestion and provide a direct rail connection to Los Angeles and adjacent cities[36]. The APM is planned to open for passenger services in 2023. There is currently no limit on the number of aircraft operations at the airport.

Existing Conditions

LAX operations for 2018 included 87.5 million annual passengers (MAP) with 641,460 flight operations and 2.4 million tons of cargo[37]. As noted above, the airport is located in close proximity to residential land use. The airport completed a residential sound insulation program for City of Los Angeles dwellings within the 65 CNEL noise impacted area, sound insulating over 7,300 dwelling units[38]. Inglewood and the County of Los Angeles are currently managing a

[34] https://www.worldatlas.com/articles/busiest-airports-in-united-states.html; 8/30/2019

[35] www.airnav.com/airport/KLAX; 8/7/2019

[36] https://www.lawa.org/en/connectinglax/automated-people-mover; 8/30/2019

[37] https://www.lawa.org/-/media/ac4d82d736aa468da1a4a43357c94f28.pdf ; 8/7/2019

[38] https://www.lawa.org/en/lawa-environment/noise-management/sound-insulation-grant-program/residential-sound-insulation-program; 8/30/2019

residential sound insulation program for dwellings in their jurisdictions, and have sound insulated over 7,832 and 4,084 dwellings, respectively, while the El Segundo program was suspended in 2016[39] after completing 1,943 dwellings[40]. The Noise Management Bureau of LAWA maintains a permanent noise monitoring system utilized to assist in updating aircraft noise exposure on a quarterly basis. The 65 CNEL, 70 CNEL and 75 CNEL contours from the first quarter of 2019 (updated airport noise report based on average airport operations over the preceding 12 months) are shown in Figure 10, *LAX First Quarter 2019 Noise Contours – Western Area*, and in Figure 11, *LAX First Quarter 2019 Noise Contours – Eastern Area*. Contour information for the remainder of 2019 is not yet available at the time of this assessment. Operations have measured approximately 2% lower during recent months as compared than the operations during the same months of 2019 included in the contours presented. Due to the large number of operations at LAX, this slight decrease in operations is expected to produce similar noise contours assuming the same aircraft fleet mix. In the near term it is expected the aircraft fleet mix will remain similar; the fleet mix changes as air carriers replace aircraft with newer models or swap existing aircraft to accommodate changes in passenger demand.

[39] https://www.lawa.org/en/lawa-environment/noise-management/sound-insulation-grant-program; 8/30/2019

[40] Kathryn Pantoja, Airport Environmental Manager, LAWA noise Management and SIG Program, 9/6/2019 email

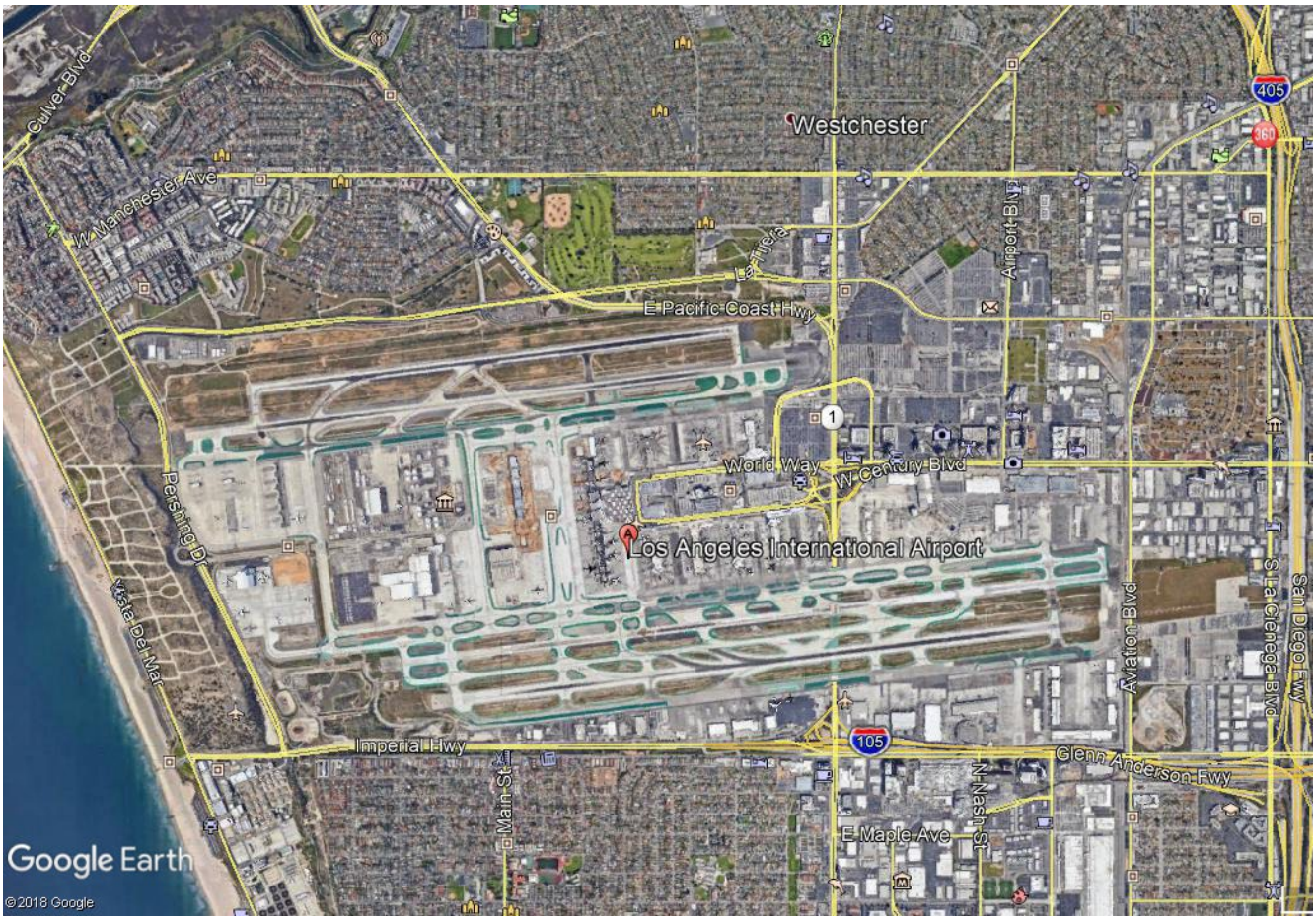

Figure 9 – Los Angeles International Airport Location[41]

[41] Google Earth; 8/30/2019

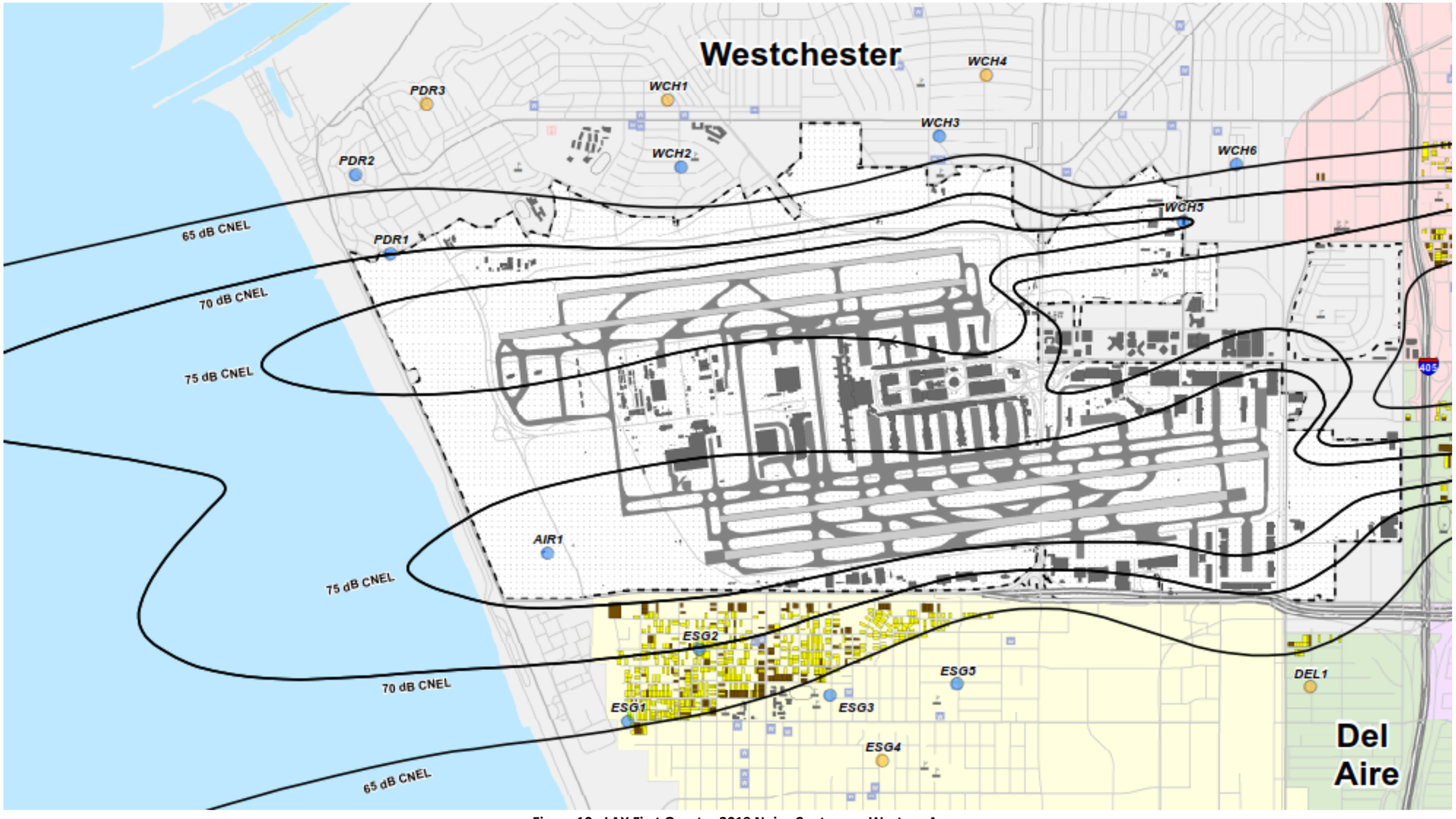

Figure 10 - LAX First Quarter 2019 Noise Contours – Western Area

Note: Current operations have measured approximately 2% lower than the operations included in the contours presented

(Source- www.lawa.org/en/lawa-environment/noise-management/lawa-noise-management-lax/quarterly-noise-reports-and-contour-maps)

Figure 11 – LAX First Quarter 2019 Noise Contours – Eastern Area

Note: Current operations have measured approximately 2% lower than the operations included in the contours presented

(Source- www.lawa.org/en/lawa-environment/noise-management/lawa-noise-management-lax/quarterly-noise-reports-and-contour-maps)

Long Beach Airport (LGB)

Location

Long Beach Airport is located three miles northeast of downtown Long Beach in the southern part of Los Angeles County near the Los Angeles County and Orange County borders. It is just north of Interstate 405, three miles east of Interstate 710, and three miles west of Interstate 605. The airport borders commercial land use to the north, east, and south, and borders single family residential land use to the southeast. Outside the bordering commercial land use there is single family and multi-family residential land use approximately 0.33 miles north, 0.33 miles east, 0.1 miles south and 0.25 miles to the west. Figure 12, *Long Beach Airport Location*, illustrates the airport location and its relationship to the adjacent land uses.

Physical and Operational Characteristics

The airport is categorized as a non-hub primary commercial service airport (serving less than 0.05 percent of total national enplanements) served with a pair of parallel east-west runways and one northwest-southeast runway. Runways 8R/26L and 8L/26R measure 3,918 feet long by 100 feet wide and 6,192 feet long by 150 feet wide, respectively. Runway 12/30 is 10,000 feet long by 200 feet wide[42]. Aircraft operations include general aviation aircraft and scheduled commercial flights. Due to the airport's location near dense residential housing, the airport operates within a strict noise budget to keep aircraft operations limited and noise controlled. There is no currently no limit on the number of aircraft operations at the airport as long as the maximum noise levels of the noise budget are not exceeded. The LGB noise budget by City law allows the airport to add aircraft operations if the noise level with the additional operations does not exceed the noise levels from the baseline year of 1989-1990[43].

Existing Conditions

[42] www.airnav.com/airport/KLGB; 8/7/2019

[43] http://www.lgb.org/information/noise_abatement/frequently_asked_questions.asp; 8/7/2019

LGB operations for 2018 included 3.9 million annual passengers (MAP) with 33,906 flight operations and 23,849 tons of cargo with 1,060 flights[44]. The Long Beach Airport Noise Office maintains a permanent noise monitoring system with 18 noise monitors utilized to assist in updating aircraft noise exposure on a quarterly basis[45]. The 60 CNEL, 65 CNEL and 70 CNEL contours applicable to the allowable noise budget are shown in Figure 13, *Long Beach Airport Noise Contours*. These contours are slightly larger than the realized noise contours as LGB operations typically do not reach the allowable operations of the noise budget. To ensure the airport does not exceed these levels, two of

[44] http://www.lgb.org/information/noise_abatement/monthlyreport.asp; 8/7/2019

[45] http://www.lgb.org/information/noise_abatement/default.asp; 8/30/2019

the noise monitors are calibrated for this purpose and the data is checked periodically[46]. Due to the low number of aircraft operations and the strict noise budget, the 65 CNEL noise impact contour does not extend very far into the neighboring community and only encompasses a few residential

units at the south end of the airport runway. The airport completed a small residential sound insulation program to sound insulate 27[47] dwellings.

[46] Ron Reeves, Operations and Facilities Manager, Long Beach Airport; phone call 8/5/2019

[47] https://klgb.blogspot.com/2009/10/lb-airport-announces-quieter-home.html; 9/12/2019

Figure 12 – Long Beach Airport Location[48]

[48] Google Earth; 8/30/2019

Figure 13 – Long Beach Airport Noise Contours

Source: http://www.lgb.org/civicax/filebank/blobdload.aspx?BlobID=3357

Ontario International Airport (ONT)

Location

Ontario International Airport is located two miles east of downtown Ontario in southwest San Bernardino County, approximately 38 miles east of Downtown Los Angeles. It is positioned north/south between Interstate 10 and State Highway 60, and east/west between Interstate 15 and State Highway 83. The airport was owned and operated by the City of Los Angeles and controlled by Los Angeles World Airports prior to November 2016 when ownership was turned over to and operated by the Ontario International Airport Authority, formed under a joint-powers agreement between the city of Ontario and San Bernardino County. The airport is bordered on all sides by commercial land use, but residential land use is located within one-half mile of the west end of the airport runways to the north and south and three-quarters of a mile due west from the end of the runway. Figure 14, *Ontario International Airport Location*, shows the airport location with the neighboring land uses.

Physical and Operational Characteristics

Ontario is categorized as a medium hub airport (serving between 0.25 percent and 1.0 percent of total national enplanements) served with a pair of parallel east-west runways. Runways 8R/26L and 8L/26R measure 10,200 feet long by 150 feet wide and 12,197 feet long by 150 feet wide, respectively[49]. Aircraft operations include general aviation aircraft and scheduled commercial flights. Aircraft typically depart towards the west and arrive from the east. There is no currently no limit on the number of aircraft operations at the airport.

Existing Conditions

ONT operations for 2018 included 5.1 million annual passengers (MAP) and 751,529 tons of cargo[50]. As noted above, the airport is located near single family and multi-family residential land use (within one-half to three-quarters of a mile), and the airport completed a residential sound insulation program to sound insulate 1,599 dwellings within the 65 CNEL noise impacted area[51]. ONT maintains a permanent noise monitoring system with 15 noise monitors utilized to assist in updating aircraft noise exposure on a quarterly basis. The 65 CNEL, 70 CNEL and 75 CNEL contours from the third quarter 2016 Quarterly Noise Report are shown in Figure 15, *Ontario International Airport Noise Contours, 3rd Quarter 2016*. These contours were the last noise contours developed while LAWA operated the airport and the 2019 baseline contours would be slightly larger as operations in 2016 were lower at 4.2 MAP, assuming the same aircraft fleet mix. In the near term it is expected the aircraft fleet mix will remain similar; the fleet mix changes as air carriers replace aircraft with newer models or swap existing aircraft to accommodate changes in passenger demand.

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[49] www.airnav.com/airport/KONT; 8/7/2019

[50] http://www.flyontario.com/corporate/statistics; 8/7/2019

[51] https://www.flyontario.com/sites/default/files/part_150_updateworkshop_presentation_-_20140501.pdf' 9/12/2019

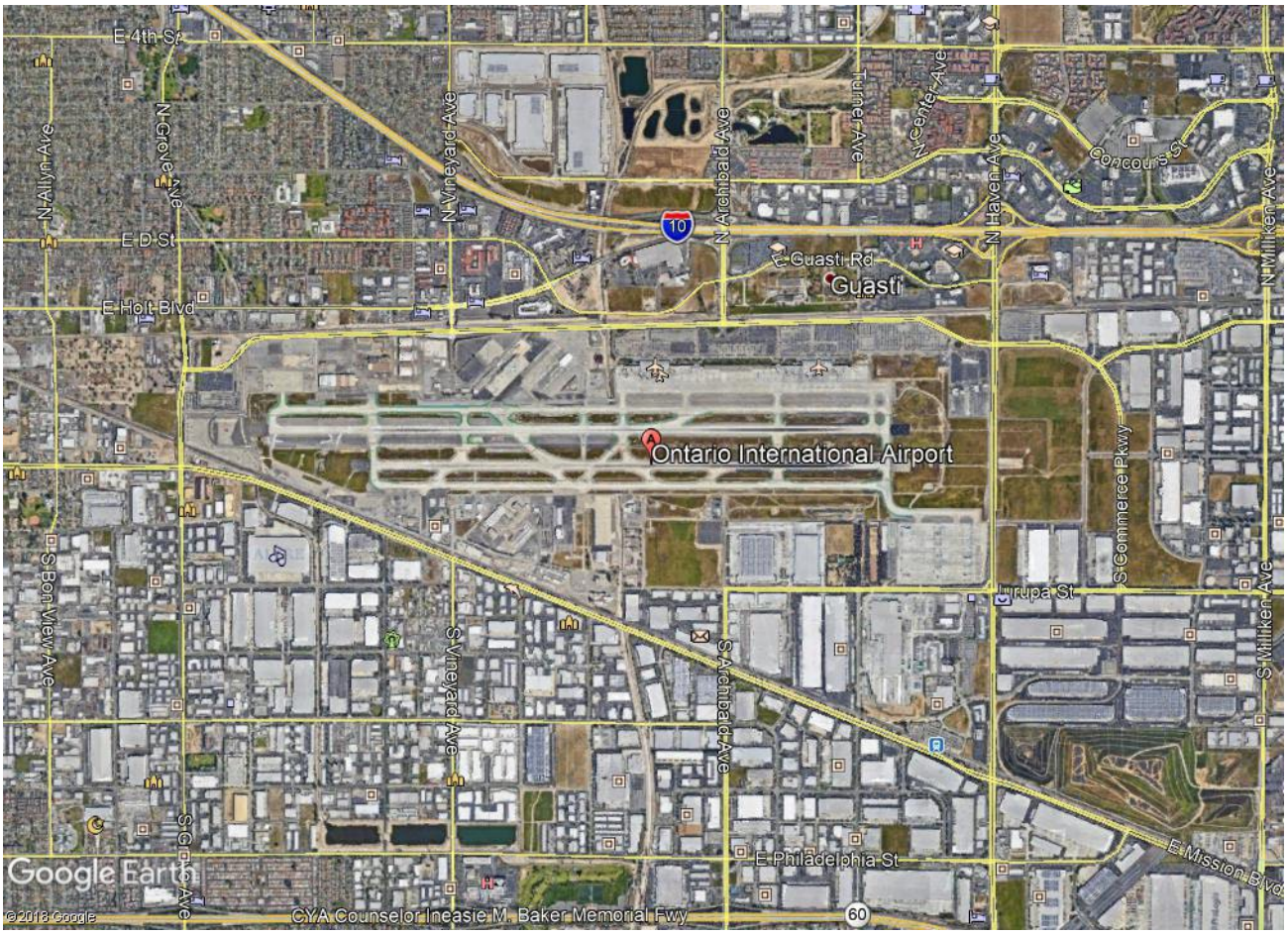


Figure 14 – Ontario International Airport Location[52]

[52] Google Earth, 8/30/2019

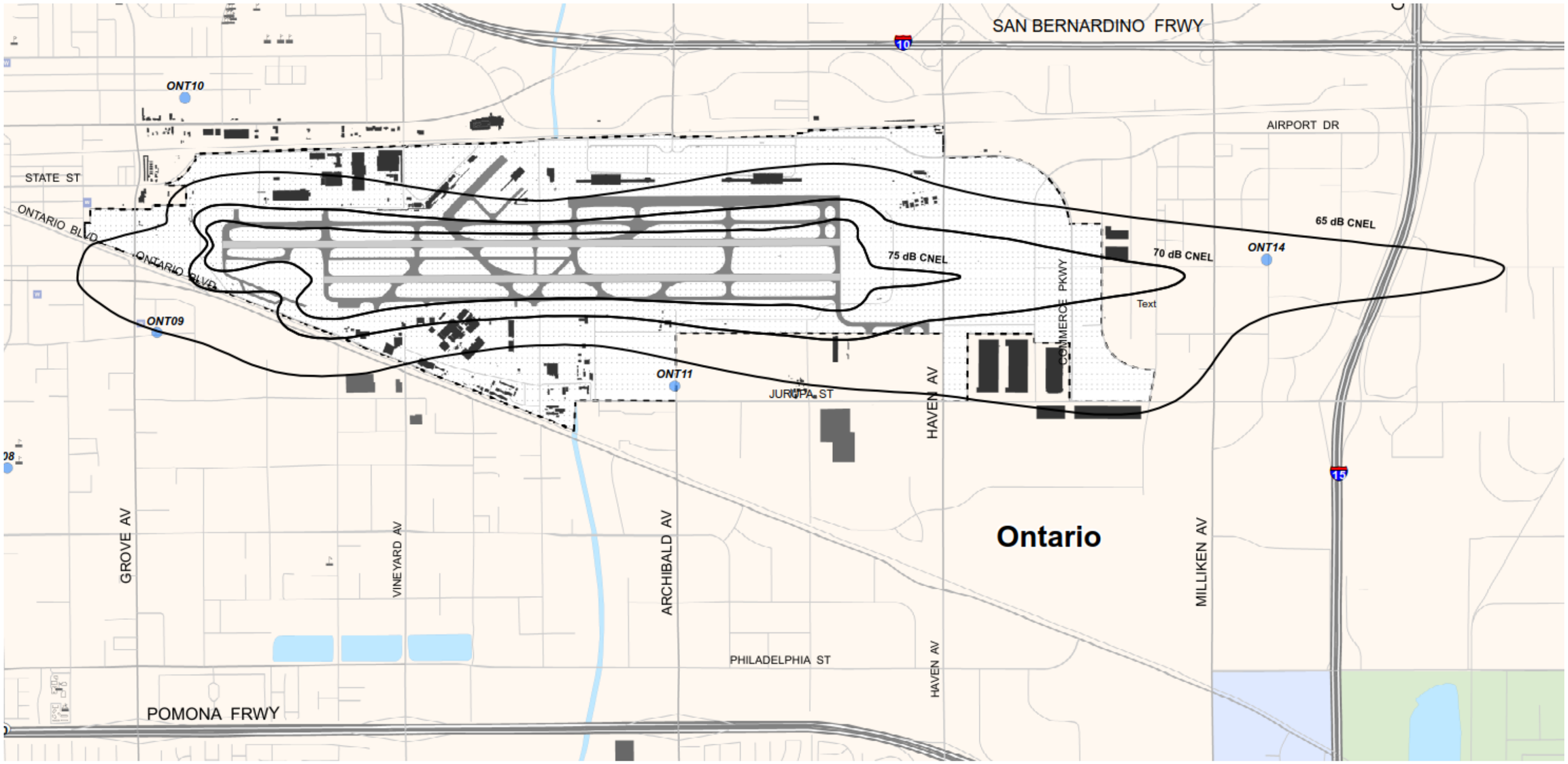


Figure 15 – Ontario International Airport Noise Contours, 3rd Quarter 2016
Source: www.flyontario.com/corporate/environment/noise-management/countour-map

Palm Springs International Airport (PSP)

Location

Palm Springs International Airport is located two miles east of downtown Palm Springs in the central portion of Riverside County. It borders State Highway 111 on the east and is 2.5 miles southwest of Interstate 10. The airport borders commercial land use to the east and has some adjacent vacant land buffers but is closely surrounded by single family residential land use approximately 0.1 miles away. Figure 16, *Palm Springs International Airport Location*, indicates the relative location of the airport to its surrounding land uses.

Physical and Operational Characteristics

PSP is categorized as a small-hub primary airport (serving between 0.05 percent and 0.25 percent of total national enplanements) served with a pair of parallel northeast-southwest runways. Runways 13R/31L and 13L/31R measure 10,000 feet long by 150 feet wide and 4,952 feet long by 75 feet wide, respectively[53]. Aircraft operations include general aviation aircraft and scheduled commercial flights. There is no currently no limit on the number of aircraft operations at the airport.

Existing Conditions

PSP operations for 2018 included 2.3 million annual passengers (MAP) with 57,665 flights[54]. The airport as noted above has residential land use within 0.1 miles of the airport. PSP has completed a residential sound insulation program to sound insulate 128[55] dwellings within the noise impacted area. The 2015 existing 65 CNEL, 70 CNEL and 75 CNEL contours from the Airport Master Plan Mitigated Negative Declaration CEQA Appendix C, Noise Modeling Technical Report Figure C-6[56] are shown in Figure 17, *Palm Springs International Airport 2015 Noise Contours*. This document also included a forecast for 2020 future conditions, shown in Figure 18, *Palm Springs International Airport 2020 Noise Contours*, which indicated that with a 9% increase in operations, the 65 CNEL contour lobes at the north and south of the runways enlarge slightly assuming the same aircraft fleet mix. In the near term it is expected the aircraft fleet mix will remain similar; the fleet mix changes as air carriers replace aircraft with newer models or swap existing aircraft to accommodate changes in passenger demand.

[53] www.airnav.com/airport/KPSP; 8/7/2019

[54] http:// www.palmspringsca.gov/government/departments/aviation-palm-springs-international-airport-psp/doing-business-at-psp/airport-administration/statistical-data; 8/7/2019

[55] www.palmspringsca.gov/home/showdocument?id=36824; 9/12/2019

[56] www.palmspringsca.gov/home/showdocument?id=36824; 8/7/2019

Figure 16 – Palm Springs International Airport Location[57]

[57] Google Earth; 8/30/2019

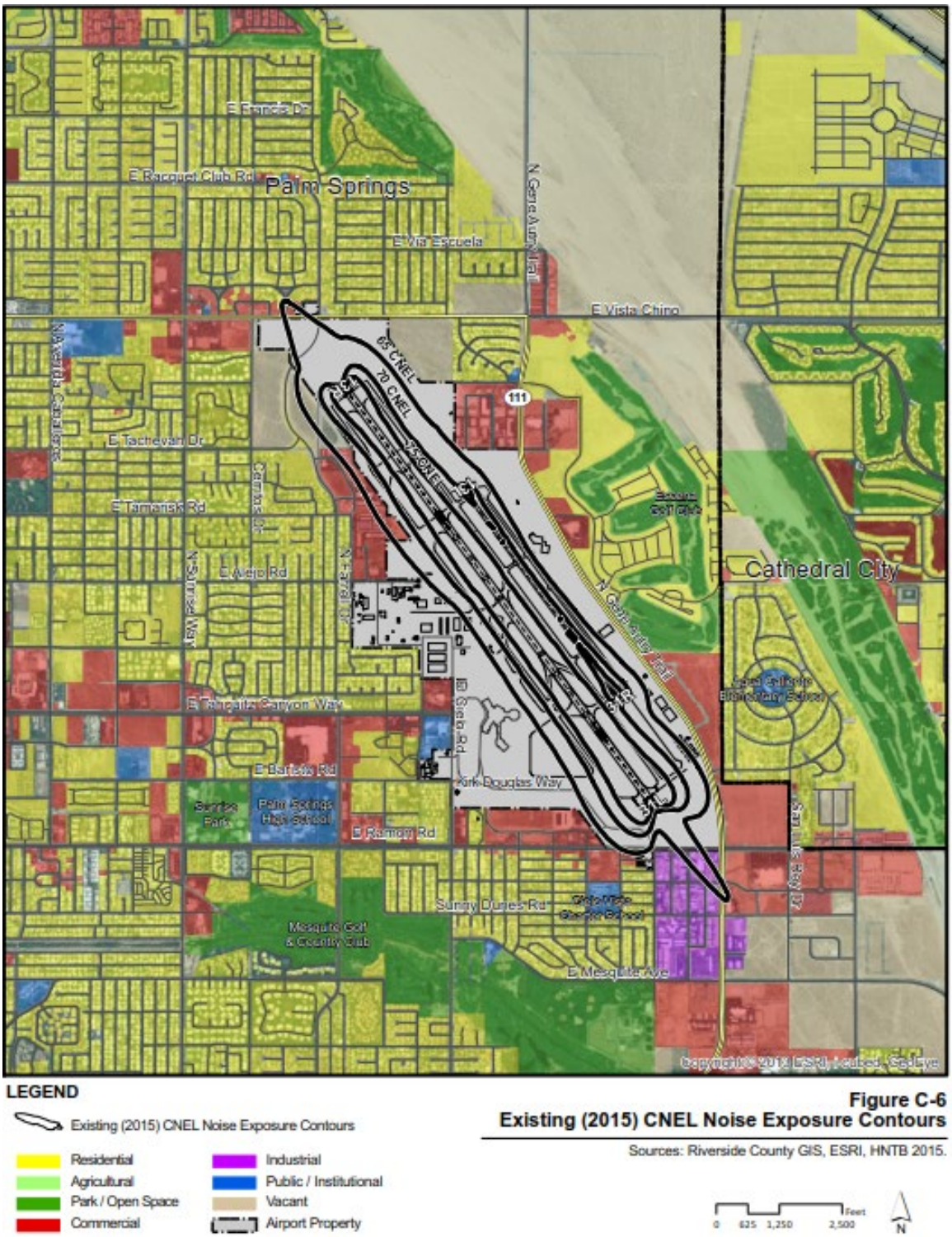
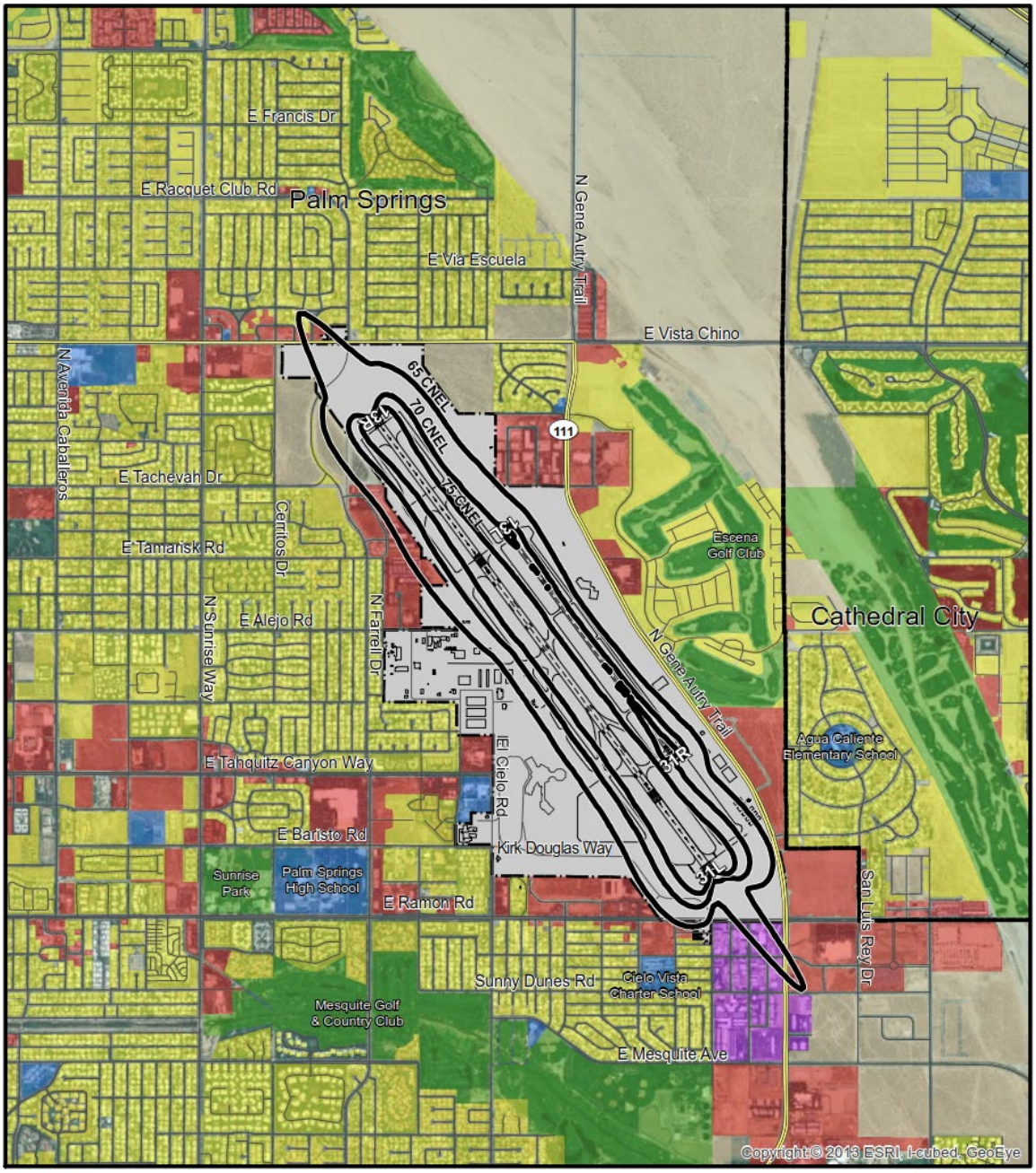


Figure 17 – Palm Springs International Airport 2015 Noise Contours

Source: Palm Springs International Airport Noise Modeling Technical Report; Thomas Nolan, Airport Director

www.veneklasen.com



LEGEND

Future (2020) CNEL Noise Exposure Contours

Residential	Industrial
Agricultural	Public / Institutional
Park / Open Space	Vacant
Commercial	Airport Property

Figure C-7
Future (2020) CNEL Noise Exposure Contours

Sources: Riverside County GIS, ESRI, HNTB 2015.

0 625 1,250 2,500 Feet

N

Figure 18 – Palm Springs International Airport 2020 Noise Contours

Source: Palm Springs International Airport Noise Modeling Technical Report; Thomas Nolan, Airport Director

www.veneklasen.com

4. AIRPORT GROWTH FORECAST

As noted above, SCAG does not have any regulatory, developmental, operational, or planning authority over the airports. Rather, SCAG is primarily a regional surface transportation planning agency that maintains a list of airport ground access projects and a consultative relationship with the airports. Therefore, SCAG is focused on air and passenger cargo activity from the perspective of how the traffic coming and going from the airports affects the region's roads, highways, and transit system. One critical aspect of SCAG's role in aviation systems and transportation planning is the Aviation Element of the Draft 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (2020 RTP/SCS) (Connect SoCal).

The 2020-2045 Connect SoCal Aviation appendix references a comprehensive review of various forecasts for aviation growth in the SCAG Region. This review concluded with the following forecasts:

- Regional air passenger transportation is anticipated to grow by an average of 2.1% annually; from 110.17 MAP in 2017 to 197.1 MAP in 2045
- Reginal air cargo transportation is anticipated to grow by an average of 3.3% annually, from 3.14 million in 2017 to 7.77 million tons in 2045
- Total regional aircraft operations are not anticipated to grow as fast as passenger and/or cargo growth. Regional aircraft operations are anticipated to grow by an average of 0.74% annually, from 3.7 million operations in 2017 to 4.58 million operations in 2045

As mentioned above, LAX is the only regional large-hub primary airport, and the operational data listed for each regional airport indicates most regional airport operations are associated with LAX. Recent statistics show that while passenger traffic has increased by approximately 1% in 2019, aircraft operations have reduced by approximately 2%. This reduction in operations, if continued, would reduce airport noise levels in the surrounding community. The LAWA department of the City of Los Angeles is also currently constructing an Automated People Mover (APM) electric train to reduce ground traffic congestion, accommodate future operational growth, and provide a direct rail connection to Los Angeles and adjacent cities[58]. The APM is planned to open for passenger services in 2023, and APM operation will reduce ground traffic and ground traffic noise.

The 2020-2045 Connect SoCal RTP/SCS addresses growth between 2017 and the horizon year 2045. The PEIR addresses impacts compared to existing conditions (2019) to the extent that data is available. Region-wide growth between 2017 to mid-year 2019 is estimated to be up to approximately 2% for air passengers and less than 0.5% for aircraft operations. For the purposes of assessing regional noise impacts from aviation, the above bulleted forecasts reasonably approximate the 2019 to 2045 time period.

As noted above, the aircraft operations growth forecast is significantly smaller than the air passenger and air cargo percentages. This is anticipated because newer aircraft carry a higher volume of passengers and carriers are running at a higher load factor than in the past. When the airlines carry more passengers per flight, the flights are more profitable and fewer flights are needed to carry the

[58] https://www.lawa.org/en/connectinglax/automated-people-mover; 8/30/2019

same volume of passengers to a specific location. This allows the airlines to schedule some of these flights to other locations and/or reduce their airport operations.

5. AIRPORT OPERATION GROWTH AND IMPACT ON AIRCRAFT NOISE LEVELS AND NOISE CONTOURS

Aircraft Operations

The noise propagating from airports is directly related to the number of aircraft operations as well as the size, aircraft type, and number and type of engines, with additional contributions from other airport activities and ground transportation (noise from ground transportation is separately addressed in the 2020-2045 Connect SoCal RTP/SCS PEIR).

In general, if the mix of aircraft remains constant, the aviation noise contours grow larger or shrink smaller as the operations increase or decrease. Noise levels do not increase algebraically as the noise sources increase but increase in a logarithmic fashion. For example, two noise sources each emitting a noise level of 60 dB add together to produce noise of 63 dB, not 120 dB. Doubling the number of noise sources increases the overall noise level by 3 dB and doubling the number of aircraft operations would also increase the overall airport noise level by 3 dB and expand the area inside the noise contours, assuming all other factors such as aircraft type, engines, flight ~~paths~~tracks, etc., remain the same.

The formula for the relative increase in aircraft noise as the noise sources increase is:

$$\Delta \text{ dB} = 10*\text{Log}(S_H/S_B)$$

S_H is the number of sources (aircraft) for the Horizon year

S_B is the number of sources (aircraft) for the base year.

Considering the growth of SCAG Region airport operations from 3.7 million to 4.58 million, if all aircraft types and operational characteristics were to remaining equal, the forecasted increase in noise would equate to 0.9 decibels. However, this average increase in aircraft operations is not the same expected increase at all airports, as different airports will experience different changes and noise contours may grow or shrink independently at each airport. The airport noise levels are expected to increase more at the popular airports such as LAX, ONT, PSP and BUR, while noise levels at airports currently with noise and/or operations restraints as well as less popular airports are expected to increase less. The details needed to computer model the airport noise level changes over the forecast period are not available to provide specific changes. Additionally, airports across the nation have received an increase in noise complaints since implementation in 2015 of FAA's *NextGen* program to modernize the nation's air transportation system[59]. One aspect of *NextGen* utilizes satellite navigation that precisely direct aircraft flight tracks for more efficient performance,

[59] https://www.faa.gov/nextgen/. 9/20/2019

reducing fuel costs and associated carbon emissions, and to increase overall flight capacity[60]. Aircraft flight track changes in some cases moved flights over areas that previously did not experience overflights or concentrated aircraft over areas that already experienced overflights, and airport noise complaints increased[61]. As the FAA and SCAG region airports such as LAX and BUR[62] wrestle with the contending issues of an efficient airspace and noise complaints, it is unclear whether aircraft flight tracks will remain constant, further complicating the details needed for forecasting airport noise level changes over the forecast period.

Changes to Size of Planes (Change to Fleet Mixes) and Technological Changes to Aircraft Engines

The aircraft industry continues to develop aircraft with higher capacity, lower fuel consumption, and lower carbon emissions, but as it does, the industry must also comply with FAA and international aircraft compliance requirements. One of these requirements regards the aircraft noise. The noise of aircraft is classified into various Stages, with current Stage 3 and 4 aircraft operating quieter than previously used Stage 2 aircraft. Stage 3 aircraft measure between 7 and 20 EPNdB (Effective Perceived Noise Level, decibels) quieter than State 2 aircraft, while Stage 4 aircraft are an additional 10 EPNdB quieter than Stage 3 aircraft. Stage 2 aircraft no longer fly in the U.S., with some exceptions for lighter weight aircraft, taking the noisiest aircraft out of service. As airlines replace older and noisier Stage 3 aircraft with quieter Stage 4 aircraft, the aircraft fleet becomes quieter. As a recent example, American Airlines retired the last of its Stage 3 compliant McDonnell Douglas MD-80 aircraft in September 2019, and looks to replace the aircraft with more fuel-efficient aircraft with lower maintenance costs[63].

Even as the aircraft fleet mix changes to include more larger planes with more powerful engines, the requirements to comply with the quieter Stage 4 noise levels will result in a quieter aircraft fleet. The FAA in 2018 adopted regulations requiring newly designed aircraft to meet even quieter Stage 5 requirements with a reduction of 7 EPNdB, and as these aircraft come into service (and some aircraft currently in operation already meet this standard), this will lower the aircraft noise level further.

It is possible that in the long term, as aircraft operations grow over the next 25 years, the lower noise levels of aircraft will offset the increased operations to maintain or even reduce the aircraft noise contour footprints around SCAG Region airports. This has been the general trend in aviation noise over the previous 40 years. It may also be possible that the growth in operations at some airports may overtake the trend toward a quieter aircraft fleet and cause aircraft noise and the noise contours to increase. These issues will continue to be the focus of the airport noise offices to ensure

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[60] https://www.faa.gov/nextgen/how_nextgen_works/; 9/20/2019

[61] https://www.washingtonpost.com/local/trafficandcommuting/advances-in-airport-technology-mean-sleepless-nights-for-some/2016/03/04/7b8eb936-e098-11e5-9c36-e1902f6b6571_story.html; 9/20/2019

[62] https://www.latimes.com/california/story/2019-09-16/hollywood-burbank-airport-noise-rattles-residents-who-want-flights-spread-over-wider-area; 9/20/2019

[63] https://www.nbcsandiego.com/news/california/American-Airlines-Retires-the-Last-of-Its-Iconic-MD-80-Jets-560489551.html; 9/20/2019

the continued success of the airport economy considers the environmental health of the community surrounding it.

Conclusion Regarding Changes to Noise Contours and Regional Aviation Noise Impact

As aircraft operations increase, it is expected that noise contours would grow and receptors close to airport could experience a higher cumulative noise level. While the individual aircraft operational noise level is not louder, the increased operations causes more noise events which, in turn, increases the CNEL. However, as the fleet mix changes to include quieter aircraft (even though aircraft may be bigger), these changes are anticipated to somewhat offset noise level increases caused by the increased operations. Because the noise profiles of future aircraft types and their engines are unknown, as is the timeframe for phasing out older aircraft and replacing them with newer aircraft, we cannot speculate on the overall impact of the forecasted increase in operations with a future aircraft fleet mix. Conservatively we conclude that sensitive receptors may experience greater noise impacts than at present in the vicinity of airports.

In summary, aircraft noise would increase in the vicinity of most regional airports due to increased operations causing noise contour growth. However, over time decreases in aircraft noise could occur due to a quieter fleet mix as new aircraft are incorporated, causing noise contours to shrink.