

3.17 TRANSPORTATION, TRAFFIC, AND SAFETY

This section of the Program Environmental Impact Report (PEIR) describes the existing traffic and transportation networks within the SCAG region, identifies the regulatory framework with respect to laws and regulations that address transportation, and analyzes the potential impacts of the Connect SoCal Plan (“Connect SoCal” or “Plan”). In addition, this PEIR provides regional-scale mitigation measures as well as project-level mitigation measures to be considered by lead agencies for subsequent, site-specific environmental review to reduce identified impacts as appropriate and feasible.

3.17.1 ENVIRONMENTAL SETTING

Southern California’s extensive roadway network facilitates the constant movement of people and goods throughout the area. The region’s complex intermodal network facilitates transportation via highways, transit, passenger and freight rail, airports, and seaports. The regional roadway system consists of an interconnected network of interstates, freeways, highway, toll roads, arterial streets, and local streets. This roadway network allows for the operation and movement of private vehicles, commercial vehicles, private and public buses, and heavy-duty trucks. Active transportation modes, such as biking and walking use non-motorized transportation facilities, including bikeways and walkways that often share spaces with roadway facilities. As traffic worsens and pressure to act on climate change mounts, local jurisdictions have placed an emphasis on the importance of the integration of active transportation modes in transportation planning.

The regional public transit system includes local shuttles, municipal and area-wide bus operations, light rail transit operations, regional commuter rail services, and interregional passenger rail service. The freight railroad network includes an extensive system of private railroads and several publicly owned freight rail lines serving industrial cargo and goods. The airport system consists of commercial, general, and military aviation facilities serving passenger, freight, business, recreational, and defense needs. The region’s seaports support substantial international and interregional freight movement and tourist travel. Intermodal terminals, consisting of freight processing facilities, transfer, store, and distribute goods across the region and the globe.

3.17.1.1 Definitions

Terms and criteria used in the assessment of traffic, transportation, and safety are described below.

California Transportation Plan (CTP): This is a statewide, long-range transportation plan to meet future mobility needs and reduce greenhouse gas emissions.¹ The CTP defines performance-based goals, policies, and strategies to achieve the collective vision for California's future, statewide, integrated, multimodal transportation system.

Congestion Management Plan (CMP): This is a state-mandated program enacted by the legislature to address the increasing concern that urban congestion is affecting economic vitality and diminishing quality of life in some communities. The CMP provides the analytical basis for transportation decisions through the State Transportation Improvement Program (STIP).

Congestion Management Agency (CMA): A CMA is a county-wide body comprised of local elected officials. The CMA administers the CMP to keep traffic levels manageable. In the past, state gas tax revenue had historically been used to fund road and highways. With the passage of Proposition 111 in the 1990s, state gas tax and directed revenue are provided to fund road, bicycle, pedestrian, and public transit projects in addition to highways to help manage congestion for multi-modal purposes. CMA is charged with coordinating land use, air quality, and transportation planning among the local jurisdictions, including monitoring the levels of congestion on major roads and analyzing the impacts that a proposed development will have on future traffic congestion.

Complete Streets: Planned, designed, operated and maintained for safe, convenient, and comfortable travel and access for users of all ages and abilities, will support people who are walking, bicycling, and using micro-mobility devices.

Complete Streets is a transportation policy and design approach that requires streets to be planned, designed, operated, and maintained to enable safe, convenient and comfortable travel and access for users of all ages and abilities regardless of their mode of transportation

Goods Movement: Refers to the transportation of for-sale products from the location of their manufacture or harvest to their final retail destination.

Level of Service (LOS): In the context of traffic analysis, this is a measure used to relate the quality of traffic service. LOS is used to analyze highways by categorizing traffic flow and assigning quality levels of traffic based on performance measures such as speed and density.

Million Annual Passengers (MAP): Number of people taking public transit, airline flight, bus, or train calculated expressed in the unit of 100,000 in terms of boarding counts.

¹ California Department of Transportation. 2013. *California Transportation Plan 2040: Fact Sheet*. April.

Peak Hour: The part of the day during which traffic congestion on roads and crowding on public transport is at its highest.

Safety: Protection of persons and property from unintentional damage or destruction caused by accidental or natural events.

Transportation Demand Management (TDM): Strategies and actions directed at influencing the mode, frequency, time, route, or length of travel in order to maximize the efficiency and sustainable use of transportation facilities. TDM strategies typically include providing information on travel choices; managing parking, marketing and communications, financial incentives, and disincentives; providing and operating facilities that make the use of non-solo driving more attractive; and encouraging telework and flexible work strategies.

Transportation System Management (TSM): Transportation system management refers to a set of strategies that largely aim to reduce greenhouse gas (GHG) emissions by reducing congestion, primarily by improving transportation system capacity and efficiency. TSM strategies may also address a wide range of other externalities associated with driving such as pedestrian/driver safety, efficiency, congestion, travel time, and driver satisfaction. Some TSM strategies are designed to reduce total and systemic congestion and improve system-wide efficiency, while other strategies target particularly problematic areas where improvements could greatly affect congestion, safety, efficiency, and GHG emissions.

Vehicle Miles Traveled (VMT): The number of VMT provides an indicator of the travel levels of the roadway system by motor vehicles in a given time period. This number is estimated based upon traffic volume counts and roadway length.

Vehicle Hours of Delay (VHD): The number of VHD provides an indicator of congestion levels of a roadway.

3.17.1.2 Circulation System

Commute Patterns and Travel Characteristics

The existing transportation network serving the SCAG region supports the movement of people and goods. On a typical weekday in the six-county region, the transportation network supports over 460 million vehicle miles of travel (VMT) and nearly 13 million vehicle hours of travel (VHT). Of this total, over half occur in Los Angeles County and less in Orange, San Bernardino, Riverside, Ventura, and

Imperial Counties, respectively (**Table 3.17-1, Summary of Existing Daily Vehicle Miles and Percentage Vehicle Hours of Travel**).

Much of the existing travel in the SCAG region takes place during periods of congestion, particularly during the morning (6:00 AM to 9:00 AM) and evening peak periods (3:00 PM to 7:00 PM). Congestion can be quantified as the amount of travel that takes place in delay (vehicle hours of delay or VHD) and, alternately, as the percentage of all travel time that occurs in delay (defined as the travel time spent on the highway due to congestion, which is the difference between VHT at free-flow speeds and VHT at congested speeds). Existing travel delays and percent of regional VHT in delay ranges from a low of 1 percent delay in Imperial County on freeways and arterials to 56 percent in Los Angeles County, with an average of approximately 17 percent in the SCAG region (see **Table 3.17-2, Summary of Existing Delay and Work Trip Length; Figure 3.17-1, 2019 AM Peak Period Congestion Delay on the Regional Freeway System; Figure 3.17-2, 2045 AM Peak Period Congestion Delay on the Regional Freeway System; Figure 3.17-3, 2019 PM Peak Period Congestion Delay on the Regional Freeway System; and Figure 3.17-4, Plan 2045 PM Peak Period Congestion Delay on the Regional Freeway System**). There is variation in average travel distance from home to work, from approximately 11 miles in Imperial County, to approximately 21 miles in Riverside and San Bernardino Counties, the difference in average travel time during the peak hours ranges from a low of approximately 15 minutes in the a.m. peak hour in Imperial County to a high of approximately 33 minutes in Riverside County (**Table 3.17-2**). Home-to-work trip duration and distance are both greater for the inland counties of Riverside and San Bernardino, reflecting regional housing and employment distribution patterns.

The characteristics of home-to-work trip and all daily trips vary widely among counties (**Table 3.17-3, Existing Travel Mode Split [Percentage of County Total]**). On average, vehicular trips account for approximately 93 percent of home to work/university trips, including 69.62 percent in single occupancy trips, 9.41 percent in two-person carpools, 6.7 percent in three-person carpools, and 7.64 percent in auto passenger trips. When accounting for all daily trips, on average vehicular trips account for approximately 88 percent of all daily trips, including 36.77 percent in single occupancy trips, 13.89 percent in two-person carpools, 8 percent in three-person carpools, and 29.39 percent in auto passenger trips. Public transit in all forms (including school buses) carries approximately 3.67 percent of all trips in the SCAG region. Of these, the greatest number of travelers is carried by buses, with lesser patronage on Metro Rail, paratransit, commuter rail, and other forms of public transit services. Trips made via public transit account for 3.9 percent of all home-to-work trips in the region and 3.67 percent of all daily trips (**Table 3.17-3**). Non-motorized trips account for 2.73 percent of all home-to-work trips in the region and 8.27 percent of all daily trips (**Table 3.17-3**).

**Table 3.17-1
Summary of Existing (2019) Daily Vehicle Miles and Percentage Vehicle Hours of Travel**

County	Vehicle Miles of Travel (VMT)						Vehicle Hours of Travel (VHT)					
	A.M. Peak Period		P.M. Peak Period		Daily		A.M. Peak Period		P.M. Peak Period		Daily	
	Miles	% of Region	Miles	% of Region	Miles	% of Region	Hours	% of Region	Hours	% of Region	Hours	% of Region
Imperial	1,271,630	1%	1,778,405	1%	6,972,810	2%	26,196	1%	35,949	1%	138,217	1%
Los Angeles	48,039,409	51%	67,738,731	50%	231,455,396	50%	1,629,854	56%	2,386,111	57%	7,237,696	56%
Orange	16,915,098	18%	23,360,202	17%	79,199,680	17%	512,120	18%	734,225	18%	2,198,344	17%
Riverside	12,249,014	13%	17,697,848	13%	60,611,222	13%	309,097	11%	442,695	11%	1,373,510	11%
San Bernardino	12,569,173	13%	17,843,149	13%	62,675,991	14%	307,050	11%	438,328	10%	1,398,218	11%
Ventura	4,034,942	4%	5,741,082	4%	19,238,217	4%	102,168	4%	150,881	4%	467,879	4%
Total	95,079,266	100%	134,159,418	100%	460,153,316	100%	2,886,484	100%	4,188,189	100%	12,813,866	100%

Source: SCAG Modeling, 2019

**Table 3.17-2
Summary of Existing (2019) Delay and Work Trip Length**

County	Vehicle Hours of Delay			% of Travel in Delay			Average Home-to-Work Trip Distance (miles)	Average Home-to-Work Trip Duration (minutes)	
	A.M. Peak Period	P.M. Peak Period	Daily	A.M. Peak Period	P.M. Peak Period	Daily	Vehicle Trips (A.M. Only)	Vehicle Trips (A.M. Only)	Transit Trips (A.M. only)
Imperial	1,834	2,830	9,631	0%	0%	0%	11.20	15.02	19.13
Los Angeles	462,855	751,645	1,686,548	65%	64%	67%	17.16	29.40	22.29
Orange	130,227	213,017	431,378	18%	18%	17%	16.00	24.74	21.51
Riverside	53,204	89,776	172,164	8%	8%	7%	20.68	32.65	20.13
San Bernardino	47,031	79,787	152,870	7%	7%	6%	20.63	30.58	20.84
Ventura	14,156	28,807	55,099	2%	2%	2%	17.62	25.36	20.26
Total	709,307	1,165,862	2,507,690	100%	100%	100%	17.53	28.57	21.59

Source: SCAG Modeling, 2019

**Table 3.17-3
Existing (2019) Travel Mode Split (Percentage of County Total)**

County	Person Trip Type	Drive Alone	2-Person Carpool	3-Person Carpool	Auto Passenger Trip	Transit	Non-Motorized	Total
Imperial	Home-Work/Univ	62.83%	10.40%	9.97%	6.27%	0.40%	10.13%	100%
	All Daily Trips	30.40%	13.66%	8.88%	27.29%	1.54%	18.22%	100%
Los Angeles	Home-Work/Univ	68.29%	9.17%	6.42%	7.66%	5.80%	2.66%	100%
	All Daily Trips	37.77%	13.58%	7.64%	28.62%	4.71%	7.68%	100%
Orange	Home-Work/Univ	70.75%	9.55%	6.93%	8.49%	1.82%	2.46%	100%
	All Daily Trips	39.95%	13.61%	7.52%	28.66%	2.50%	7.77%	100%
Riverside	Home-Work/Univ	73.33%	9.76%	6.74%	6.41%	0.98%	2.77%	100%
	All Daily Trips	31.33%	15.14%	9.22%	32.50%	2.29%	9.53%	100%
San Bernardino	Home-Work/Univ	71.98%	10.09%	7.27%	7.18%	1.14%	2.34%	100%
	All Daily Trips	33.74%	14.44%	9.08%	31.48%	2.53%	8.74%	100%
Ventura	Home-Work/Univ	69.85%	9.42%	7.33%	7.08%	1.93%	4.39%	100%
	All Daily Trips	36.05%	14.17%	8.10%	28.76%	2.29%	10.63%	100%
Total	Home-Work/Univ	69.62%	9.41%	6.70%	7.64%	3.90%	2.73%	100%
	All Daily Trips	36.77%	13.89%	8.00%	29.39%	3.67%	8.27%	100%

Source: SCAG, 2019

Regional Freeway, Highway, and Arterial System

The regional freeway, highway, and arterial system is the primary means of person and freight movement for the region (**Table 3.17-4, Existing Regional Freeway Route Miles and Lane Miles by County [2019]**). This system provides for direct auto, bus and truck access to employment, services and goods. The network of freeways, interstates, and highways serves as the backbone of the system, offering very high capacity limited-access travel and the primary heavy-duty truck route system. Deferred maintenance on roadways within the SCAG region has contributed significantly to the poor condition of many roadways and many need costly repairs to improve security and efficiency. The Plan will focus on preserving the existing transportation network, including preservation of roads, highways, bridges, railways, bicycle and pedestrian facilities, and transit infrastructures that lead to maintain mobility and provide cost-efficiency without increasing capacity.

**Table 3.17-4
Existing Regional Freeway Route Miles and Lane Miles by County (2019)**

County	Freeway Route Miles	Freeway Lane Miles
Imperial	95	380
Los Angeles	656	4687
Orange	227	1661
Riverside	319	1821
San Bernardino	471	2558
Ventura	94	536
Total	1,863	11,642

Source: SCAG Modeling, 2019

Arterial Street System

The local street system provides access for local businesses and residents. Principal arterials account for more about 79 percent of the arterial (principal and minor) network (**Table 3.17-5, Existing Regional Arterial Lane Miles by County [2019]**) and carry a high percentage of total traffic. In many cases arterials serve as alternate parallel routes to congested freeway corridors. Peak period congestion on the arterial street system occurs generally in the vicinity of activity centers, at bottleneck intersections and near many freeway interchanges.

**Table 3.17-5
Existing Regional Arterial Lane Miles by County (2019)**

County	Arterials	Lane Miles
Imperial	Principal	271
	Minor	556
Los Angeles	Principal	8,380
	Minor	8,983
Orange	Principal	3,589
	Minor	2,776
Riverside	Principal	1,152
	Minor	2,972
San Bernardino	Principal	1,753
	Minor	3,900
Ventura	Principal	810
	Minor	997
SCAG Total	Principal	15,955
	Minor	20,184

Source: SCAG Modeling, 2019

Regional High-Occupancy Vehicle (HOV) System and Park and Ride System

The regional HOV system consists of exclusive lanes on freeways and arterials, as well as busways and exclusive rights-of-way dedicated to the use of high-occupancy vehicles (HOVs). As described in **Table 3.17-6, Existing Regional High-Occupancy Vehicle Lane Miles by County (2019)**, the HOV system includes lanes on freeways, ramps and freeway-to-freeway connectors. The regional HOV system is designed to maximize the person-carrying capacity of the freeway system through the encouragement of shared-ride travel modes. HOV lanes operate at a minimum occupancy threshold of either two or three persons. Many include on-line and off-line park and ride facilities, and several HOV lanes are full “transitways” including on-line and off-line stations for buses to board passengers.

Park and ride facilities are generally located at the urban fringe along heavily traveled freeway and transit corridors and support shared-ride trips, either by transit or by carpool or vanpool. Most rail transit stations have park and ride lots nearby. Park and ride lots in the SCAG region include: 106 in Los

Angeles County, 25 in Orange County, 26 in Riverside County, 18 in San Bernardino County, and 20 in Ventura County.²

Table 3.17-6
Existing Regional High-Occupancy Vehicle Lane Miles by County (2019)

County	HOV Total Lane Miles
Imperial	0
Los Angeles	483
Orange	252
Riverside	80
San Bernardino	114
Ventura	8
Total	935

Source: SCAG Modeling, 2019.

3.17.1.3 Public Transit

In Southern California public transit service is comprised of local and express buses, transitways, Rapid Bus, bus rapid transit (BRT), urban rail, including subway and light rail principally centered in the core of Los Angeles County, commuter rail that spans five counties and shuttles/circulators that feed all transportation modes and activity centers (**Table 3.17-7, SCAG Region Annual Fixed Route Transit Ridership**). Transit service is provided by approximately 67 separate public agencies. Twelve of these agencies provide 91 percent of the existing public bus transit service. Local service is supplemented by municipal lines and shuttle services while additional regional service is offered via private bus companies.

Many people depend on reliable transit service to participate in the economic, cultural, and social benefits of Southern California, and transit use is growing in the SCAG region (**Table 3.17-8, Statistics for Major Transit Operators for 2017**). According to data reported to the National Transit Database (NTD), transit agencies in the SCAG region experienced 655 million annual boardings and invested \$2.91 billion in operations and maintenance (O&M) in FY 2015–16. These services were operated by over 100 agencies, involving a wide variety of bus and rail transit modes.³

² IE511.org. 2018. *Southern California Park and Ride Lot Map*. Available online at: <http://www.ie511.org/rideshare/park-and-ride>, accessed January 31, 2019.

³ SCAG Connect SoCal, Transit Technical Report, 2019

Table 3.17-7
SCAG Region Annual Fixed Route Transit Ridership

Total Trips	2005	2008	2010	2012	2015	2016	2018
Metro Rail	74,242,912	86,707,131	95,596,698	101,516,533	106,974,667	108,089,770	108,017,525
Commuter Rail	10,693,327	12,680,973	7,398,000	13,155,790	10,693,000	13,758,419	12,681,000
Bus	611,308,450	627,639,691	548,728,000	587,830,836	609,795,000	525,376,865	622,286,000
Total	696,244,689	727,027,795	617,928,000	702,503,159	694,731,000	647,225,054	721,674,000
Passenger Miles	2005	2008	2010	2012	2015	2016	2018
Metro Rail	442,916,123	524,813,417	564,179,659	597,916,365	634,484,952	651,537,856	565,149,658
Commuter Rail	359,938,222	436,565,493	274,625,402	433,650,956	359,938,222	425,150,283	436,565,493
Bus	2,375,502,229	2,461,654,000	2,206,840,397	2,487,359,821	2,375,502,229	2,206,425,695	2,461,654,000
Total	3,178,356,574	3,423,032,910	3,045,645,458	3,518,927,142	3,369,925,403	3,283,113,834	3,463,369,151

Source: Metro, Interactive Estimated Ridership Stats, available online at: <http://isotp.metro.net/MetroRidership/Index.aspx>

Table 3.17-8
Statistics for Major Transit Operators for 2017

County	Largest Transit Operator	Average Weekday Boardings	Annual Boardings	Annual Vehicle Revenue Miles (VRM)	Passenger Fares as a % of Operation Expenses*
Fixed Bus Route Service					
Imperial	ICTC	2,914	815,712	1,190,021	11.2
Los Angeles	Metro	1,287,264	407,153,682	128,562,258	17.5
Orange	OCTA	138,739	42,863,498	40,725,024	10.5
Riverside	RTA	28,916	8,741,975	12,874,210	14.4
San Bernardino	Omnitrans	38,817	11,658,596	11,389,327	16.7
Ventura	Gold Coast Transit	11,676	3,718,811	2,927,067	14.5
Metro Rail					
Los Angeles	Metro	359,016	217,948,048	23,709,764	N/A
Regional Commuter Rail					
Various	SCRRA (Metrolink)	51,276	14,396,198	13,133,012	36.7

Source:

National Transit Database. 2018. Annual Agency Profile, Region 9. Available online at: <https://www.transit.dot.gov/ntd/transit-agency-profiles>, accessed September 24, 2019; and

Metro. Interactive Estimated Ridership Stats, 2017. Available online at: <http://isotp.metro.net/MetroRidership/Index.aspx>, accessed November 11, 2019.

Metro Rail System

Existing urban rail lines (Metro Rail) are located in Los Angeles County and are operated by Metro. They include the Metro Blue Line from Long Beach to Downtown Los Angeles, the Metro Green Line from Redondo Beach to Norwalk, the Metro Expo Line from Downtown Los Angeles to Santa Monica, and the Metro Red Line subway from Union Station to North Hollywood. The Metro Purple Line subway follows the Red Line from Union Station to Wilshire and Vermont but branches off to Western Avenue, and the Metro Gold Line that runs from East Los Angeles (Atlantic station) to Azusa via Union Station (shown in **Figure 2.0-3, Existing Transit Network [2018]**). The Metro Rail system is operated seven days a week. A system total of 98 route miles serves a total of 93 stations. Ridership on the Metro Rail system is approximately 359,000 boardings every day.

Commuter Rail and Intercity Passenger Rail

Commuter rail service is operated by the Southern California Regional Rail Authority (SCRRA). In October of 1992, the SCRRA began initial operation of the Metrolink commuter rail system on three lines. Service on the initial system was greatly expanded after the 1994 Northridge earthquake. Currently SCRRA operates seven routes including five from Downtown Los Angeles to Ventura, Lancaster, San Bernardino, Riverside, and Oceanside, from San Bernardino to Oceanside, and from Riverside via Fullerton or City of Industry to Downtown Los Angeles. As of Q3 2018-19, the system operated 173 trains on weekdays, 48 on Saturdays, and 42 on Sundays to 62 stations on 538 route miles. Average weekday ridership is approximately 38,436 passengers.⁴

Amtrak provides significant regional and interregional service on the Los Angeles–San Diego–San Luis Obispo (LOSSAN) Corridor (also known as Amtrak’s Pacific Surfliner corridor) operating 12 daily round-trip services, with service to Los Angeles Union Station (**Figure 3.17-5, Amtrak Railways**). Additionally, Amtrak operates four interstate routes within the region (Coast Starlight, Sunset Limited, Southwest Chief and Texas Eagle) that on average have one daily trip.⁵

Shuttles and Demand-Responsive Services

One component of the region’s public transit system consists of publicly operated or funded demand-response taxis and dial-a-ride services; some open to the general public, others limited to elderly and disabled use. It also includes locally operated or funded shuttle buses (e.g., Los Angeles DASH, Pasadena

4 Southern California Regional Rail Authority. 2018. *Facts and Numbers*. Available online at: <https://www.metrolinktrains.com/about/agency/facts--numbers/>, accessed September 24, 2019.

5 Amtrak. 2018. *Amtrak Routes and Destinations*. Available online at: <https://m.amtrak.com/h5/r/www.amtrak.com/routes.html>, accessed September 24, 2019.

ARTS, Glendale Beeline, Cerritos on Wheels, El Monte Transit, Riverside Orange Blossom, etc.). Access Paratransit, the largest provider of transportation services for the disabled in the region, operates in the vicinity of fixed-route bus and rail lines in Los Angeles County and extends into portions of the surrounding counties of San Bernardino, Orange and Ventura. These systems serve as local shuttles, internal circulators, connectors to other public transit, or as shoppers' shuttles. Service on these systems is usually limited to a prescribed geographic area.⁶

3.17.1.4 Active Transportation and Non-Motorized Transport

The California Active Transportation Program (ATP) was created to ensure all active modes of transportation, such as biking and walking, was accounted to meet the development of active transportation plans in disadvantaged communities as well as the implementation of non-infrastructure projects (i.e. education, enforcement activities). The use of bicycle as a means of transportation has several appealing aspects for an increasing share of travelers.

Bicycle and Pedestrian Facilities

Biking and walking primarily constitute non-motorized transportation. Non-motorized transportation plays a bigger role in the densely-populated, mixed-land-use areas of the region. Bicycling has positive air quality, economic, and health impacts, and can reduce automobile-related congestion and energy use. Similar to bicycle use, walking can also reduce auto emissions of both criteria pollutants and greenhouse gases from auto trips. Health in communities improve when there are options to increase physical outcome of activities, lower body weight, lower rates of traffic injuries, lower air pollution, and improve mobility for nondrivers. Currently, 32 percent of all walking trips are less than half a mile, and 59 percent of walking trips are less than a mile. The average bicycle trip is 3.1 miles (the majority of bicycle trips are discretionary). Walking trips made up 3.4 percent of all commute trips and 8 percent of all trips for the SCAG region. Bicycles make up 1.3 percent of all trips and 0.8 percent of commute trips for the SCAG region.⁷

The region's bikeways encourage non-motorized travel, serve as recreational facilities, and provide inexpensive, environmentally friendly transportation opportunities. Some of the strategies to encourage active transportation currently being considered are focused on addressing concerns related to equity and public health, refining models to account for recent changes in shared mobility, improving first-last mile

⁶ Access Services. *About Us*. Available online at: https://accessla.org/about_us/overview.html, accessed September 24, 2019.

⁷ Southern California Association of Governments. November 2019. SCAG Active Transportation Technical Report.

infrastructure, and improving compact community development through targeted High Quality Transit Areas (HQTAs). The bikeways are also designated to provide for allowable use and to encourage active use. Class I bikeways are separate shared-use paths also used by pedestrians, Class II bikeways are striped lanes in streets, and Class III bikeways are signed routes. There are approximately 5,075 bikeway miles in the region, with the majority in Los Angeles County, followed by Riverside and Orange County. Bike rack, locker, and station programs are ongoing in a number of cities and transit operators. In addition, transit operators are integrating bicycle transportation with transit via bus bike racks, bike-on-train programs and bicycle lockers at transit centers. **Figure 3.17-6, Existing Regional Bikeways**, and **Figure 3.17-7, Existing and Proposed Regional Bikeways (2045)**, show the existing and proposed bikeways in the SCAG region.

Pedestrian access at and near public transit, in most major commercial areas, and many residential areas is facilitated by sidewalks, a number of pedestrian malls, and in some cases local jogging and pedestrian trails or paths.

Micro-transit

Micro-transit is more flexible than traditional bus service in that it either utilizes dynamic routing, smaller vehicles or on-demand service that allows greater efficiency and convenience. Some micro-transit services exist in Southern California, but it can and must expand in order to meet riders' shifting needs and expectations. While accommodations should be made for those who do not possess smartphones or other technology to hail a ride or research a route, most transit riders could benefit from micro-transit.

Los Angeles Metro and Orange County Transportation Authority have partnered with private companies to pilot micro-transit services in their respective counties. These are projects that could change the way people ride transit, giving riders more options.

Micro-mobility

Micro-mobility strategies provide shared technology infrastructure and regulation frameworks to ensure that new technologies (e.g. app-based e-scooters and e-bikes) can be used safely and responsibly. These strategies range from incentives for the purchase of e-bikes, to the distribution of private micro-mobility devices that help ensure access for low-income communities. While it is expected that many of these devices will be provided through the private sector, they will still use public streets and will likely increase demand for separated facilities that are safe for all ages and abilities. Local cities will likely be tasked with the regulation of these devices and will likely need to manage the locations where parking is allowed and where they can be ridden.

3.17.1.5 Goods Movement

Goods movement generally refers to the movement of raw, semi-finished, and finished materials and products used by businesses and residents across the transportation system. These goods move in myriad ways and through complex systems, often using multiple modes of transportation (e.g., ships, trucks, trains, planes, etc.). Products can be produced within the U.S. or another country, and make their way to a business, retail store, or directly to consumers versus traditional purchases by consumers at physical retail outlets. The efficient movement of these goods are critical to maintain a strong economy and ensure improvements in the quality of life of regional residents.

Goods movement supports industries and activities that provide jobs, tax revenue, and resources that bolster innovation, creativity, and access to local and world markets through trade. This movement depends directly on the infrastructure that comprises the transportation network such as highways, rail lines, ports, and networks of warehousing and other distribution facilities. Maintaining and improving existing infrastructure, and expanding infrastructure capacity where appropriate, is key to ensuring the competitiveness of a growing economy. However, goods movement also has negative impacts and externalities. Growing trade and increased volumes of goods moving across the transportation system have contributed to greater congestion, safety concerns, harmful emissions of dangerous pollutants, wear-and-tear on roadways and impacts on local neighborhoods. As the Metropolitan Planning Organization (MPO) for the region, SCAG has adopted a vision for the region's goods movement system.

Federal law (23 U.S.C. §§ 134-135) mandates that MPOs encourage and promote the safe and efficient management, operation, and development of surface transportation systems that will serve the mobility needs of people and freight and foster economic growth and development within and between States and urbanized areas. Specifically, MPOs should consider projects and strategies that will increase the accessibility and mobility of people and for freight and enhance the integration and connectivity of the transportation system, across and between modes, for people and freight.⁸

At the state level, MPOS are required to perform regional transportation planning to prepare and provide for the region's mobility in a fiscally and environmentally responsible manner, consistent with the needs, preferences, and sensibilities of the community. This coincides with California Government Code 65041.1 (Cal Civ. Code § 65041.1) and identifies planning considerations for freight that are consistent with federal requirements.

⁸ United States Code. 2019. §134. *Metropolitan transportation planning*. Available online at: https://www.govregs.com/uscode/title23_chapter1_section134, accessed September 16, 2019.

Wholesale and retail trade, transportation, and manufacturing support over approximately 6 million jobs in the SCAG region according to statistics provided by the State's Employment Development Department.⁹

Heavy-Duty Trucks

Figure 3.17-8, Existing Regional Goods Movement System displays the regional goods movement system. One of the key components of the region's goods movement system is the fleet of heavy-duty trucks, defined as cargo-carrying vehicles with a gross weight rating in excess of 8,500 pounds. Trucks provide a vital link in the distribution of all types of goods between the region's ports (sea and air), railroads, warehouses, factories, farms, construction sites and stores. The size and weight of heavy-duty trucks gives them unique operating characteristics; that is, they accelerate and decelerate more slowly than lighter vehicles and require more road space to maneuver. Dedicated truck lanes currently exist at two major freeway interchanges: the junction of Interstate 5 (I-5) with the I-210 and State Route 14 (SR-14) and at the junction of the I-405 with the I-110. In addition, truck climbing lanes are located on northbound I-5 in northern Los Angeles County.

The trucking industry, including common carrier, private carrier, contract carrier, drayage and owner-operator services, handles both line-haul and pick-up and delivery. The industry uses the public highway system for over-the-road and local service. However, it is also served by a considerable infrastructure of its own. This infrastructure includes truck terminals, warehousing, consolidation and trans-loading facilities, freight forwarders, truck stops and maintenance facilities. These various facilities are especially prevalent in the South Bay and Gateway Cities areas, including Wilmington and Carson and extending generally between Los Angeles International Airport (LAX) and the San Pedro Bay Ports, along the I-710 Corridor north to Vernon, Commerce, and Downtown Los Angeles, east through the San Gabriel Valley to Industry, Pomona, and Ontario and then to the Inland Empire in Fontana and Rialto as well as in Glendale and Burbank. Specialized facilities for trucking that provide air cargo ground transport are located around regional airport facilities, notably LAX and LA/Ontario International Airport.

Railroads

The SCAG region is served by two main line commercial freight railroads—the Burlington Northern/Santa Fe Railway Co. (BNSF) and the Union Pacific Railroad (UP). These railroads link Southern California with other United States regions, Mexico, and Canada either directly or via their

⁹ State of California Employment Development Department. 2019. *Employment by Industry Data*. January. Available online at: <https://www.labormarketinfo.edd.ca.gov/data/employment-by-industry.html>, accessed January 30, 2019.

connections with other railroads. They also provide freight rail service within California. In 2017, railroads moved approximately 162.3 million tons of cargo throughout California.¹⁰

The SCAG region is also served by three short line or switching railroads:

The Pacific Harbor Line (formerly the Harbor Belt Railroad), which handles all rail coordination involving the Ports of Los Angeles and Long Beach, including dispatching and local switching in the harbor area;

- Los Angeles Junction Railway Company, owned by BNSF, which provides switching service in the Vernon area for both the BNSF and UP;
- The Ventura County Railroad, owned by Rail America, Inc., which serves the Port of Hueneme and connects with the UP in Oxnard.

These railroads perform specific local functions and serve as feeder lines to the trunk line railroads for moving goods to and from Southern California.

The two main line railroads also maintain and serve major facilities in the SCAG region. Intermodal facilities in Commerce (BNSF-Hobart), East Los Angeles (UP), San Bernardino (BNSF), and Carson near the San Pedro Bay Ports (UP-ICTF), the Los Angeles Transportation Center (UP-LATC), and the UP-City of Industry yards serve on-dock rail capacity at the Ports of Los Angeles (UP/BNSF) and Long Beach (UP/BNSF).

All major rail freight corridors in the region have some degree of grade separation, but most still have a substantial number of at-grade crossings on major streets with high volumes of vehicular traffic. These crossings cause both safety and reliability problems for the railroads and for those in motor vehicles at the affected crossings. Trespassing on railroad rights of way by pedestrians is another safety issue affecting both freight and commuter railroads.

3.17.1.6 Regional Aviation System

The SCAG region supports the nation's largest regional airport system in terms of number of airports and aircraft operations, operating in a very complex airspace environment. The SCAG region contains seven commercial airports with scheduled passenger service, seven government/military air fields, and over 30 reliever and general aviation airports. The existing active commercial service airports handle the majority

¹⁰ Association of American Railroads. 2018. *U.S. Freight Railroad Industry Snapshot: California*. Available online at: <https://www.aar.org/data-center/railroads-states/#state/CA>, accessed January 30, 2019.

of passenger air traffic (see **Figure 3.9-1, Airports in the SCAG Region**, in **Section 3.9, Hazards and Hazardous Materials**).

- Los Angeles International Airport (LAX)
- Ontario International Airport (ONT)
- John Wayne/Orange County Airport (SNA)
- Hollywood Burbank Airport (BUR)
- Imperial County Airport (limited commercial service) (IPL)
- Long Beach Airport (LGB)
- Palm Springs International Airport (PSP)

In all, approximately 110.2 million annual passengers (MAP) were served in the region in 2017, a 28 percent increase over 2012. The level of regional aviation demand forecasts related to MAP has been decreasing, with approximately 165.3 MAP by 2035 in the 2008 RTP, 145.9 MAP by 2035 in the 2012 RTP/SCS, and 136.2 MAP by 2040 in the 2016 RTP/SCS.¹¹ In 2017, Los Angeles International Airport (LAX) led the largest share of air passengers with approximately 77%, followed by John Wayne Airport at 10%, Hollywood Burbank Airport at 4%, and Ontario International Airport at 4%.¹² The SCAG region is forecast to have 197.1 MAP by 2045. In 2017, the SCAG region was one of the most active and fastest growing regions for air passenger traffic in the United States, second only to the New York/New Jersey region for air passenger traffic. Moreover, the growth rate of 5.12 percent for the SCAG region from 2012 to 2017 was second only to the Bay Area. LAX accounts for the largest proportion of passenger volume, cargo, and annual operations. A brief discussion of the location, major access routes, and facilities at seven major airports is provided below.

Hollywood Burbank/Bob Hope Airport (BUR)

Located in the San Fernando Valley northwest of downtown Burbank, the Hollywood Burbank Airport (also known as Bob Hope Airport) is a publicly owned airport operated by the Burbank-Glendale-Pasadena Airport Authority. Major vehicular access is provided by I-5, Hollywood Way, San Fernando Road, and Vanowen Street. Burbank Airport is currently in the project planning process for a new, relocated terminal, which would enable faster processing while maintaining existing capacity. Burbank Airport has dedicated transit and rail facilities for passengers coming to and from the airport and is the only airport in the SCAG region with a direct rail connection to Downtown Los Angeles via Amtrak and Metrolink. Burbank Airport averages 354 aircraft operations per day, including 38 percent commercial and 29 percent transient general aviation. Burbank Airport served 4.7 MAP in 2017, a 20 percent increase over 2015.

¹¹ Southern California Association of Governments. November 2019. Aviation Technical Report.

¹² Ibid.

Imperial County Airport (IPL)

Imperial County Airport is located in the City of Imperial, approximately 12 miles north of the California-Mexico border. The airport provides limited scheduled air service and serves the general aviation needs of the surrounding communities. It is part of the Essential Air Service (EAS) program through the US Department of Transportation, providing residents of Imperial County a connection to the national aviation system by subsidizing air service to eligible small community airports. Currently, only one scheduled passenger airline operates out of IPL, carrying passengers to LAX or BUR. IPL averages 38 aircraft operations per day, including 43 percent general aviation and 25 percent military. IPL served 11,812 passengers in 2017, down from a peak of approximately 30,000 passengers in 2001.

Long Beach Airport/Daugherty Field (LGB)

Long Beach Airport is located approximately four miles northeast of downtown Long Beach. Built in 1941, the Long Beach Airport terminal is a Cultural Historic Landmark. In 2017, a new concourse was opened, and a new ground transportation center is currently being constructed. The arrival of low-cost carrier JetBlue in 2001 led to a rapid increase in air traffic and solidified the airport as an alternative to LAX for east coast destinations. The airport primarily serves general aviation aircraft. LGB averages 811 aircraft operations per day, including 51 percent local general aviation and 34 percent transient general aviation. LGB served 3.8 MAP in 2017 and averages approximately 25,000 tons of cargo per year.

Los Angeles International Airport (LAX)

Located 18 miles southwest of Downtown Los Angeles, LAX is the publicly owned primary airport serving the Greater Los Angeles Area. As the largest airport in the region and the fourth busiest in the world for passenger traffic, LAX plays a critical role in the movement of people and cargo throughout the region. When factoring out connecting flights, LAX is the busiest origin and destination airport in the world for passenger traffic. LAX is also the 13th busiest cargo airport in the world by tonnage. LAX is currently undergoing a major renovation known as the Landside Access Modernization Program, which will include an elevated Automated People Mover; two Intermodal Transportation Facilities with drop-off areas; a Consolidated Rental Car Facility; and a comprehensive series of roadway improvements. In addition, Metro's Crenshaw/LAX Line is set to open in summer 2020, providing a light rail connection from the Automated People Mover to destinations throughout South Los Angeles, ultimately connecting to the Expo and Green Lines. LAX averages 1,603 aircraft operations per day, including 92 percent commercial aviation. Passenger traffic at LAX has steadily increased since the 2008 Recession, from 59 MAP in 2010 to 84.6 MAP in 2017. LAX accommodates over 70 percent of the air passenger travel in the SCAG region.

Ontario International Airport (ONT)

Ontario International Airport is located in the City of Ontario in San Bernardino County. It is accessed primarily via I-10 and SR-60. Southwest Airlines is the largest carrier operating at the airport, and ONT is also a major cargo hub for UPS, due to its long runways and relatively limited noise restrictions. Ontario Airport averages 267 aircraft operations per day, including 63 percent commercial and 18 percent air taxi. Currently, ONT averages approximately 4 MAP, though at one point in the early 2000s, that number went as high as 7 MAP.

Palm Springs International Airport (PSP)

Palm Springs International Airport is located in the desert resort city of Palm Springs in the Coachella Valley of Riverside County. The airport primarily caters to seasonal leisure travelers visiting during the winter. PSP averages 142 aircraft operations per day, including 37 percent commercial and 34 percent transient general aviation. Peak travel occurs during the fall, and the airport served 2.1 MAP in 2017.

John Wayne Airport (SNA)

John Wayne Airport is owned and operated by the County of Orange and is not located in an incorporated city. However, it is surrounded by the cities of Santa Ana, Irvine, Newport Beach, and Costa Mesa and accessible by the I-405 and SR-73 freeways. SNA is 503 acres with 20 gates for commercial airlines and two commuter terminals, and general aviation outnumbered commercial operations. Strict noise regulations impact when flights can fly in and out of John Wayne Airport. Commercial departures between 10 PM and 7 AM (8 AM on Sundays) and arrivals between 11:00 PM and 7 AM (8 AM on Sundays) are prohibited. Additionally, special takeoff procedures for most aircraft require a steep climb followed by an abrupt power reduction at approximately 500 feet for quiet passage over Newport Beach. SNA served 10.4 MAP in 2017, making it the second busiest airport in the SCAG region.

3.17.1.7 Maritime Ports

Southern California is served by three major deep-water seaports. These ports—Hueneme, Long Beach, and Los Angeles—handle Asia–North America trade and are served by the two major railroads and numerous trucking companies in Southern California. The Port of Hueneme, with its recent expansion, ranks as one of the premier automobile and agricultural product-handling facilities in California. The Ports of Long Beach and Los Angeles are full-service ports with facilities for containers, autos and various

bulk cargoes. With an extensive landside transportation network, the three ports moved more than 370 million metric tons of cargo in 2017.^{13,14,15}

In particular, the San Pedro Bay Ports (Long Beach and Los Angeles) dominate the container trade in the Americas by shipping and receiving nearly 17 million 20-foot Equivalent Units (TEUs) of containers in 2018.^{16,17} Together these two ports rank third in the world, behind Rotterdam and Hong Kong, as the busiest maritime ports.

3.17.1.8 Transportation Hazards

Based on average accident rates provided by Caltrans, transportation-related fatalities in 2015 occurred at an overall rate of 1.01 fatalities per 100 million vehicle miles traveled, taking into account the varying accident rates on different facility types (freeway, arterials) and travel modes (bus transit, rail transit).¹⁸ In 2015, the most recent date for which data is available, more than 1,700 people died and nearly 160,000 were injured on roadways throughout the SCAG region (**Table 3.17-9, Total Vehicle Fatalities and Injuries in the SCAG Region (2016)**). On any given day in Southern California, six people are killed by a car or truck. In 2016, in the SCAG region, more than 1,700 people died including more than 70 cyclists and nearly 500 pedestrians. The problem is getting worse: the number of pedestrians killed in crashes grew 50 percent between 2011 and 2016. The leading cause of serious injuries and fatalities in collisions is unsafe speed.¹⁹

¹³ Port of Los Angeles. 2018. *Tonnage Statistics*. Available online at: <https://www.portoflosangeles.org/business/statistics/tonnage-statistics>, accessed January 30, 2019.

¹⁴ Port of Long Beach. 2018. *Monthly Tonnage Summary Report*. Available online at: <http://www.polb.com/civica/filebank/blobdload.asp?BlobID=14331>, accessed January 30, 2019.

¹⁵ Port of Hueneme. 2017. *2017 Dock Talk Year End Review*. Available online at: <https://www.portofhueneme.org/port-releases-2017-year-end-review/>, accessed January 30, 2019.

¹⁶ Port of Los Angeles. 2018. *Latest Monthly Container Counts*. Available online at: <https://www.portoflosangeles.org/business/statistics/container-statistics>, accessed January 30, 2019.

¹⁷ Port of Long Beach. 2018. *Latest Monthly TEUs*. Available online at: http://www.polb.com/economics/stats/yearly_teus.asp, accessed January 30, 2019.

¹⁸ California Office of Traffic Safety. *California Traffic Safety Quick Stats*. Available online at: <https://www.ots.ca.gov/ots-and-traffic-safety/score-card/>, accessed November 18, 2019.

¹⁹ SCAG Connect SoCal Plan, *Transportation Safety and Security Technical Report*, November 2019

**Table 3.17-9
Total Vehicle Fatalities and Injuries in the SCAG Region (2016)**

County	Bicycle Victims Killed and Injured	Pedestrian Victims Killed or Injured	Total Injuries	Total Fatalities
Imperial	20	20	783	34
Los Angeles	3,777	5,744	90,621	847
Orange	1,000	929	22,898	205
Riverside	379	556	20,589	295
San Bernardino	324	563	15,991	272
Ventura	277	243	7,013	58
Total	5,777	8,055	157,895	1,711

Source: SCAG, Connect SoCal, Transportation Safety and Security Technical Report, November 2019.

Safety, Security and Emergency Access

Southern California is home to significant natural disasters, including earthquakes, wildfires, flooding, and mudslides (discussed in **Section 3.7, Geology and Soils**, and **Section 3.20, Wildfire**). Although natural disasters, such as earthquakes and hurricanes, have produced significant regional casualties and property damage, none had the serious disruption to national travel and the national economy as the September 11, 2001, terrorist attacks. The 9/11 attacks created a new awareness of the vulnerabilities of transportation fleets and facilities. As concern about the threat of terrorism and consequences of natural disasters has grown, government (at all levels) has taken new measures to secure the welfare of its citizens. Transportation and transit agencies throughout the United States are taking increasing steps to protect their facilities against the threats of crime, terrorist activity, and natural disasters.

A large-scale evacuation would be difficult in the SCAG region. The region already has severe traffic congestion and mobility issues. The region encompasses 38,000 square miles with a diverse geography, ranging from dense urban areas, to mountain ranges, to vast deserts. The interdependency of the jurisdictions and organizations makes regional cooperation and coordination essential to security and emergency preparedness. Typically, no single agency is responsible for transportation security. At the local level, especially within transit agencies, safety may be handled within one office. However, it is far less likely that the security of a surface transportation mode is managed by one entity and that this entity is even controlled by the transportation organization. For example, highways and transit networks traverse multiple police jurisdictions, local fire departments generally fill the incident command role after terrorist events, regional command and control centers respond to both natural and intentional disasters,

and federal agencies intervene as needed and based on specific guidelines such as the crossing of state boundaries.

The complexity of the SCAG region, with a range of potential terrorism targets, presents significant challenges in coordinating and implementing effective homeland security programs. The unexpected and complex nature of these natural and human-caused incidents require extensive coordination, collaboration and flexibility among agencies and organizations involved in planning, mitigation, response and recovery.

As described above, the SCAG region has an extensive transportation system, with more than 73,800 miles of freeway and arterial lanes and 5,000 miles of bikeways. As of 2019, the region had 15.8 million licensed drivers and 12.7 million registered vehicles.²⁰ As of 2016 (most recent year data was available), 1,711 people died and 157,895 were injured in traffic collisions in the region. Therefore, safeguarding the Southern California transportation safety to minimize accidents on-road for vehicles and pedestrians is an important focus of the region.

The Transportation Research Board has classified emergency events that affect transportation agencies into several categories (**Table 3.17-10, Transportation Security Vulnerabilities**).

**Table 3.17-10
Transportation Security Vulnerabilities**

Roadways and Freeway	
Freeway Lanes Miles (excluding carpool)	11,642 miles
Carpool Lane Miles	935 miles
Road Lane Miles	135,578 miles
Public Transit	
Buses	5,851 vehicles
Metro Rail	98 miles and 93 stations
Metrolink	538 miles and 62 stations
Aviation/Ports	
Commercial/General Aviation Airports	56
Regional Airport Activity Levels	110.2 MAP to 200 nonstop destinations
Long Beach/Los Angeles rank among world container ports	9th
Share of United States Maritime Trade	40 percent

Source: SCAG Modeling, 2019; Metrolink Fact Sheet; SCAG Regional Guide 2019

²⁰ SCAG, *Regional Guide 2019*. Available online at: <http://www.scag.ca.gov/Documents/scag-2019-Regional-Guide.pdf>, accessed September 30, 2019.

Rail and Mass Transit

The dispersed nature and the daily volume of passengers using public transportation services, which include intercity passenger rail, commuter rail, subway systems, and bus transportation, make it an attractive target for terrorists and criminals. **Table 3.17-10, Transportation Security Vulnerabilities**, provides a summary of the regional transit system.

- 105 miles of heavy and light rail
- 534 miles of commuter rail (Metrolink)
- 9,000 miles of bus routes
- 5,075 miles of bikeways
- 135,578 total lane miles of roadways
- 94 miles of express lanes

The numbers of customers using public transportation every day creates ongoing challenges for enhancing security within transit environments. Plans have been implemented to provide for basic protection. In the early 1990s, the California Public Utilities Commission required that transit agencies operating rail systems prepare a comprehensive System Safety Program Plan (SSPP) that also included a security component. Since 2004, all transit agencies are required to include a security and emergency management plan, which details how the agency would coordinate with first responder (law enforcement and fire) agencies, their respective County Office of Emergency Services and the Statewide Standardized Emergency Management System (SSEMS).

International Border Crossings

Within the SCAG region, there are three international ports of entry along the Mexico–Imperial County border: two at Calexico (Calexico and Calexico-East); and, one at Andrade (near Yuma, Arizona). Traffic from these ports enters California on the I-8 corridor. U.S. Customs and the Border Protection Agency within the Department of Homeland Security (DHS) are charged with the management and control of the official ports of entry. Security planning includes local emergency services, as well as the CHP.

Caltrans District 11 has developed the California–Baja California Border Master Plan, which establishes a process to institutionalize dialogue among local, state and federal stakeholders in the United States and Mexico. A key objective was to develop criteria that can be used in future studies to coordinate and prioritize projects related to existing and new Ports of Entry (POEs), as well as roads leading to the

California Mexico POEs. Security was a major consideration in the development of the Border Master Plan.

Security at Seaports

The DHS has designated the seaports of Long Beach, Los Angeles, and Port Hueneme as at risk for potential terrorist actions.²¹ Security at the ports is the joint responsibility of the U.S. Coast Guard, the U.S. Customs and Border Protection Agency, federal and State Homeland Security offices, Port police agencies, Harbor Patrols and emergency service agencies. The U.S. Coast Guard leads the local Area Maritime Security Commission, which coordinates activities and resources for all port stakeholders.

The Port of Los Angeles has a dedicated police force, the Los Angeles Port Police, to patrol the area within the jurisdiction of the Port of Los Angeles. The Port Police enforce federal, state, and local public safety statutes, as well as environmental and maritime safety regulations, in order to maintain the free flow of commerce and produce a safe, secure environment that promotes uninterrupted Port operations. In addition, the Port Police partner with other law enforcement agencies, such as the Los Angeles Police Department, CHP, and Customs and Border Protection in the Cargo Theft Interdiction Program (CTIP), which investigates cargo theft, and the High Intensity Drug Trafficking Area, which targets drug trafficking at the Ports of Los Angeles and Long Beach. Furthermore, per the Maritime Transportation Security Act of 2002, the Port of Los Angeles works with the Coast Guard to develop security plans for facilities at the port.

Similar to the Port of Los Angeles, security at the Port of Long Beach entails physical security enhancements, police patrols, coordination with federal, State, and local agencies to develop security plans for the port area and investigate suspicious incidents and obtaining federal funding to pay for these enhancements. As with the Port of Los Angeles, the Port of Long Beach works with the Coast Guard to develop security plans for facilities at the port. In contrast to the Port of Los Angeles, however, the Port of Long Beach does not have its own dedicated police force. Instead, the Long Beach Police Department is responsible for patrolling the port area. In doing so, the Port reimburses the Long Beach Police and Fire Departments for their port-related activities and expenses. The Port also funds its own Harbor Patrol to supplement law enforcement work conducted by other agencies such as the Coast Guard.

In addition to the above, several programs are in place to effectively monitor and screen seaport cargo. They include:

²¹ Maritime Logistics Professional. 2017. *Security and the Ports*. September. Available online at: <https://www.maritimeprofessional.com/blogs/post/security-and-the-ports-of-los-angeles-and-long-beach-15234>, accessed January 30, 2019.

Investigations

The federal Container Security Initiative (CSI) directs Customs agents, working with host governments, to inspect and examine all cargo containers deemed high-risk before they are loaded on U.S.-bound vessels. The CSI contains four core elements: identifying high-risk containers, pre-screening containers before they reach U.S. ports of entry, using technology to prescreen high-risk containers and developing and using smart and secure containers.

Inspections

The 24-hour rule requires manifest information on cargo containers to be delivered to U.S. Customs 24 hours before the container is loaded onto a vessel in a foreign port. Customs has the right to stop any container from being loaded, for any reason, while the container is still overseas.

Partnerships

Most of the largest U.S. importers and their trading partners participate in the Customs-Trade Partnership Against Terrorism (C-TPAT), a public-private partnership designed to improve security standards throughout the cargo supply chain.

Technology

U.S. Customs uses X-ray, gamma ray and radiation-detection devices to screen incoming cargo at U.S. ports.

3.17.2 REGULATORY FRAMEWORK

This regulatory framework focuses on the federal, state, and local statutes and regulations where the primary objective is improvement of transportation systems, standards, and travel demand measures. However, there are other regulations that are focused on increased energy efficiency and reduction of greenhouse gas emissions, that if accomplished would be expected to contribute to improvement in traffic levels. Those regulations have been addressed respectively in **Section 3.6, Energy**, and **Section 3.8, Greenhouse Gases**.

3.17.2.1 Federal

Federal Clean Air Act (CAA) Transportation Conformity

Congress passed the first major CAA (42 U.S. Code [USC] § 7506(c)) in the 1970s which gives EPA primary responsibility to regulate mobile and stationary sources of emissions and direct states to develop

SIPs and required conformity determinations for areas designated nonattainment against the NAAQS, which included all six counties in the SCAG region. Conformity analysis and determination can be done at a regional level. SCAG provides a regional transportation conformity analysis in the Plan to address all nonattainment areas within the six county- region. The regional conformity determination is updated every four years with the RTP and associated FTIP and is done as a part of the project-level conformity process for regionally significant projects as they occur. A hot spot analysis is provided to confirm that the project will not cause or worsen a localized violation of the standard for carbon monoxide (CO) or particulate matter (PM10 and/or PM2.5) in the existing nonattainment area. For more information, refer to Section 3.3 Air Quality.

Metropolitan Transportation Planning

The provisions of Title 23 USC Section 134 *et seq.* provides direct authority for Metropolitan Planning Organizations (MPOs) such as SCAG to act as a regional transportation planning organization with direct responsibility for carrying out the Regional Transportation Plan (RTP). SCAG is tasked with carrying out the transportation planning process and adopting long-range transportation plans. Collaborating with state and public transportation operators, SCAG undertakes a performance-driven, outcome-based approach to planning for the six county regions. SCAG must prepare a transportation plan to be updated every four years, including identification of transportation facilities and factors for each mode of non-motorized transport to major roadways, transit, multimodal and intermodal facilities, and connectors that should function as an integrated system serving regional transportation functions. The scope of transportation planning process is to provide consideration of projects and strategies that will achieve the following objectives (23 U.S.C. § 134(g)(3)(A)):²²

- Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity and efficiency;
- Increase the safety of the transportation system for motorized and non-motorized users;
- Increase the security of the transportation system for motorized and non-motorized users;
- Increase the accessibility and mobility of people and for freight;
- Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and

²² U.S. Code. 23 USC 134: *Metropolitan transportation planning.*

economic development patterns; Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;

- Promote efficient system management and operation;
- Emphasize the preservation of the existing transportation system;
- Improve the resiliency of and reliability of the transportation system, and reduce stormwater impacts of surface transportation; and
- Enhance travel and tourism

Fixing America's Surface Transportation Act (FAST)

The Fixing America's Surface Transportation (FAST) Act (Pub. L. No. 114-94), enacted in 2015, builds on the changes to federal transportation planning law made by MAP-21.²³ It was the first long-term surface transportation authorization enacted in a decade that provides long-term funding certainty for surface transportation.²⁴ The FAST Act authorizes \$305 billion over fiscal years 2016 through 2020 for highway improvements, highway and motor vehicle safety, public transportation, motor carrier safety, hazardous materials safety, rail, and research, technology, and statistics programs. The FAST Act maintains the focus on safety, keeps intact the established structure of the various highway-related programs, continues efforts to streamline project delivery, and provides a dedicated source of federal dollars for freight projects.

Under the FAST Act and its predecessors, MPOs such as SCAG must prepare long-range transportation plans and update them every four years if they are in areas designated as "nonattainment" or "maintenance" for federal air quality standards. Per federal requirements, long-range transportation plans must:²⁵

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

²³ The Moving Ahead for Progress in the 21st Century Act (MAP-21) was enacted in 2012 (PL 112-141).

²⁴ Federal Highway Administration. *Fixing America's Surface Transportation Act*. Available at: <https://www.fhwa.dot.gov/fastact/>, accessed December 18, 2018.

²⁵ Government Publishing Office. *Fixing America's Surface Transportation Act*. Available online at: <https://www.govinfo.gov/content/pkg/PLAW-114publ94/pdf/PLAW-114publ94.pdf>, accessed August 29, 2019.

- be developed for a period of not less than 20 years into the future; long-range transportation plans must reflect the most recent assumptions for population, travel, land use, congestion, employment and economic activity;
- have a financially-constrained element, transportation revenue assumptions must be reasonable, and the long range financial estimate must take into account construction-related inflation costs;
- include a description of the performance measures and performance targets used in assessing the performance of the transportation system;
- include a system performance report evaluating the condition and performance of the system with respect to performance targets adopted by the state that detail progress over time;
- include multiple scenarios for consideration and evaluation relative to the state performance targets as well as locally-developed measures;
- conform to the applicable federal air quality plan, called the State Implementation Plan, for ozone and other pollutants for which an area is not in attainment; and
- consider planning factors and strategies in the local context.

Congestion Management Process (23 USC § 134(k))

A congestion management process (CMP) is a systematic and regionally-accepted approach for managing congestion that provides accurate, up-to-date information on transportation system performance and assesses alternative strategies for congestion management that meet state and local needs. A CMP is required in metropolitan areas with a population exceeding 200,000, known as Transportation Management Areas (TMAs). Federal requirements state that in all TMAs the CMP must be developed and implemented as an integrated part of the metropolitan transportation planning process.²⁶

Federal Highway Administration Congestion Management Process

23 CFR § 450.320 requires transportation management agencies like SCAG to address congestion management through a process that provides for safe and effective integrated management and operation of the multimodal transportation system, based on a cooperatively developed and implemented metropolitan-wide strategy, of new and existing transportation facilities through the use of travel demand reduction and operational management strategies. Federal guidance recommends use of

²⁶ U.S. Code. 23 USC 134: *Metropolitan transportation planning.*

performance measures that includes vehicle-to-capacity ratios and level of service on a selected network of significant routes in a region.²⁷

3.17.2.2 State

Regional Transportation Plan Requirements

MPOs are required to prepare RTPs that also meet state requirements. Pursuant to Government Code sections 65080 *et seq.* each MPO must prepare and adopt a regional transportation plan directed at achieving a coordinated and balanced regional transportation system, including, but not limited to, mass transportation, highway, railroad, maritime, bicycle, pedestrian, goods movement, and aviation facilities and services. The plan must be action-oriented and pragmatic, considering both the short-term and long-term future, and shall present clear, concise policy guidance to local and state officials.²⁸

Under California Code Section 14522, the California Transportation Commission (CTC) is authorized to prepare guidelines to assist in the preparation of RTPs. The CTC's RTP guidelines identify state and federal requirements for the development of RTPs, and methods to achieve these requirements. The guidelines suggest that projections used in the development of an RTP should be based upon available data (such as from the Bureau of the Census), use acceptable forecasting methodologies, and be consistent with the Department of Finance baseline projections for the region. The guidelines further state that the RTP should identify and discuss any differences between the agency projections and those of the Department of Finance. The RTP guidelines include provisions for complying with Senate Bill 375 (see below), as well as guidelines for regional travel demand modeling.²⁹

Sustainable Communities and Climate Protection Act of 2008 (Senate Bill 375)

The Sustainable Communities and Climate Protection Act of 2008 (Senate Bill [SB] 375, Chapter 728, Statutes of 2008) requires MPOs to prepare a Sustainable Communities Strategy (SCS) that demonstrates how the region will meet its GHG reduction targets through integrated land use, housing, and transportation planning. Specifically, the SCS must identify a transportation network that is integrated with the forecasted development pattern for the plan area and will reduce GHG emissions from automobiles and light duty trucks in accordance with targets set by the California Air Resources Board (California Govt. Code Section 65080(b)(2)(B)). The targets accepted by CARB for GHG quantification for

²⁷ Government Publishing Office. §450.320.

²⁸ California Legislative Information. *Chapter 2.5. Transportation Planning and Programming [65080-65086.5]*. Available online at:

²⁹ California Transportation Commission. *Regional Transportation Plan (RTP) Guideline*. Available online at: <https://catc.ca.gov/programs/transportation-planning>, accessed August 29, 2019.

SCAG are an 8 percent reduction in per capita GHG emissions by 2020, and a 19 percent per capita reduction by 2035, in both cases with 2005 as a base year.³⁰

While increasing the SB 375 targets, CARB also noted that the increase fell short of what was needed to fully achieve state goals on GHG emissions reduction and climate change mitigation. In combination, the staff report and presentation materials to the CARB Board show that in total, the revised SB 375 GHG emissions reduction targets for all of the state's MPOs would result in a statewide reduction of 19 percent (compared to 18 percent from the prior SCS achievement), but that a 25 percent reduction was needed to fully meet the GHG emissions reduction goals of the Scoping Plan. The difference between the 19 percent resulting from CARB's updated SB 375 targets and the 25 percent identified need is referred to in other various CARB documents as the "gap."

In the SB 375 target resetting, CARB recognized that additional state action was needed to close this gap. "The recommended targets also recognize that additional State policy and funding tools are being developed to support further VMT reduction that will both help the State overall in achieving needed emission reductions and support MPOs in their ability to achieve higher targets by 2035." The categories of state action to accomplish this, with help of MPOs and other organizations, were: funding mechanisms to incentivize infill development; improved performance analysis to assist agencies in funding supportive transportation projects; expanding investment in transit and active transportation; and pricing policies and programs. All focus on VMT reduction.

Two additional state documents provide context for understanding how these GHG emissions reduction targets relate to the transportation issues discussed in this section. One is the Scoping Plan itself, which also recognizes that statewide collaboration is needed to address the gap; and further, that the gap in GHG emissions reductions would be closed through VMT reduction strategies:

Discussions among a broad suite of stakeholders from transportation, the building community, financial institutions, housing advocates, environmental organizations, and community groups are needed to begin the process to pursue and develop the needed set of strategies to ensure that we can achieve necessary VMT reductions, and that the associated benefits are shared by all Californians.

³⁰ California Air Resources Board. *SB 375 Regional Plan Climate Targets*. Available online at: <https://ww2.arb.ca.gov/our-work/programs/sustainable-communities-program/regional-plan-targets>, accessed December 18, 2018.

The second document, published by CARB in January 2019, provided additional detail on the scope of the challenge, and its relationship to CEQA:

An RTP/SCS that meets the applicable SB 375 targets alone will not produce the GHG emissions reductions necessary to meet state climate goals in 2030 nor in 2050. This means that SB 375 targets are not stand-alone CEQA thresholds for GHG or transportation impact analysis (though SCS compliance may nonetheless entitle projects to certain CEQA exemptions or streamlining procedures pursuant to statute). In other words, a project that is consistent with an SCS may be eligible for certain exemptions, but compliance does not necessarily more broadly imply consistency with state climate goals nor with science based GHG reduction targets, in CARB staff's non-binding view. Some land use development projects contemplated in an SCS that will be operational in 2030 and 2050 will be consistent with state climate goals, and SB 375 defines project circumstances under which CEQA streamlining is available to qualified projects consistent with an SCS. Other projects may need to consider additional mitigation measures to further reduce per capita light-duty transportation-related GHG emissions to levels that would not conflict with state climate goals. Likewise, certain transportation infrastructure projects that will be operational in 2030 and 2050 that substantially increase VMT may conflict with state climate goals, even if they are included in an SCS that meets the applicable SB 375 targets.

CARB focused on the VMT reductions needed over current conditions (2015-2018) to meet the state's 2030 and 2050 climate goals. CARB concluded (using assumptions a cleaner fuels and technologies scenario) that a 14.3 percent reduction in daily VMT per capita and a 16.8 percent reduction in light-duty VMT per capita was needed to meet these goals (see also discussion in **Section 3.8 Greenhouse Gases**).

Senate Bill 743

SB 743 (Steinberg) was signed into law by Governor Jerry Brown on September 27, 2013, and encourages development of mixed-use, transit-oriented infill projects by: (1) establishing new CEQA exemptions for transit-oriented developments located in Transit Priority Areas (TPAs) that are consistent with an adopted Specific Plan; (2) eliminating the requirement to evaluate aesthetic and parking impacts in those targeted development areas; and (3) directing the OPR to develop an alternative metric to evaluate transportation-related impacts under CEQA.³¹

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

- 1) The project is proposed within a transit priority area.
- 2) The project is undertaken to implement and is consistent with a specific plan for which an environmental impact report has been certified.

³¹ California Legislative Information. 2013. *Senate Bill No. 743*..

- 3) The project is consistent with the general use designation, density, building intensity, and applicable policies specified for the project area in either a sustainable communities strategy or an alternative planning strategy accepted by the State Air Resources Board.³²

Furthermore, “[a]esthetic and parking impacts of a residential, mixed-use residential, or employment center project on an infill site within a transit priority area shall not be considered significant impacts on the environment.”³³ However, the exemption for aesthetic impacts does not include impacts to historic or cultural resources. Local governments retain their ability to regulate a project’s transportation, aesthetics, and parking impacts outside of the CEQA process pursuant to local design review ordinances or other discretionary powers.

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

For infill development, including transit-oriented development (TODs), SB 743 provides a rationale for the development of a new metric to evaluate CEQA transportation impacts. Prior to SB 743, CEQA transportation impacts were primarily assessed (at least at the project level) through “Level of Service” (LOS) and other congestion or delay-based analyses, which focused exclusively on motor vehicle delay. This often penalizes infill and active transportation projects. SB 743 establishes that the new transportation impact analysis methodology should appropriately balance the needs of congestion management with statewide goals related to transit-oriented mixed-use infill development, promotion of public health through active transportation, and reduction of GHG emissions. These principles complement the goals and policies of the SCAG Plan outlined in **Section 2.0, Project Description**, of this PEIR.

SB 743 directed OPR to identify appropriate criteria for the evaluation of transportation impacts. OPR selected VMT as the preferred transportation impact metric and applied their discretion to require its use statewide. SB 743 also established that aesthetic and parking effects of a residential, mixed-use residential,

³² See Pub. Res. Code § 21155.4.

³³ Pub. Res. Code § 21099(d).

or employment center projects on an infill site within a TPA are not significant impacts on the environment. The revised *CEQA Guidelines* that implement SB 743 became effective on December 28, 2018, and indicate that VMT is the basis for evaluation of transportation impacts.³⁴ Vehicle LOS and similar measures related to delay are not identified as appropriate metrics for determining the significance of transportation impacts under CEQA, although they may still be appropriate for evaluation of projects as part of the planning process.

CEQA Guidelines section 15064.3(c) indicates that each jurisdiction throughout the state has until July 1, 2020, this requirement to adopt VMT as the metric for evaluation of transportation impacts shall apply statewide, but that until that date, lead agencies may elect to use VMT and/or LOS to analyze transportation impacts (although CEQA has already been revised to indicate VMT as the appropriate metric for evaluation of transportation impacts).

The following state guidance has been produced:

- Technical Advisory on Evaluating Transportation Impacts in CEQA (OPR 2018);³⁵
- The 2017 Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals (CARB 2019);³⁶
- Caltrans Strategic Management Plan (2015 – 2020);³⁷ and
- Local Development – Intergovernmental Review Program Interim Guidance, Implementing Caltrans Strategic Management Plan 2015-2020 Consistent with SB 743 (Caltrans 2016).³⁸

With respect to identifying what represents an appropriate threshold of significance for VMT impacts, the California Air Resources Board (CARB) published the *2017 Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals* (CARB Report)³⁹ which includes non-binding technical information on

³⁴ *CEQA Guidelines* § 15064.3.

³⁵ Governor’s Office of Planning and Research. *Technical Advisory – On Evaluating Transportation Impacts in CEQA*. Available online at: http://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf, accessed July 25, 2019.

³⁶ California Air Resources Board. *CARB 2017 Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals* (Jan. 2019). Available online at: https://ww2.arb.ca.gov/sites/default/files/2019-01/2017_sp_vmt_reductions_jan19.pdf, accessed October 24, 2019.

³⁷ Caltrans. *Strategic Management Plan 2015-2020*. Available online at: <https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/caltrans-strategic-mgmt-plan-033015-a11y.pdf>, accessed November 15, 2019.

³⁸ Caltrans. 2016. Local Development – Intergovernmental Review Program Interim Guidance, Implementing Caltrans Strategic Management Plan 2015 – 2020 Consistent with SB 743

³⁹ California Air Resources Board 2017 Scoping Plan-Identified VMT Reductions And Relationship To State Climate Goals, January 2019 https://ww2.arb.ca.gov/sites/default/files/2019-01/2017_sp_vmt_reductions_jan19.pdf

what level of statewide VMT reduction, in the judgment of CARB staff, would promote achievement of statewide GHG emission reduction targets. CARB asserts that the currently adopted SCSs throughout the state “would achieve in aggregate, a nearly 18 percent reduction in statewide per capita on-road light-duty transportation-related GHG emissions relative to 2005 by 2035, if those SCSs were successfully implemented.” However, in order to meet the state goals, the full reduction needed is a 25 percent reduction in statewide per capita on-road light-duty transportation-related GHG emissions, however, CARB has “determined that those targets would be infeasible for MPOs to achieve with currently available resources.”

The CARB Report is based on modeling that incorporates cleaner technologies and fuels (CTF) assumptions consistent with the 2017 Scoping Plan Update and the 2016 Mobile Source Strategy (as discussed below and in **Section 3.8, Greenhouse Gases**) and provides an “alternate assessment tool for jurisdictions that choose to use them to complete analyses directed by the *CEQA Guidelines*.” The CARB Report finds that:

Certain land use development projects located in areas that would produce rates of total VMT per capita that are approximately 14.3 percent lower than existing conditions, or rates of light-duty VMT per capita that are approximately 16.8 percent lower than existing conditions (either lower than the regional average or other appropriate planning context) could be, by virtue of their location and land use context, interpreted to be consistent with the transportation assumptions embedded in the 2017 Scoping Plan and with 2050 State climate goals. (Emphasis in original).⁴⁰

However, CARB notes that the modeling used for the CTF forecast identifies ratios of total statewide VMT to population and that the suggested per capita reductions are not household generated VMT and that values are not directly comparable to output from a local or regional travel demand model.

The *Technical Advisory on Evaluating Transportation Impacts in CEQA* (OPR Technical Advisory) also provides non-binding recommendations regarding assessment of VMT, thresholds of significance, and mitigation measures. OPR cites to the CARB Report to reiterate that “at present, consistency with RTP/SCSs does not necessarily lead to a less-than-significant VMT impact.”⁴¹ OPR finds:

Based on OPR’s extensive review of the applicable research, and in light of an assessment by the California Air Resources Board quantifying the need for VMT reduction in order to meet the State’s long-term climate goals, OPR recommends that a per capita [residential] or per employee

⁴⁰ CARB Report at p. 11.

⁴¹ OPR Technical Advisory at p. 11.

[office] VMT that is fifteen percent below that of existing [2017] development may be a reasonable threshold.⁴²

OPR further recommends a net increase in total retail VMT compared to existing (2017) may indicate a significant transportation impact.⁴³

OPR goes on to indicate that:

Lead agencies can evaluate each component of a mixed-use project independently and apply the significance threshold for each project type included (e.g., residential and retail). Alternatively, a lead agency may consider only the project's dominant use. In the analysis of each use, a project should take credit for internal capture. Combining different land uses and applying one threshold to those land uses may result in an inaccurate impact assessment.⁴⁴

Since the SCAG Regional Travel Demand Model generates VMT from all uses within the region, the estimated VMT cannot be compared to OPRs targets because it is not possible to separate out the land uses.

For roadway capacity projects, OPR also recommends developing a project-level threshold based on VMT levels required to achieve legally mandated GHG emission reduction targets as set forth in the CARB Scoping Plan and 2016 Mobile Source Strategy by applying the following approach:

1. Propose a fair-share allocation of those budgets to their jurisdiction (e.g., by population);
2. Determine the amount of VMT growth likely to result from background population growth, and subtract that from their "budget";
3. Allocate their jurisdiction's share between their various VMT-increasing transportation projects, using whatever criteria the lead agency prefers.⁴⁵

OPR also provides guidance on how to estimate VMT impacts from roadway expansion projects and suggests the following general mitigation and alternatives:

- Tolling new lanes to encourage carpools and fund transit improvements
- Converting existing general purpose lanes to HOV or HOT lanes

⁴² *Id.* at p.10.

⁴³ *Id.* at p. 16

⁴⁴ *Id.* at p. 17

⁴⁵ *Id.* at p. 22-23.

- Implementing or funding off-site travel demand management
- Implementing Intelligent Transportation Systems (ITS) strategies to improve passenger throughput on existing lanes⁴⁶

Additional project-level mitigation measures including in lieu mitigation fees to reduce VMTs are also provided.

CEQA Streamlining for Infill Projects Senate Bill (SB) 226

The CEQA Streamlining for Infill Projects (SB 226) sets forth a streamlined review process for infill projects and includes performance standards that will be used to determine an infill project's eligibility for streamlined review. The purpose of SB 226 and updated *CEQA Guidelines* Section 15183.3 is to streamline the environmental review process by "limiting the topics subject to review at the project level where the effects of infill development have been addressed in a planning level decision or by uniformly applicable development policies." Residential, commercial and retail, public office buildings, transit stations, and schools are eligible for this streamlining provided they meet the following requirements: (1) are located in an urban area on a site that has been previously developed or adjoins existing qualified urban uses on at least 75 percent of the site's perimeter; (2) satisfy the performance standards provided in Appendix M [of CEQA]; and, (3) are consistent with the general use designation, density, building intensity, and applicable policies specified for the project area in either a sustainable communities strategy or an alternative planning strategy, with some exceptions.⁴⁷

Under SB 226, some development and transportation projects assumed as a part of the proposed Plan may be eligible to use a streamlined version of the environmental review process.

California Transportation Plan (CTP)

The CTP (SB 64; Chapter 711 Section 14536 amended 65073.1) is prepared by the California Department of Transportation every 5 years to provide a long-range policy framework to meet our future mobility needs and reduce greenhouse gas emissions. The CTP defines goals, performance-based policies, and strategies to achieve our collective vision for California's future statewide, integrated, multimodal transportation system by envisioning a sustainable system that improves mobility and enhances our quality of life. The CTP is developed in collaboration with transportation stakeholders such as SCAG. Through ongoing engagement, the CTP is intended to provide goals and visions to support a fully integrated, multimodal,

⁴⁶ *Id.* at p.25.

⁴⁷ California Natural Resources Agency. *Streamlined Review for Infill Projects (SB 226)*. Available online at: <http://resources.ca.gov/ceqa/guidelines-sb226/>, accessed August 29, 2019.

sustainable transportation system that supports the quality of life: prosperous economy, human and environmental health, and social equity. The CTP fulfills the state's goal to meet the Federal Transportation Improvement Program.⁴⁸

Senate Bill 391

Senate Bill 391 was signed into law in October 2009 by Governor Schwarzenegger and requires the CTP to support 80 percent reduction in GHGs below 1990 levels by 2050. The bill also requires Caltrans to update the CTP every five years and provide an assessment of how the implementation of sustainable communities strategies will influence the configuration of the statewide multimodal transportation system. The bill requires Caltrans to consult with and coordinate its planning activities with specified entities and to provide an opportunity for public input.

Assembly Bill 1358

AB 1358, also known as the Complete Streets Act of 2008, amended the California Government Code Section 65302 to require that any substantive revisions to a city or county's Circulation Element include provisions for accommodations of all roadway users, including bicyclists and pedestrians.⁴⁹

2016 Mobile Source Strategy

On May 16, 2016, the Air Resources Board (ARB or Board) released the updated Mobile Source Strategy that demonstrates how the State can simultaneously meet air quality standards, achieve greenhouse gas emission reduction targets, decrease health risk from transportation emissions, and reduce petroleum consumption over the next fifteen years. The Mobile Source Strategy aims to deliver environmental and public health benefits as well as updates to transportation infrastructure, enhancements of systemwide efficiency, and clean growth in the mobile sector. The estimated benefits of the strategy in reducing emissions from mobile sources includes an 80 percent reduction of smog-forming emissions and a 45 percent reduction in diesel particulate matter from today's levels in the South Coast. CARB estimates statewide, the Mobile Source Strategy would also result in a 45 percent reduction in greenhouse gas emissions, and a 50 percent reduction in the consumption of petroleum-based fuels.

California Congestion Management Program

The Congestion Management Program (CMP) is the State mandated program (Government Code 65089) aimed at reducing congestion on highways and roads in California. The CMP establishes a designated

⁴⁸ California Legislative Information. *Senate Bill No. 64*.

⁴⁹ *Assembly Bill No. 1358*.

roadway network of regional significance, roadway service standards, multi-modal performance standards and a land use analysis element to identify and mitigate multijurisdictional transportation impacts resulting from local land use decisions. Federal, State and local transportation funding is contingent upon local agency compliance with the CMP.⁵⁰

California Vehicle Code (CVC)

The CVC provides requirements for ensuring emergency vehicle access regardless of traffic conditions. CVC sections 21806(a)(1), 21806(a)(2), and 21806(c) define how motorists and pedestrians are required to yield the right-of-way to emergency vehicles.⁵¹

Executive Order (EO) B-16-2012 on Zero Emission Vehicles

EO B-16-2-12 was signed by Governor Brown on March 23, 2012, to encourage development of the zero emission vehicles (ZEVs) to protect the environment, stimulate the economy, and improve the quality of life in the region. The goals that are promulgated include setting aggressive targets to meet goals in 2015, 2020, and 2025, supporting the rapid commercialization of clean vehicles, and pursuing policies to promote private sector investment and made-in California technologies. Executive Order B-16-2012 also sets a target for 2050 of a reduction of greenhouse gas emissions from the transportation sector equaling 80 percent less than 1990 levels.⁵²

In February 2013, an interagency working group developed the ZEV Action Plan which identifies specific strategies and actions that state agencies will take to meet the milestones of the Executive Order. The ZEV Action Plan states:⁵³

ZEVs are crucial to achieving the state's 2050 greenhouse gas goal of 80 percent emission reductions below 1990 levels, as well as meeting federal air quality standards. Achieving 1.5 million ZEVs by 2025 is essential to advance the market and put the state on a path to meet these requirements.

The ZEV Action Plan was updated in 2016, and highlights the following priorities for ZEVs:

- Raising consumer awareness and education about ZEVs;

⁵⁰ California Legislative Information. *Chapter 2.6. Congestion Management [65088-65089.10]*.

⁵¹ California Legislative Information. *Chapter 4. Right-of-Way [21800-21809], Section 21806*.

⁵² Office of Governor Edmund G. Brown Jr., *Executive Order B-16-2012*. Available online at: <https://www.ca.gov/archive/gov39/2012/03/23/news17472/index.html>, accessed August 29, 2019.

⁵³ Government Office of Planning and Research (OPR). *2013 ZEV Action Plan: A Roadmap toward 1.5 million zero-emissions vehicles on California roadways by 2025*. Available online at: [http://opr.ca.gov/docs/Governors_Office_ZEV_Action_Plan_\(02-13\).pdf](http://opr.ca.gov/docs/Governors_Office_ZEV_Action_Plan_(02-13).pdf), accessed August 29, 2019.

- Ensuring ZEVs are accessible to a broad range of Californians;
- Making ZEV technologies commercially viable in targeted applications the medium-duty, heavy-duty and freight sectors; and
- Aiding ZEV market growth beyond California.

The 2016 ZEV Action Plan introduces new actions to meet these priorities and build California’s ZEV market, remove barriers to future market growth and ensure this transition benefits the state and its residents. The intent is to clearly communicate what state government will do to advance ZEVs and serve as a “to-do” list for the Governor’s Office and state agencies to enhance interagency coordination.⁵⁴

EO B-32-15 Integrated Action Plan to Improve California’s Freight System

On July 16, 2015, Governor Brown issued EO B-32-15, which orders the Secretary of the California State Transportation Agency, the Secretary of the California Environmental Protection Agency, and the Secretary of the Natural Resources Agency to lead other relevant state departments including the California Air Resources Board, the California Department of Transportation, the California Energy Commission, and the Governor’s Office of Business and Economic Development to develop an integrated action plan by July 2016 that establishes clear targets to improve freight efficiency, transition to zero-emission technologies, and increase competitiveness of California’s freight system. The action plan shall identify state policies, programs, and investments to achieve these targets, and be informed by existing state agency strategies, including the California Freight Mobility Plan, Sustainable Freight Pathways to Zero and Near-Zero Emissions, Integrated Energy Policy Report, as well as broad stakeholder input. The California Sustainable Freight Action Plan was adopted in July 2016.⁵⁵

Caltrans Strategic Management Plan, 2015 - 2020

The most recent Caltrans Strategic Management Plan⁵⁶ redefines the Caltrans mission statement and provides a vision statement. The Caltrans mission statement is: *Provide a safe, sustainable, integrated, and efficient transportation system to enhance California’s economy and livability.* The Caltrans vision is: *A performance-driven, transparent, and accountable organization that values its people, resources, and partners and meets new challenges through leadership, innovation, and teamwork.* The document identifies five goals: 1)

⁵⁴ California Fuel Cell Partnership. 2016 ZEV Action Plan from the State of California. Available online at: <https://cafcp.org/blog/2016-zev-action-plan-state-california>, accessed August 29, 2019.

⁵⁵ Office of Governor, Edmund G. Brown Jr. 2015. *Executive Order B-32-15*. Available online at: <https://www.ca.gov/archive/gov39/2015/07/17/news19046/index.html>, accessed August 29, 2019.

⁵⁶ Caltrans. *Strategic Management Plan 2015-2020*. Available online at: <https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/caltrans-strategic-mgmt-plan-033015-a11y.pdf>, accessed November 15, 2019.

Safety and Health, 2) Stewardship and Efficiency, 3) Sustainability, Livability and Economy, 4) System Performance, and 5) Organizational Excellence. The document identifies numerous performance measures and targets including the following target with respect to Sustainability, Livability and Economy: to increase non-auto modes (triple bicycles, double pedestrian and double transit (2010 – 12 California Household Travel survey is the baseline), achieve a 15 percent reduction in per capita VMT (3 percent per year) reported by each District relative to 2010 by 2020, 85 percent reduction in diesel particulate matter (relative to 2000), 80 percent reduction in NOx in the South Coast Air Basin by 2023 (from 2010).⁵⁷

Local Development – Intergovernmental Review Program Interim Guidance, Implementing Caltrans Strategic Management Plan 2015 – 2020 Consistent with SB 743⁵⁸

Caltrans developed this guidance for Caltrans use in providing comments to local jurisdictions through the Intergovernmental Review process. This guidance document supports the implementation of the Strategic Management Plan including achieving the identified targets.

3.17.2.3 Regional

California Transportation Commission Active Transportation Program Guidelines

Under Senate Bill (SB) 99 (Chapter 359, Statutes 2013) and AB 101 (Chapter 354, Statutes of 2013), the CTC is authorized to prepare guidelines to assist in the preparation of Active Transportation Plans (ATPs). An ATP includes bicycle, pedestrian, safe-routes to-school, and other comprehensive criteria to be included in the circulation element of its general plan in compliance with Complete Streets Act. The CTC's RTP guidelines suggest that all projects within the SCAG region must be selected through a competitive process that meets the federal aid goals. These goals are included in the environmental, design, right-of-way, and construction phases of the infrastructure and non-infrastructure projects. All projects that are selected in the ATP are required to include a discussion of the estimated bicycle and pedestrian trips, facilities report, proposed land use and bicycle transportation facilities, and policies related to parking and ADA compliance.⁵⁹

⁵⁷ This document does not provide a detailed comparison to these targets because year 2000 and year 2010 comparable data is not available, and Caltrans VMT data for districts in the SCAG region is not available.

⁵⁸ Caltrans. 2016. Local Development – Intergovernmental Review Program Interim Guidance, Implementing Caltrans Strategic Management Plan 2015 – 2020 Consistent with SB 743

⁵⁹ California Transportation Commission. *Active Transportation Program (ATP)*. Available online at: <https://catc.ca.gov/programs/active-transportation-program>, accessed August 29, 2019.

Transit Development Plans

A Transportation Development Plan (TDP) updates a municipal or county operated transit system's goals and objectives, develops service alternatives, provides funding estimates, and produces a plan to implement recommended service improvements for a five-year period. A number of agencies within the SCAG have TDPs.

Plans and Policies Related to Complete Street Act of 2008 (AB 1358; S. 2686)

The Complete Streets Act of 2008 (AB 1358) required cities and counties to incorporate Complete Streets in their general plan updates to ensure that transportation plans meet the needs of all users, including pedestrians, bicyclists, and transit users as well as children, older individuals, and individuals with disabilities, to travel safely and conveniently on streets and highways. In the SCAG region, all six of the counties have developed their own bicycle and pedestrian plans. Majority of these bicycle pathways are part of existing Class II path which provides on-street bike lanes, although a few are in Class I category, which mean that the path is separate from automobile traffic, and some are categorized as Class III pathways with on-street bike lanes further designated by signs.⁶⁰

3.17.2.4 Local

County General Plans Circulation Element

Each of the six counties within the SCAG region has prepared a Transportation or Circulation Element, as a required component of the General Plan. The Transportation or Circulation Element provides a summary of the existing conditions in the planning area, major issues, goals, and policies, as well as pertinent action programs related to traffic and circulation related to a variety of transportation systems (highway and local road networks, bus, rail, high speed rail, aviation network, harbors, bicycles, pedestrians, and rideshare). The Transportation or Circulation Element describes the major locations and corridors for existing and future travel based on land use patterns in order to develop a comprehensive, coordinated, and continuing transportation system for the region. Relevant policies include encouraging provision of transit service at a reasonable cost to the users and the community, encouraging the efficient use and conservation of energy and ease congestion, and, where the land use would support, providing for development of a mass transportation system that will provide a viable alternative to the automobile, and support a balance in transportation modes with public transit system that provides accessible service, particularly to the transit dependent. A transportation system will operate at regional, countywide,

⁶⁰ California Legislative Information. *Assembly Bill No. 1358*.

community, and neighborhood scales to provide connectivity between communities and mobility between jobs, residences, and recreational opportunities.

County General Plans Safety Element

Each of the six counties in the SCAG region prepared a Safety Element as a required component of the General Plan. The Safety Element generally discusses measures to abate the impacts in case of catastrophe for maintenance of the transportation infrastructure. The Traffic and Transportation Division under each county is responsible for developing plans and guidelines for the maintenance of traffic control devices, emergency travel routes in the event of an emergency, placement of barricades, and control of traffic and coordination with other departments to promote integrated disaster planning, response and mitigation efforts. Included in the Safety Element discussion are strategies for continuation of adequate critical infrastructure systems and services to assure adequate circulation, communications, and transportation services for emergency response in the event of disaster related systems disruptions.

Orange County Bikeways Strategic Plan

The 2009 Orange County Commuter Bikeways Strategic Plan was developed “to encourage the enhancement of Orange County’s regional bikeways network, in order to make bicycle commuting a more viable and attractive travel option.”⁶¹ The plan identifies approximately 116 miles of priority bikeway projects. In 2012, the Orange County Transportation Authority provides an addendum to the existing Plan with a Commuter Bikeways Strategic Plan (CBSP) that refines the regional bikeway networks and specified which bikeways are connected to priority locations including major transit investment areas, employment centers, stations, colleges, and universities.⁶²

Riverside County Active Transportation Plans

The Western Riverside Council of Governments (WRCOG) and the Coachella Valley Association of Governments (CVAG) have developed Active Transportation Plans for their respective jurisdictions covering most of Riverside County. The Western Riverside County Active Transportation Plan builds on the Western Riverside County Non-Motorized Transportation Plan (NMTP), published in June 2010, by “updating active transportation network improvement projects, implementation strategies, and funding

⁶¹ Orange County Transportation Authority. *2009 OCTA Commuter Bikeways Strategic Plan*. Available at: <http://www.octa.net/pdf/bikeways09.pdf>, accessed December 18, 2018.

⁶² Orange County Transportation Authority. *Addendum 2009 OCTA Commuter Bikeways Strategic Plan*. Available at: <http://www.octa.net/pdf/2009CommuterBikewaysStrategicPlanAddendum.pdf>, accessed December 18, 2018.

opportunities found in that plan.”⁶³ The CVAG Active Transportation Plan recognizes the “value of providing opportunities for local residents and visitors to bicycle for transportation and recreation and to have attractive opportunities to walk to transit stops, as well as to encourage people to use neighborhood electric vehicles (NEVs).”⁶⁴

San Bernardino County Non-Motorized Transportation Plan

The Revised 2018 San Bernardino County Non-Motorized Transportation Plan’s goals include: (1) Increased bicycle and pedestrian access; (2) Increased travel by cycling and walking; (3) Routine accommodation in transportation and land use planning; and (4) Improved bicycle and pedestrian safety.⁶⁵

Ventura County Bicycle Master Plan

The 2007 Ventura County Bicycle Master Plan “provides a broad vision, strategies and actions for the improvement of bicycling” by maximizing funding sources for implementation; improving safety and encouraging cycling; expanding the network and support facilities; and enhancing the quality of life in and overall environmental benefits. Within the County of Ventura, many jurisdictions and municipalities also has a bicycle plan to encourage non-motorized commutes.

Active Transportation Plans/Mobility Plans

In addition to county plans, many local jurisdictions have developed their own active transportation plans or include active transportation components in the Circulation Element of their General Plan. Many street enhancement projects or capital improvement projects include active transportation elements as well. For example, many street improvement projects may include the striping of bikeways or new developments may include sidewalk enhancements.

⁶³ Western Riverside Council of Governments. *Western Riverside Active Transportation Plan*. Available at: <http://www.wrcog.us/DocumentCenter/View/3366/Final-WRCOG-ATP>, accessed December 18, 2018.

⁶⁴ Coachella Valley Association of Governments. *Active Transportation Plan*. Available at: https://www.cvag.org/library/pdf_files/trans/Transportation_Documents/CVAG%20ATP%202016-06-20%20rev2017-06-07.pdf, accessed December 18, 2018.

⁶⁵ San Bernardino County Transportation Authority. *San Bernardino County Non-Motorized Transportation Plan March 2011 (Revised June 2018)*. Available at: <http://www.gosbcta.com/sbcta/plans-projects/plans/non-motorized-transportation/NMTP-RevJune2018.pdf>, accessed December 18, 2018.

Imperial County Bicycle Master Plan

In 2011, Imperial County updated a Bicycle Master Plan,⁶⁶ which was originally created in 2003. The guiding vision of the plan is to “encourage and promote bicycling as a safe and convenient form of transportation and recreation.” The Plan will implement 253.5 miles of bikeways with intent to replace vehicular trips with bicycle trips. Providing transportation options to reduce Vehicle Miles Traveled is an important feature of this plan that is supportive of SCAG’s overall goals and visions for limiting source pollution control such as carbon dioxide, nitrogen oxides, and hydrocarbon releases and an important component of decreasing greenhouse gas emissions and improving air quality.

Los Angeles County Bicycle Master Plan

Metro developed a Bicycle Transportation Strategic Plan (BTSP) in 2006⁶⁷ to be used by “the cities, the County of Los Angeles and transit agencies in planning bicycle facilities around transit and setting priorities that contribute to regional improvements. The goal is to integrate bicycle use in transportation projects.” In addition, Metro also created a Bicycle Transportation Account Compliance Document (BTA Document) to provide an “inventory and mapping of existing and proposed facilities, and an estimate of past and future expenditures for bicycle facilities.” In 2013, SCAG and Metro developed the Bike County Data Clearinghouse to assist LA County conduct bicycle counts. The Los Angeles County Department of Public Works adopted a Countywide Bicycle Master Plan in 2012, which was developed with the overarching goal of increasing “bicycling throughout the County of Los Angeles through the development and implementation of bicycle-friendly policies, programs, and infrastructure.” The plan recommends the development of an interconnected network of bicycle corridors, with approximately 695 miles of bikeway facilities. This plan looks at the ridership and air quality benefits from cycling and also includes a list of existing and proposed bikeways in LA County.⁶⁸

⁶⁶ Imperial County. *Imperial County Bicycle Master Plan Update: Final Draft*. Prepared by Alta Plannin+Design. Available at: https://www.altaprojects.net/files/6413/2579/4308/Imperial_County_BMP_Final_Draft.pdf, accessed December 18, 2018.

⁶⁷ Los Angeles County Metropolitan Transportation Authority. *Metro Bicycle Transportation Strategic Plan*. Available at: http://media.metro.net/board/Items/2006/02_february/20060215P&PItem6%20Atta.pdf, accessed December 18, 2018.

⁶⁸ Los Angeles County Department of Public Works. *Bicycle Master Plan*. Available at: <http://dpw.lacounty.gov/pdd/bike/masterplan.cfm>, accessed December 18, 2018.

3.17.3 ENVIRONMENTAL IMPACTS

3.17.3.1 Thresholds of Significance

The impacts related to transportation, traffic and safety resulting from the implementation of the proposed project would be considered significant if they would exceed the following significance criteria, in accordance with Appendix G of the *State CEQA Guidelines*:

- Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.
- Conflict or be inconsistent with *CEQA Guidelines* section 15064.3(b).
- Substantially increase hazards due to geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- Result in inadequate emergency access.

In addition, the following criterion from **Section 3.20, Wildfire**, is addressed along with emergency access:

- Substantially impair an adopted emergency response plan or emergency evacuation plan.

As discussed above, CARB and OPR have recommended VMT thresholds of significance in their guidance documents, however these thresholds are meant to apply at the project-level. CARB notes that the modeling used for the CTF forecast identifies ratios of total statewide VMT to population and that the suggested per capita reductions are not household generated VMT and that values are not directly comparable to output from a local or regional travel demand model. OPR notes that with respect to their recommended thresholds “combining different land uses and applying one threshold to those land uses may result in an inaccurate impact assessment.” Since SCAGs model generates trips from a variety of land uses and trips from each land use cannot be separated, comparison of SCAG VMT data to OPR thresholds is not recommended.

The objective of these thresholds is to meet statewide GHG emissions targets through VMT reductions from the transportation sector. Both CARB and OPR acknowledge that MPO’s are tasked with meeting SB 375 GHG emissions targets, and while CARB has determined that meeting these targets will not be sufficient to attain state climate goals, more can be done at the project level. At the project level, lead agencies may consider CARB, OPR and other recommended thresholds of significance and determine which ones are appropriate and feasible for the particular project, or apply alternative thresholds, consistent with *CEQA Guidelines* Section 15064.3 which states “A lead agency has discretion to choose the most appropriate methodology to evaluate a project's vehicle miles traveled, including whether to

express the change in absolute terms, per capita, per household or in any other measure. A lead agency may use models to estimate a project's vehicle miles traveled and may revise those estimates to reflect professional judgment based on substantial evidence." See also **Section 3.8, Greenhouse Gases**, for additional discussion on the connection between GHG and VMT and SCAG's ability to meet SB 375 and consistency with SB 743 guidance and suggested targets as well as statewide climate goals.

3.17.3.2 Methodology

Transportation-related impacts were evaluated in accordance with Appendix G of the 2019 *CEQA Guidelines*. Transportation-related impacts within the SCAG region were evaluated at a programmatic level of detail, in relation to the General Plans of the six counties and the 191 cities within the SCAG region review of general information characterizing transportation and review of published and unpublished literature germane to the SCAG region.

The methodology for determining the significance of impacts on transportation, traffic, and safety impacts compares current regional transportation conditions to expected future 2045 conditions with the Plan, as required by *State CEQA Guidelines*. SCAG utilized the Regional Travel Demand Model (RTDM) to compare the existing conditions to the Plan's 2045 condition. SCAG's role as the MPO for the region and as the preparer of the regional transportation plan is to evaluate the regional network. The most appropriate metric for such regional analysis is VMT which measures overall network efficiency, rather than LOS which is generally used to evaluate local (i.e., intersection level) impacts. Total daily VMT is used as a measure of overall utilization of roadways which relates to vehicle emissions, traffic congestion, and the effectiveness of land use patterns and alternate mode options in reducing the need for vehicular travel. Vehicle hours of delay (VHD) measures the congestion level of the roadway. Other measures such as transportation system accident rates measure the effect of other modal choices from vehicles to active transportation. Performance measures for the Plan's horizon year 2045 were compared to the existing regional conditions for each significance criterion to determine the significance of impacts. The 2045 transportation model output provides a regional and cumulative level of analysis for the impacts of the Plan on transportation, traffic, and safety.

The mitigation measures in the PEIR are divided into two categories: SCAG mitigation and project-level mitigation measures. SCAG mitigation measures shall be implemented by SCAG over the lifetime of the Plan. For projects proposing to streamline environmental review pursuant to SB 375, SB 743, or SB 226 (as described in **Section 1.0, Introduction**), or for projects otherwise tiering off this PEIR, the project-level mitigation measures described below (or comparable measures) can and should be considered and implemented by Lead Agencies and Project Sponsors during the subsequent, project- or site-specific environmental reviews for transportation and development projects as applicable and feasible. However,

SCAG cannot require implementing agencies to adopt mitigation, and it is ultimately the responsibility of the implementing agency to determine and adopt project-specific mitigation.

3.17.3.3 Impacts and Mitigation Measures

Impact TRA-1 Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.

Less than Significant Impact.

The region provides a large and growing amount of transit service. In 2017, the region supplied 22.5 million hours of service, or roughly 1.18 hours for every resident. However, transit ridership has declined significantly over the last 10 years, even as service levels have grown. Between 2006 and 2017, total passenger trips declined by 125 million, or 17 percent. This works out to a decline of almost 10 trips per person, or just under 23 percent. This trend impacts agencies' ability to continue to provide these levels of service, as declining fare revenues will eventually lead to budgetary challenges.

The Plan calls for a substantial expansion of transit facilities and service over the next 25 years. While these capital projects would provide the SCAG region with a much more mature public transportation system, operational improvements and new transit programs and policies would also contribute to attracting more trips to transit and away from single-occupant vehicle travel. Expanding HOV and express lane networks calls for the development of an extensive express bus point-to-point network. In addition, transit oriented and land use strategies call for increasing the frequency and quality of fixed-route bus service by virtue of adding new bus rapid transit service, limited-stop service, increased frequencies along targeted corridors, and the introduction of local community circulators to provide residents of smart growth developments with the option of taking transit over using a car to make short, local trips.

Many of Metro's Measure R projects have made significant construction progress since the adoption of the 2016 RTP/SCS, including the Crenshaw/LAX Transit Corridor, the Regional Connector and the Purple Line Extension Phase 1. Additionally, work concluded on the Exposition Transit Corridor Phase 2 to Santa Monica and the Metro Gold Line Foothill Extension Phase 2A. Both of those projects entered revenue service in 2016.⁶⁹

On the November 2016 ballot, Los Angeles County voters approved Measure M, a fourth Local Option Sales Tax to fund both capital and operations within Los Angeles County. The tax was part of a forty-one-

⁶⁹ Metro, *Measure R*. Available online at: <https://www.metro.net/projects/measurer/>, accessed November 1, 2019.

year, \$120 billion plan to expand upon Measure R, adding new transit projects and expediting others previously approved under Measure R. The plan, known as Measure M, would be paid for by an additional permanent half-cent sales tax increase. Measure M passed with 70.15 percent of the vote, clearing the two-thirds majority required. The combined expenditure plan provides \$432.29 billion for transit operations, \$41.86 billion for capital construction of corridor improvements and facilities and \$2.39 billion for capital replacement to achieve a state of good repair. Additionally, the expenditure plan programs \$19.13 billion in local return funds, which are often used to fund transit operations.⁷⁰ **Table 3.17-11, Major Transit Capital Projects**, provides a summary of major transit projects included in the Plan. A map of the 2045 Transit Network is provided in **Figure 2.0-14, 2045 Plan Transit Network**, in **Chapter 2.0, Project Description**.

Table 3.17-11
Major Transit Capital Projects

County	Project	Connect SoCal Completion Year
Los Angeles	Crenshaw/LAX Transit Corridor	2020
Los Angeles	Metro Eastside Transit Corridor – Phase 2	2035
Los Angeles	Metro Gold Line Foothill Extension to Claremont	2025
Los Angeles	Airport Metro Connector	2024
Los Angeles	South Bay Metro Green Line Extension	2030
Los Angeles	Regional Connector	2021
Los Angeles	San Fernando Valley (East) North/South Rapidways	2027
Los Angeles	West Santa Ana Branch Corridor	2028
Los Angeles	Metro Purple Line Westside Subway Extension Section 1	2023
Los Angeles	Metro Purple Line Westside Subway Extension to Century City	2026
Los Angeles	Metro Purple Line Westside Subway Extension to Westwood	2027
Los Angeles	Sepulveda Pass Transit Corridor	2033
Los Angeles	Vermont Transit Corridor	2028
Los Angeles	Vermont Short Corridor: Wilshire/Vermont to Exposition/Vermont	2045
Orange	Santa Ana/Garden Grove Fixed Guideway	2021
Riverside	Rapid Commuter Corridor From Parris to San Jacinto	2045
San Bernardino	Redlands Rail – Phase 1	2021
San Bernardino	Redlands Rail – Phase 2	2045
San Bernardino	West Valley Connector	2024

⁷⁰ Metro, *Measure M Ordinance*. Available online at: https://theplan.metro.net/wp-content/uploads/2016/09/measurem_ordinance_16-01.pdf, accessed November 1, 2019

In Los Angeles County, three key efforts are likely to substantially impact the implementation of Connect SoCal. The first of these is Metro's NextGen Bus Study.⁷¹ This study seeks to design a new bus network that is more relevant, reflective of and attractive to the residents of Los Angeles County. Specific objectives of the study include:

- Understand transit market demand in LA County
- Study the agency's current bus system and how well it serves current and potential customers
- Recommend how best to reimagine the system to be more relevant to what people need today

If implemented, this study may result in major changes to Metro's bus service. All aspects of Metro bus service are on the table for study, including speed, distance, frequency, time of day, reliability as well as quality of service, and safety. The study may also result in major changes to the Metro bus network's routes. Metro has compiled and processed data to help prepare the Regional Service Concept, which is guiding the development of the Draft NextGen Bus Service Plan, expected to be released in early 2020.

The second effort is the Twenty-Eight by '28 Initiative which highlights 28 Metro projects for potential completion by the 2028 Summer Olympic and Paralympic Games to be held in Los Angeles and surrounding areas. The Metro Board approved a list of projects, which includes projects already slated for completion by 2028, as well as projects with later delivery dates with potential for acceleration. Project acceleration would be considered on a case-by-case basis according to the adopted Early Project Delivery strategy. Not all Measure M investments scheduled for completion by 2028 are included in the Twenty-Eight by '28 list, and the list does not replace commitments made in the Measure M Ordinance. Metro reports quarterly on project delivery and funding status of the Twenty-Eight by '28 list.

The third planning effort is the City of Los Angeles's Mobility Plan 2035: An Element of the General Plan.⁷² This document provides the policy foundation for achieving a transportation system that balances the needs of all road users. As an update to the City's General Plan Transportation Element (last adopted in 1999), Mobility Plan 2035 incorporates "complete streets" principles and lays the policy foundation for how future generations of residents interact with their streets. This plan includes the Transit-Enhanced Network (TEN), a series of transit and active transportation investments on key corridors throughout the City of Los Angeles, including peak hour bus lanes, all day bus lanes and mixed flow lanes with

⁷¹ Metro, *NextGen Bus Study*. Available online at: <https://www.metro.net/projects/nextgen/>, accessed November 1, 2019.

⁷² Los Angeles Department of City Planning, *Mobility Plan 2035: An Element of the General Plan*, 2016. Available online at: https://planning.lacity.org/odocument/523f2a95-9d72-41d7-aba5-1972f84c1d36/Mobility_Plan_2035.pdf

improved bus service. **Table 3.17-12** shows that daily transit boarding in the region would increase over the lifetime of the Plan.

Table 3.17-12
Daily Transit Boardings

Daily Transit Boarding	Existing (2019)	2045 No Plan	2045 Plan
Commuter Rail	53,820	66,245	174,947
Local Bus	1,731,171	2,145,804	2,922,138
Local Rail / Bus Rapid Transit	452,444	701,487	1,604,222
Express Bus	24,600	26,710	30,981
HSR	-	-	32,157
Rapid Bus	130,713	145,162	346,992
Transitway	30,791	31,478	33,090
Total (Transit)	2,423,540	3,116,887	5,144,528

Source: SCAG, 2019

Connect SoCal proposes a variety of active transportation investments to improve conditions for people who walk, bike, and use micro-mobility (See **Chapter 2.0, Project Description**). Current rates of funding and the speed of implementation will need to be accelerated to complete the proposed projects within the Plan. This will require additional community engagement to build support for changes to roadway networks such as active mobility lanes and other safety improvements. SCAG has identified a number of implementation actions that an agency can pursue toward active transportation goals. These actions will serve as broad direction for the agency to support equity, short and regional trips, safety, and complete streets. Overall, cost estimates to implement active transportation goals of the Plan would total \$22.5 billion.

The Plan calls for a substantial expansion of transit facilities and service to attract trips to transit and away from single-occupancy vehicle travel. Transit-oriented land use strategies would increase the frequency and quality of fixed-route bus service by adding new rapid service, express service, and community circulators for short trips.

The proposed Active Transportation plan would increase the mode share of transit and active transportation in the SCAG region, from 10.6 percent in 2019 to 12.9 percent in 2045 (**Table 3.17-13**).

Table 3.17-13
Percentage of Mode Share on Transit and Active Transportation

Mode Share	2019	2045 No Project	2045 Plan
Walk	7.0	6.7	7.1
Bike	1.3	1.4	1.7
Transit	2.3	2.6	4.1
Total	10.6	10.7	12.9

Source: SCAG modeling, 2019.

In 2016 SCAG completed an Active Transportation Health and Economic Impact Study, which showed that the investments in the 2016 RTP/SCS would result in an additional \$113 billion in economic outcome for the region over the life of the plan, 70 percent of which would be from reduced health care costs and improved worker productivity. SCAG conducted a similar analysis as part of Connect SoCal and found that the Plan, including active transportation and nonactive transportation investments, would provide \$352 million in health care savings. Additional information on the physical activity rates and benefits of Connect SoCal is outlined in the Public Health Technical Report. Each RTP/SCS cycle, SCAG has expanded and improved its analysis of active transportation planning processes to better integrate people walking and bicycling into the regional transportation network.

Since 2016, county transportation commissions and councils of governments within SCAG's region have also completed notable active transportation planning initiatives including countywide pedestrian plans, multi-jurisdictional bicycle master plans, comprehensive Safe Routes to School plans, active transportation plans, and first-last mile policies and plans. Through grant sources such as the Active Transportation Program, SCAG's Sustainable Communities Program and Caltrans Sustainability Planning Grants, 68% of cities within SCAG's region have adopted bicycle master plans. The number of cities with Safe Routes to School and pedestrian master plans have doubled since 2016.

SCAG's analytic approach for its active transportation plans included a combination of outreach processes and data gathering efforts, including but not limited to SCAG's local input process with cities, county agencies, councils of governments, working groups, and technical advisory committees that review active transportation projects and programs, input collected through the scenario development process from agency partners, health departments, community based organizations and members of the public, input gathered through SCAG's Go Human events.

As described within the Environmental Setting, there are numerous plans and polices that address the circulation system. At the transit agency level, it is unlikely that conflicts would occur, as SCAG incorporates local transit plans into the RTP through regular amendments to the Plan. With regard to bicycle and pedestrian plans, as described above, SCAG has done extensive outreach and coordination across numerous groups to capture local input. Further, SCAG regularly assists local jurisdiction in planning for these types of projects through grant funding.

SCAG and the six Counties have worked towards the development of a metropolitan-wide strategy for new and existing transportation facilities eligible for funding under Title 23 U.S.C. and Title 49 U.S.C., to optimize the transportation system for safety and improve effectiveness. This strategy includes the development of a coherent and integrated regional goods movement system. Strategies include a Regional Freight Corridor System which would create a system of truck-only lanes for major freeway systems that are affected by haul trucks used for the goods movement; a Truck Bottleneck Relief Strategy which would mitigate top-priority truck bottlenecks; a Rail Strategy which would allow shippers the ability to move over long distances at lower costs, utilizing efficient rail strategies to include expansion and modernization of intermodal facilities; a Good Movement Environmental Strategy which would focus on a two-pronged approach for achieving an efficient, safe and economically sound freight system that reduces environmental impacts.

In order to meet federal certification requirements, SCAG and county CMAs, specifically LA County Metro, OCTA, RCTC, SANBAG, and VCTC are developing means to monitor and maintain the existing roadway infrastructure through demand reduction techniques, land-use and operation management strategies, and strategic capacity enhancement strategies. Additional strategies include supporting land use policies aimed to focus growth in HQTAs with enhanced opportunities for Southern California residents to access destinations without the use of an automobile.

SCAG has also worked with local Congestion Management Agencies (CMA) to support strategies for diversifying mode choices by encouraging public transit use and non-motorized forms of commute such as walking and other active transportation in the Plan. While the actual benefits of these alternative and active transportation modes are modest, SCAG transportation modeling indicates a potential to overall improvement in peak period work trips completed within 45 minutes by personal vehicle or by other transit with implementation of the Plan. In order to determine these findings, PM peak period work trips were used to assess impacts to work commute as PM trips are prone to the greatest amount of vehicle delay.

Lastly, the Plan includes land use strategies to focus development in HQTAs and High Quality Transit Corridors (HQTCs). Planned HQTCs are future improvements that are expected to be implemented by

transit agencies by 2045. These are assumed by definition to meet the statutory requirements of HQTIC. The strategies of the SCS that focus development in these transit rich areas allow transit and land use to work together. CARB's 2016 Mobile Source Strategy recognizes that coordinated regional planning can improve California's land use patterns and transportation policy in a way that reduces transportation-related emissions by reducing growth in VMT. The SCS is one mechanism to pursue these reductions. The Plan includes policies to incentivize land use changes and promote communities that are designed to foster use of ZEVs and new modes of personal mobility consistent with the Mobile Source Strategy.⁷³

As such, the Plan would not conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. Impacts would be less than significant.

Impact TRA-2 Conflict or be inconsistent with CEQA Guidelines section 15064.3(b).

Significant and Unavoidable Impact – Mitigation Required.

CEQA Guidelines Section 15064.3(b) is intended to be applied at the project level; therefore, the myriad transportation and development projects that will occur under the Connect SoCal Plan will be required to address the specific requirements, as follows:

(b) Criteria for Analyzing Transportation Impacts.

(1) Land Use Projects. Vehicle miles traveled exceeding an applicable threshold of significance may indicate a significant impact. Generally, projects within one-half mile of either an existing major transit stop or a stop along an existing high quality transit corridor should be presumed to cause a less than significant transportation impact. Projects that decrease vehicle miles traveled in the project area compared to existing conditions should be considered to have a less than significant transportation impact.

(2) Transportation Projects. Transportation projects that reduce, or have no impact on, vehicle miles traveled should be presumed to cause a less than significant transportation impact. For roadway capacity projects, agencies have discretion to determine the appropriate measure of transportation impact consistent with CEQA and other applicable requirements. To the extent that such impacts have already been adequately addressed at a programmatic level, a lead agency may tier from that analysis as provided in Section 15152.

(3) Qualitative Analysis. If existing models or methods are not available to estimate the vehicle miles traveled for the particular project being considered, a lead agency may analyze the project's vehicle miles traveled

⁷³ Air Resources Board, Mobile Source Strategy 2016, <https://ww3.arb.ca.gov/planning/sip/2016sip/2016mobsrsrc.pdf>

qualitatively. Such a qualitative analysis would evaluate factors such as the availability of transit, proximity to other destinations, etc. For many projects, a qualitative analysis of construction traffic may be appropriate.

(4) Methodology. A lead agency has discretion to choose the most appropriate methodology to evaluate a project's vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household or in any other measure. A lead agency may use models to estimate a project's vehicle miles traveled, and may revise those estimates to reflect professional judgment based on substantial evidence. Any assumptions used to estimate vehicle miles traveled and any revisions to model outputs should be documented and explained in the environmental document prepared for the project. The standard of adequacy in Section 15151 shall apply to the analysis described in this section.

Connect SoCal is based on a regional employment and population forecast and accommodates this growth through the implementation of transportation projects and land use strategies. The Plan includes strategies to accommodate projected growth in a manner that increases transportation system efficiency and reduces VMT. Metrics such as VMT, VHT, and VHD have been used throughout the history of the Plan as a measure of the performance of the region's transportation system. SCAG has traditionally used VMT to assess transportation impacts as it is a more useful tool to evaluate impacts at the regional-scale than delay-based metrics for roadways such as LOS. In addition, the regional models used by SCAG do not include the LOS metric.

Traditionally project-level analysis of transportation impacts focused on local-level congestion and delay-based impacts (e.g., intersection and roadway LOS). The analysis of the Connect SoCal Plan is at the regional level and evaluates total regional VMT (including consideration of per capita data) and overall efficiency of the network.

CEQA Guidelines section 15064.3(b) provides that local jurisdictions have the ability to select the most appropriate methodology for their jurisdiction or project. As discussed above, methodologies and thresholds have been identified by OPR and CARB, as well as local jurisdictions. SCAG has discussed each of the thresholds in this PEIR and identified metrics at the regional scale (changes in total VMT and VMT per capita) over the Plan horizon.

CARB notes that their modeling assumes cleaner technology and fuels and identifies target ratios of total statewide VMT to population and that the suggested per capita reductions (i.e., 14.3 percent) are **not** household generated VMT and that values are **not** directly comparable to output from a local or regional travel demand model. Discussion of CARB's CTF modeling and suggested VMT thresholds under SB 743 is further discussed in **Section 3.8, Greenhouse Gases**.

OPR notes that with respect to their suggested thresholds (a reduction of 15 percent as compared to existing conditions [2017] for residential and office uses and a net increase for retail uses) combining different land uses and applying one threshold to those land uses may result in an inaccurate impact assessment.

Each jurisdiction may select the appropriate methodology and threshold for their jurisdiction and projects as long as the methodology is consistent with *CEQA Guidelines* Section 15064.3(b)(4). Jurisdictions may make use of regional SCAG data as appropriate and applicable in establishing thresholds.

As shown in **Table 3.17-14, Total VMT 2019 and 2045 By County**, total daily VMT in 2045 would increase when compared to current daily VMT, despite the reductions in per capita VMT. Total VMT is expected to grow from 461 million in 2019 to 518 million in 2045. This change constitutes a 12.3 percent increase and includes light, medium, and heavy-duty vehicle VMT in all six counties. The Plan is expected to reduce VMT per capita in Los Angeles, Orange and Ventura County and would increase VMT per capita in Imperial, Riverside, and San Bernardino County.⁷⁴

Studies have found that by adding roadway capacity in congested areas, network-wide VMT is increased by a nearly equivalent proportion within a few years, which results in reducing the initial congestion relief.⁷⁵ This increase in VMT is called “induced travel.” The long-term induced travel resulting from the Plan in 2035, which is calculated by analyzing roadway lane miles increase between 2016 and 2035 by 3 classes (interstate highway, other freeways and expressways, and other principal arterials), is 1.3 percent of total VMT in 2035.

Emerging technologies vary widely when it comes to their effect on VMT, and therefore GHG emissions. Some of these technologies, such as alternative fuel vehicles, micro-mobility, bikesharing and microtransit, have a mitigating influence on GHG emissions. Others, such as ride-hailing and automated vehicles, are expected to increase VMT and GHG emissions if their business models do not adapt.

⁷⁴ Connect SoCal Performance Results, 2019. Reductions are from a 2016 base year.

⁷⁵ National Center for Sustainable Transportation. Induced Travel Calculator. Accessed at <https://blinktag.com/induced-travel-calculator/about.html> on October 25, 2019.

Table 3.17-14
Total VMT 2019 and 2045 by County

County	In Thousands		
	2019	2045 No Project	2045 Plan
Imperial	7,000	11,000	11,000
Los Angeles	231,000	255,000	243,000
Orange	80,000	86,000	83,000
Riverside	61,000	80,000	78,000
San Bernardino	63,000	85,000	83,000
Ventura	19,000	21,000	20,000
SCAG Region	461,000	538,000	518,000

Note: Numbers are rounded to nearest thousand.
Source: SCAG modeling, 2019.

Table 3.17-15, Population and Daily VMT (2019 and 2045), presents information related to population, daily VMT and VMT per capita for the years 2019 and 2045.

Table 3.17-15
Population and VMT (2019 and 2045)

	2019	2045	2045 vs 2019
Total Population	19,339,700	22,507,200	14.1%
Total VMT	460,153,316	517,631,374	11.1%
VMT Per Capita Light Duty Vehicles	22.09	20.67	-6.4%
VMT Per Capita All Vehicles	23.79	22.89	-3.8%

Source: SCAG modeling, 2019.

By 2045 public transit boardings are projected to more than double in absolute numbers, and transit's mode share will also rise. The share of trips by bicycle and walking will rise and such active modes as well as transit will represent 12.9 percent of all trips. The share of trips by single-occupancy vehicles will fall from 69.62 percent to 65 percent of home-to-work trips for the region. The combined effect of these transportation mode shifts and the SCS land use pattern will result in a reduction in VMT per capita by 2045. Overall VMT per capita will decline by 3.8 percent for all vehicles and 6.4 percent for light, medium duty vehicles.

Table 3.17-16
VMT Per Capita by County

County	Total VMT per Capita			
	Light/Medium Duty Vehicles		All Vehicles	
	2019	2045	2019	2045
Imperial	28.43	31.24	33.57	39.70
Los Angeles	21.13	19.24	22.40	20.84
Orange	23.24	21.93	24.37	23.43
Riverside	22.01	20.56	24.61	23.83
San Bernardino	24.85	24.47	28.27	29.42
Ventura	21.02	19.47	22.15	21.05
Regional Average	22.09	20.67	23.79	23.00

Source: SCAG modeling, 2019.

As shown in **Table 3.17-16, VMT Per Capita by County**, Los Angeles County will experience the largest decline in per capita VMT in 2045, while Imperial County will experience the largest increase. In addition, as shown in **Table 3.17-17, Total Daily Vehicle Hours of Delay**, total delay in the region will decrease in Orange and Ventura Counties. Los Angeles, San Bernardino, Riverside and Imperial would all experience increases in delay.

Table 3.17-17
Total Daily Vehicle Hours of Delay

County	2019	2045 No Project	2045 Plan
Imperial	9,631	38,986	26,573
Los Angeles	1,686,548	2,097,088	1,742,303
Orange	431,378	553,724	381,522
Riverside	172,164	376,959	252,415
San Bernardino	152,870	326,859	221,484
Ventura	55,099	77,029	43,932
Regional	2,507,690	3,470,645	2,668,229

Source: SCAG modeling, 2019.

Table 3.17-18 shows percent of work trips completed within 45 minutes. As shown in this table, by 2045 there would be an increase of PM work trips by single-occupancy vehicles that take 45 minutes or less (from 79.78 percent to 82.62 percent). HOV PM trips within 45 minutes would increase from 83.27 percent to 84.39 percent and transit trips completed within 45 minutes would decline from 53.51 to 52.22 percent. Despite the decline for transit trips, this indicates that the Plan's strategies are improving overall congestion.

Table 3.17-18
Percent of PM Work Trips Completed within 45 Minutes

County	2019	2045 No Project	2045 Plan
Autos –Single Occupancy Vehicles			
Imperial	94.06%	92.42%	92.45%
Los Angeles	79.26%	79.70%	81.55%
Orange	84.30%	85.59%	86.79%
Riverside	74.69%	75.91%	79.41%
San Bernardino	76.81%	78.04%	81.17%
Ventura	82.41%	84.55%	85.91%
Region	79.78%	80.56%	82.62%
Autos – High Occupancy Vehicles			
Imperial	94.87%	92.99%	91.61%
Los Angeles	81.93%	81.34%	82.57%
Orange	88.14%	87.46%	89.59%
Riverside	79.00%	79.78%	81.04%
San Bernardino	81.68%	81.09%	83.28%
Ventura	85.93%	86.10%	88.16%
Region	83.27%	82.80%	84.39%
Transit			
Imperial	69.64%	55.74%	66.90%
Los Angeles	55.15%	53.33%	53.45%
Orange	53.41%	54.10%	53.73%
Riverside	30.49%	29.76%	30.79%
San Bernardino	42.51%	39.05%	44.44%
Ventura	46.21%	44.11%	45.24%
Region	53.51%	51.74%	52.22%

*Note: Numbers are rounded to nearest thousand.
Source: SCAG modeling, 2019.*

The VMT per-capita decline indicates that transportation projects, as well anticipated growth patterns under the Plan, if implemented, would effectively work together to improve system efficiency and minimize increases in VMT. This is because the Plan includes a more compact development pattern. Compact land uses are more efficiently served by transit, support potentially higher rates of walking and biking, and generate less vehicle travel. The Plan also places an emphasis on transit service and complete streets near transit, walk, and bicycle supportive land uses with higher density and a mix of uses most likely to generate a mix of travel modes. Road and highway projects concentrate on alleviating major bottlenecks and congestion points, while other programs and transportation systems management strategies, including technology and demand management programs, allow for greater optimization of existing transportation infrastructure. Other factors affecting future VMT are aging of the population and forecasted increases in auto operating costs.

As discussed above, the Plan is projected to increase total VMT in the SCAG region between 2019 to 2045 by approximately 12.36 percent, constituting a significant impact. Furthermore, the Plan is projected to increase total daily hours of delay from 2.50 million to 2.66 million hours between 2019 and 2045 (**Table 3.17-17, Total Daily Vehicle Hours of Delay**).

Connect SoCal commits more than \$37 billion for various highway improvements, including mixed-flow and interchange improvements, HOV/Express lanes, and transportation system management. For example, in Orange County, a \$1.9 billion project would add one mixed-flow lane in each direction, convert an HOV lane to HOT lane, and add an additional HOT lane on I-405. This project is scheduled for completion in 2026. In addition, numerous projects are scheduled for completion that would result in an Express Lane on I-405 from its northern terminus to the Los Angeles/Orange County border.

Policies that aim to charge drivers user fees to cover the costs of services they use can be effective in lowering emission and delays from increased VMTs. For example, Connect SoCal includes a local road charge program in the form of mileage-based user fees regionally, which can be adjusted by time-of-day at major activity centers. SCAG assumed congestion pricing during peak periods along with increases in parking pricing at major job centers in Los Angeles. The implementation of user-fees and pricing strategies can be structured to increase equity and mobility while reducing environmental impacts.⁷⁶

Potential development projects anticipated to occur under the Plan should consider the CEQA guidance regarding VMT. In general, as stated in *CEQA Guidelines* Section 15064.3(b)(1), projects located within HQTAs would likely have less than significant transportation impacts. For those projects located outside of HQTAs, transportation impacts would be determined based on the project's ability to reduce VMT.

⁷⁶ SCAG, Connect SoCal Technical Report, *Congestion Management*. November 2019.

For transportation projects under the Plan, those projects that reduce VMT, such as most transit and bike projects, the assumption is impacts will be less than significant. However, consistency with the RTP/SCS does not necessarily lead to a less than significant impacts. Further, OPR's technical guidance on SB 743 states "building new roadways, adding roadway capacity in congested areas, or adding roadway capacity to areas where congestion is expected in the future, typically induces additional vehicle travel. For the types of projects previously indicated as likely to lead to additional vehicle travel, an estimate should be made of the change in vehicle travel resulting from the project."

Ultimately, the determination of VMT impacts will be made at the project level. As discussed above and elsewhere in this PEIR (see **Section 3.8, Greenhouse Gases**), lead agencies have the discretion to determine the appropriate methodology and level of analysis. As described, there are multiple potential VMT targets, CARB has identified 14.3 percent reductions in total VMT from 2015 to 2050 (based on specific modeling assumptions and ratios that are not directly comparable to data from regional travel demand models, see discussion in **Section 3.8 Greenhouse Gases**) and OPR has identified 15 percent lower per capita residential and office VMT and no net increase in residential VMT (OPR recommends that these reductions be calculated separately for each land use).

In CARB's January 2019 report,⁷⁷ CARB identifies a statewide population increase of 10 million people (an increase of 24 percent) between 2015 and 2050, growth in the SCAG region would account for nearly one third of that increase. If California were to meet its climate goals for 2050, CARB estimates (using specific CTF assumptions and population to VMT ratios that are not directly comparable to regional travel demand modeling) a 14.3 reduction in total VMT would be necessary.⁷⁸ See **Section 3.8 Greenhouse Gases**, for additional discussion of SB 743 and the CARB guidance.

OPR generally recommends a threshold of 15 percent below existing VMT per capita for residential and office with a no net increase for retail projects. OPR indicates that "land use projects, residential projects, office and retail projects tend to have the greatest influence on VMT." OPR suggests that lead agencies with more specific location information may develop their own more specific thresholds. OPR indicates

⁷⁷ California Air Resources Board, *2017 Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals*, 2019

⁷⁸ According to CARB: "Total VMT per capita is calculated as a ratio of total statewide VMT to forecast population from the California Department of Finance. This is not household-generated VMT, and the values are not directly comparable to output from a local or regional travel demand model. This estimate is merely meant to show the extent of per capita VMT reduction needed relative to existing conditions in order to show consistency with the State's climate goals."

that combining different land uses and applying one threshold to those land uses may result in an inaccurate impact assessment.⁷⁹

At the regional level, CARB has set a regional target for SCAG of a 19 percent reduction in per capita on-road light duty transportation-related GHG emissions by 2035 relative to 2005. While SCAG meets this target, CARB has indicated that additional reductions are needed beyond targets set for the MPOs and has identified a “gap” between the regional target and the emissions/VMT reductions necessary to meet the state’s climate action goals. Currently adopted SCSs would achieve in the aggregate, a nearly 18 percent reduction in statewide per capita transportation-related GHG emissions in aggregate. However, in order to meet the statewide goals, the full reduction needed, according to CARB, is a 25 percent reduction by 2035.⁸⁰ Although the region is making progress in per capita VMT reductions, and is making significant strides in the development of new initiatives, projects, and programs in the Plan, and is not directly interfering with the statewide VMT reductions required to meet the state’s climate goals, the Plan does not clearly achieve the necessary level of VMT reductions now forecast by the state to meet AB 32 and SB 32 (as well as associated SB 743 guidance) GHG reduction goals. As discussed above and in **Section 3.8, Greenhouse Gases**, there is a “gap” between the current MPO emissions reductions targets and the emissions/VMT reductions necessary to meet the state’s climate action goals.

While CARB acknowledges that SCAG and other MPOs cannot meet this need without the collaboration and help of the state itself (i.e., through stricter regulation), as well as local partners, at the time of writing this PEIR it is unknown how CARB and other state agencies, through statewide programs or in coordination with local and regional governments, would meet the identified higher VMT reductions. It is expected that individual projects will need to review their projects in light of CARB and OPR guidance regarding VMT reduction targets to determine the appropriate levels of reductions. In some cases, it could be CARB’s suggested 14.3 target, or OPRs 15 percent (for residential and office uses) reduction. Neither the agencies, nor the courts have provided any clear guidance yet as to the appropriate methodology, and it is expected that there will not be a “one size fits all” approach. Each project will need to be evaluated in light of its particular components.

Despite the benefits shown by implementing the Plan, the transportation projects and growth under the Plan would substantially increase VMT, which would be inconsistent with *CEQA Guidelines* section 15064.3(b) and may not support achievement of the state’s VMT goals as identified in the 2017 Scoping Plan, constituting a significant impact requiring the consideration of mitigation measures.

⁷⁹ The SCAG region includes a wide variety of project types, and as such, a generic 15 percent reduction would not be expected to accurately reflect the specific details of the region.

⁸⁰ California Air Resources Board, *2017 Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals*, 2019

Mitigation Measures

SCAG Mitigation Measures

SMM TRA-1: SCAG shall facilitate minimizing VMT and related vehicular delay by minimizing impacts to circulation and access, improve mobility, and encourage transit and Active Transportation via workshops (i.e., Mobility 21 workshop and Regional Transportation Workgroups) and web-based planning tools for local governments, forums with policy makers, and County Transportation Planning Agencies, member cities, and state partners.

SMM TRA-2: SCAG shall identify further reduction in VMT, and fuel consumption that could be obtained through land-use strategies, additional car-sharing programs with linkage to public transportation, additional vanpools, additional bicycle sharing and parking programs, and implementation of a universal employee transit access pass (TAP) program.

SMM TRA-3: SCAG shall initiate and facilitate an SB 743 implementation program. The grant-funded project, co-sponsored by SCAG and LADOT, seeks to provide technical and mitigation strategy development guidance to local jurisdictions in the six-county SCAG region to facilitate implementation of the VMT-based CEQA transportation impact analysis provisions of SB 743. This coordinated program of technical guidance, evaluation of options, and cooperative engagement with local communities will serve to smooth the transition to the new VMT-reducing development paradigm, helping to ensure a successful region-wide implementation of SB 743 and attainment of the associated GHG reduction goals. Some of the primary features of the scope of work include:

- Evaluate the feasibility of various alternative VMT mitigation options, including local and regional VMT exchange and banking programs.
- Establish CEQA nexus to reduce VMT through a VMT mitigation exchange or banking program alternative.
- Substantiate the legal basis of a VMT exchange program for satisfying CEQA mitigation requirements.
- Collaborate with other communities and jurisdictions to reduce VMT through implementation of a VMT mitigation exchange or bank program.

- Improve the dissemination of transportation project VMT mitigation options.
- Support a variety of TDM strategies for Transportation Management Organization (TMO) membership agencies.
- Provide guidance to facilitate establishment of VMT mitigation exchange or bank programs throughout the region and state

SMM TRA-4: SCAG shall continue to analyze and develop potential implementation strategies for a regional, market-based system to price or charge for auto trips during peak hours.

SMM TRA-5: SCAG shall develop a vanpool program for SCAG employees' commute trips.

SMM TRA-6: SCAG shall encourage new developments to incorporate both local and regional transit measures into the project design that promote the use of alternative modes of transportation.

Project Level Mitigation Measures

PMM-TRA-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to transportation-related impacts. Such measures may include the following or other comparable measures identified by the Lead Agency:

- Transportation demand management (TDM) strategies should be incorporated into individual land use and transportation projects and plans, as part of the planning process. Local agencies should incorporate strategies identified in the Federal Highway Administration's publication: *Integrating Demand Management into the Transportation Planning Process: A Desk Reference* (August 2012) into the planning process (FHWA 2012). For example, the following strategies may be included to encourage use of transit and non-motorized modes of transportation and reduce vehicle miles traveled on the region's roadways:
 - include TDM mitigation requirements for new developments;
 - incorporate supporting infrastructure for non-motorized modes, such as, bike lanes, secure bike parking, sidewalks, and crosswalks;

- provide incentives to use alternative modes and reduce driving, such as, universal transit passes, road and parking pricing;
- implement parking management programs, such as parking cash-out, priority parking for carpools and vanpools;
- develop TDM-specific performance measures to evaluate project-specific and system-wide performance;
- incorporate TDM performance measures in the decision-making process for identifying transportation investments;
- implement data collection programs for TDM to determine the effectiveness of certain strategies and to measure success over time; and
- set aside funding for TDM initiatives.

- The increase in per capita VMT on facilities experiencing LOS F represents a significant impact compared to existing conditions. To assess whether implementation of these specific mitigation strategies would result in measurable traffic congestion reductions, implementing actions may need to be further refined within the overall parameters of the proposed Plan and matched to local conditions in any subsequent project-level environmental analysis.

Level of Significance after Mitigation

As discussed above, regulations and polices would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and polices designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis, the increase in total VMT and SCAG's lack of authority to require project-level mitigation measures, this PEIR finds impacts related to VMT to be significant and unavoidable.

Impact TRA-3 Substantially increase hazards due to geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

Less than Significant Impact.

SCAG adopted its 2020 Regional Safety targets in February 2019 and aims to reduce fatalities by 3 percent and serious injuries by 1.5 percent annually by 2050 to reach the goal of Towards Zero Death (TZD). Connect SoCal prioritizes ensuring the safety and mobility of the region's residents, including drivers and passengers, transit riders, pedestrians, and bicyclists. The Plan's Safety and Security Technical report provides a framework largely grounded in the State's Strategic Highway Safety Plan, that can help member agencies interested in pursuing safety initiatives and strategies at the local level. The Plan also aims to address actionable strategies in which SCAG can support local jurisdictions.

In 2018, SCAG initiated a comprehensive update of its multi-county Regional Intelligent Transportation System (ITS) Architecture. Expected to be completed in 2019, the Regional ITS will make use of advanced detection, communications, and computing technology to improve transportation safety. ITS allows surveillance technologies to collect data about the status of highways, traffic signals, transit vehicles, and rideshare vehicles to improve the efficiency of the system. In addition to this framework, SCAG supports the efforts of local jurisdictions to improve transportation safety through a safe systems approach which utilizes systems thinking to design transportation systems with no deaths or serious injuries. A safe systems approach includes programs such as Vision Zero, which aims to eliminate traffic fatalities and severe injuries by promoting roadway design and policy that recognizes human error and prevents severe injury incidents. Connect SoCal land use strategies aim to focus growth in HQTAs, which are generally located away from high-speed transportation facilities where potential hazards due to design features tend to be high (e.g., mountain roads). Moreover, development in HQTAs would increase the number of SCAG region residents in proximity to transit and in areas with good opportunities for active transportation, making it imperative to design facilities with bike racks, improved sidewalks with shade, bikeways, and welcoming transit stations to promote an active streetscape.

Bicycling has continued to become a more popular activity across the SCAG region. Fatalities and serious injuries between motor vehicles and bicycles have steadily increased throughout the years and remain high. SCAG recommends strategies for local jurisdictions to improve safety for bicyclists, including connecting bicycle facilities, implementing active transportation plans, complete streets policies and intersection control for bicyclists.

The Plan identifies three major findings related to collisions in the SCAG region: fatalities and injuries are mostly occurring on a subset of streets, are increasing and are disproportionately impacting people walking and bicycling, and are occurring mostly in areas with high concentrations of low income residents and/or people of color. Between 2012 and 2016, 68 percent of fatalities and serious injuries have occurred on local streets and 65 percent of fatalities and serious injuries have occurred on less than 1.5

percent of the roadway network, and 66 percent of the High Injury Network is in disadvantaged communities (See **Table 3.17-19, Active Transportation Serious Injuries and Fatalities [2006-2016]**).⁸¹

Table 3.17-19
Active Transportation Serious Injuries and Fatalities (2006-2016)

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Pedestrian Fatalities	399	375	329	318	315	311	376	394	425	423	484
Pedestrian Serious Injuries	1213	1253	1077	1178	1068	1074	1177	1122	1063	1065	1288
Bicycle Fatalities	88	56	61	49	44	66	62	73	68	66	68
Bicycle Serious Injuries	361	318	381	385	397	469	454	434	402	417	371

Source:

SCAG Active Transportation, 2019.

The Plan includes strategies to encourage a complete streets approach to roadway improvements which would include design of facilities to enhance the safety of riders, bicyclists, and pedestrians and minimize hazards. These enhancements would also reduce hazards for drivers. Comprehensive road education, safe pedestrian routes to schools, and other safety campaigns would also occur. The Plan includes 392 safety projects, comprising 19 percent of the total budget, or slightly more than \$5.4 billion in programmed investments (See **Table 3.17-20, 2016 RTP/SCS Safety Projects by County**).

Table 3.17-20
2016 RTP/SCS Safety Projects by County – FTIP (*Thousands)

County	Total Safety Projects	* Safety Projects Programming	* All Projects Programming	Total Projects	% of Total
Imperial	12	\$11,287	\$60,193	73	16
Los Angeles	232	\$3,037,807	\$19,382,656	936	25
Orange	36	\$516,422	\$3,007,022	180	20
Riverside	55	\$1,311,227	\$7,070,337	396	14
San Bernardino	25	\$182,463	\$4,006,990	265	9
Ventura	30	\$187,597	\$856,230	174	17
Various	2	\$182,463	\$184,686	7	29
Region Totals	392	\$5,429,266	\$34,568,114	2031	19

Source: SCAG Transportation, Safety, and Security, 2019.

⁸¹ SCAG Safety and Security Technical Report, 2019.

In accordance with the provisions governing hazard designs from the Southern California Regional Intelligent Transportation System (ITS), the Plan would not result in an overall increase in hazards due to geometric design features or increase conflicts between incompatible uses, and impacts would be less than significant. Impacts from increased hazards due to geometric design features or incompatible attributes are less than significant.

Impact TRA-4 Result in inadequate emergency access.

Impact WF-1 Substantially impair an adopted emergency response plan or emergency evacuation plan.

Significant and Unavoidable Impact – Mitigation Required.

See also analysis of Impact HAZ-6 Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan,” in **Section 3.9, Hazards and Hazardous Materials**.

Natural or manmade disasters can have devastating impacts on our region’s livelihood and infrastructure. It is critically important to protect our region’s infrastructure in the form of transportation, utilities, communications, fuel, and water to provide the residents of this region with the quality of life they deserve. In addition, transportation infrastructure is critical to preserving life as it allows residents and goods to reach necessary destinations. Compromised infrastructure as a result of disaster may have impacts beyond the immediate SCAG region. Additionally, failure of multiple infrastructure components may result in a catastrophic impact to the mobility needs of the region.

Numerous agencies participate in the response to incidents and assist with hazard preparedness for individual jurisdictions. Collaboration occurs between many of these agencies. The Federal Emergency Management Agency (FEMA) oversees coordination. However, FEMA defines metropolitan areas and coordination different than the US Department of Transportation, limiting SCAG’s ability to participate at an agency level. SCAG aims to use its strengths and organization to assist planners, first responders and recovery teams in a supporting role.

Mitigating hazards before the occurrence of a disaster is the primary step in preparing for emergencies, rather than the final step of recovery. The goal of hazard mitigation plans is to guide implementation activities in order to achieve the greatest reduction of vulnerability, which will result in saved lives, reduced injuries, reduced property damage, and greater protection of the environment. FEMA requires state and local governments to develop hazard mitigation plans and update them every three years. The Disaster Mitigation Act of 2000 (DMA 2000), Section 322 (a-d) requires that local governments, as a

condition of receiving federal disaster mitigation funds, have a mitigation plan that describes the process for identifying hazards, risks and vulnerabilities; identifies and prioritizes mitigation actions; encourages the development of local mitigation; and provides technical support for those efforts. “Local Governments” are defined in the DMA 2000 to typically include counties, local municipalities, and tribal governments; but can also include other local agencies and organizations, including Councils of Governments, schools and other special districts.

California updated its State of California Multi-Hazard Mitigation Plan in 2018. The state is required to adopt a federally approved State Multi- Hazard Mitigation Plan to be eligible for certain disaster assistance and mitigation funding. The Plan is an evaluation of the hazards California faces and the strategies, goals and activities the state will pursue to address these hazards. All six counties and a number of cities within the SCAG region have complete Hazard Mitigation Plans.

While the Plan would impact traffic and delay in the region, California state law requires drivers to yield the right-of-way to emergency vehicles and even permits emergency vehicles to use opposing lane of travel, the center turn lanes, or bus-only lanes. In some instances, roadway reconfigurations with the implementation of transportation improvements could improve emergency access. For example, a roadway reconfiguration could improve emergency access where a bus-only lane or a contiguous center left-turn lane is introduced where it did not previously exist. Emergency vehicles are permitted to use bus-only lanes for local access to emergency destinations. People traveling by bicycle are required to pull to the side of the road to yield access to emergency providers regardless if they are traveling in a bus-only lane or in a standard travel lane. It is more likely that when in route to an emergency incident, general traffic will be expected to merge into the bus-only lane, permitting the emergency vehicle to pass in the through lane to the left. Emergency responders also routinely use the center left-turn lanes, or even travel in opposing travel lanes if needed. Generally, multi-lane roadways allow the emergency vehicles to travel at higher speeds and permit other traffic to maneuver out of the path of the emergency vehicle. The Plan includes strategies to improve emergency response services. These include using ITS to improve response times to and from collision sites and the development of guidance documents to share with EMS responders to increase crash scene safety.

Depending on the timing, location, and duration of construction activities, several of the proposed transportation projects (including grade crossings, arterials, interchanges, and auxiliary lanes), would result in delayed emergency vehicle response times or otherwise disrupt delivery of emergency response services, could occur. For example, closing off one or more lanes of a roadway, emergency routes would be impaired. The closure of these lanes could potentially cause traffic delays and ultimately prevent access to calls for service. Construction of development projects may also interfere with the use of existing transportation facilities (such as roadways) by potentially blocking travel lanes with construction

equipment and through increasing congestion as a result. Coordination with local jurisdictions is generally required by local jurisdictions in order to maintain adequate emergency access for ambulance and emergency services.

Land use strategies in the Plan encourage more compact development. As discussed in **Section 3.15.1, Public Services – Fire**, and **Section 3.15.2, Public Services - Police**, compact land uses are generally more efficient at serving the public for emergency response. This is often because urban areas tend to be well served with these facilities and also because the more compact land use pattern better facilitates access to specific sites.

However, while regulations (especially in urban areas) generally ameliorate potential impacts with respect to emergency access, due to potential increased traffic congestion associated with construction of transportation projects and development projects anticipated to occur in the region, there is the potential for the Plan to result in interference with emergency access. Therefore, the Plan would have the potential to result in inadequate emergency access, constituting a significant impact requiring mitigation measures.

Mitigation Measures

SCAG Mitigation Measures

SMM TRA-7: SCAG shall, in cooperation with local and state agencies, identify critical infrastructure needs necessary for: a) emergency responders to enter the region, b) evacuation of affected facilities, and c) restoration of utilities. In addition, SCAG shall establish transportation infrastructure practices that promote and enhance security.

SMM TRA-8: SCAG shall provide the means for collaboration in planning, communication, and information sharing before, during, or after a regional emergency. This will be accomplished by the following:

- SCAG shall develop and incorporate strategies and actions pertaining to response and prevention of security incidents and events as part of the on-going regional planning activities.
- SCAG shall offer a regional repository of GIS data for use by local agencies in emergency planning, and response, in a standardized format.
- SCAG shall enter into mutual aid agreements with other MPOs (as feasible) to provide this data, in coordination with the California OES in the event that an event disrupts SCAG's ability to function.

Project Level Mitigation Measures

PMM TRA-2: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects which may substantially impair implementation of an adopted emergency response plan or emergency evacuation plan, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

- Prior to construction, project implementation agencies can and should ensure that all necessary local and state road and railroad encroachment permits are obtained. The project implementation agency can and should also comply with all applicable conditions of approval. As deemed necessary by the governing jurisdiction, the road encroachment permits may require the contractor to prepare a traffic control plan in accordance with professional engineering standards prior to construction. Traffic control plans can and should include the following requirements:
 - Identification of all roadway locations where special construction techniques (e.g., directional drilling or night construction) would be used to minimize impacts to traffic flow.
 - Development of circulation and detour plans to minimize impacts to local street circulation. This may include the use of signing and flagging to guide vehicles through and/or around the construction zone.
 - Scheduling of truck trips outside of peak morning and evening commute hours.
 - Limiting of lane closures during peak hours to the extent possible.
 - Usage of haul routes minimizing truck traffic on local roadways to the extent possible.
 - Inclusion of detours for bicycles and pedestrians in all areas potentially affected by project construction.
 - Installation of traffic control devices as specified in the California Department of Transportation Manual of Traffic Controls for Construction and Maintenance Work Zones.

- Development and implementation of access plans for highly sensitive land uses such as police and fire stations, transit stations, hospitals, and schools. The access plans would be developed with the facility owner or administrator. To minimize disruption of emergency vehicle access, affected jurisdictions can and should be asked to identify detours for emergency vehicles, which will then be posted by the contractor. Notify in advance the facility owner or operator of the timing, location, and duration of construction activities and the locations of detours and lane closures.
- Storage of construction materials only in designated areas.
- Coordination with local transit agencies for temporary relocation of routes or bus stops in work zones, as necessary.
- Ensure the rapid repair of transportation infrastructure in the event of an emergency through cooperation among public agencies and by identifying critical infrastructure needs necessary for: a) emergency responders to enter the region, b) evacuation of affected facilities, and c) restoration of utilities.
- Enhance emergency preparedness awareness among public agencies and with the public at large.

Level of Significance after Mitigation

As discussed above, regulations and polices would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this EIR identifies project-level mitigation measures consistent with applicable regulations and polices designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis, potential increases in traffic and construction-related impediments to emergency access and SCAG's lack of authority to require project-level mitigation measures, this PEIR finds impacts related to emergency access to be significant and unavoidable.



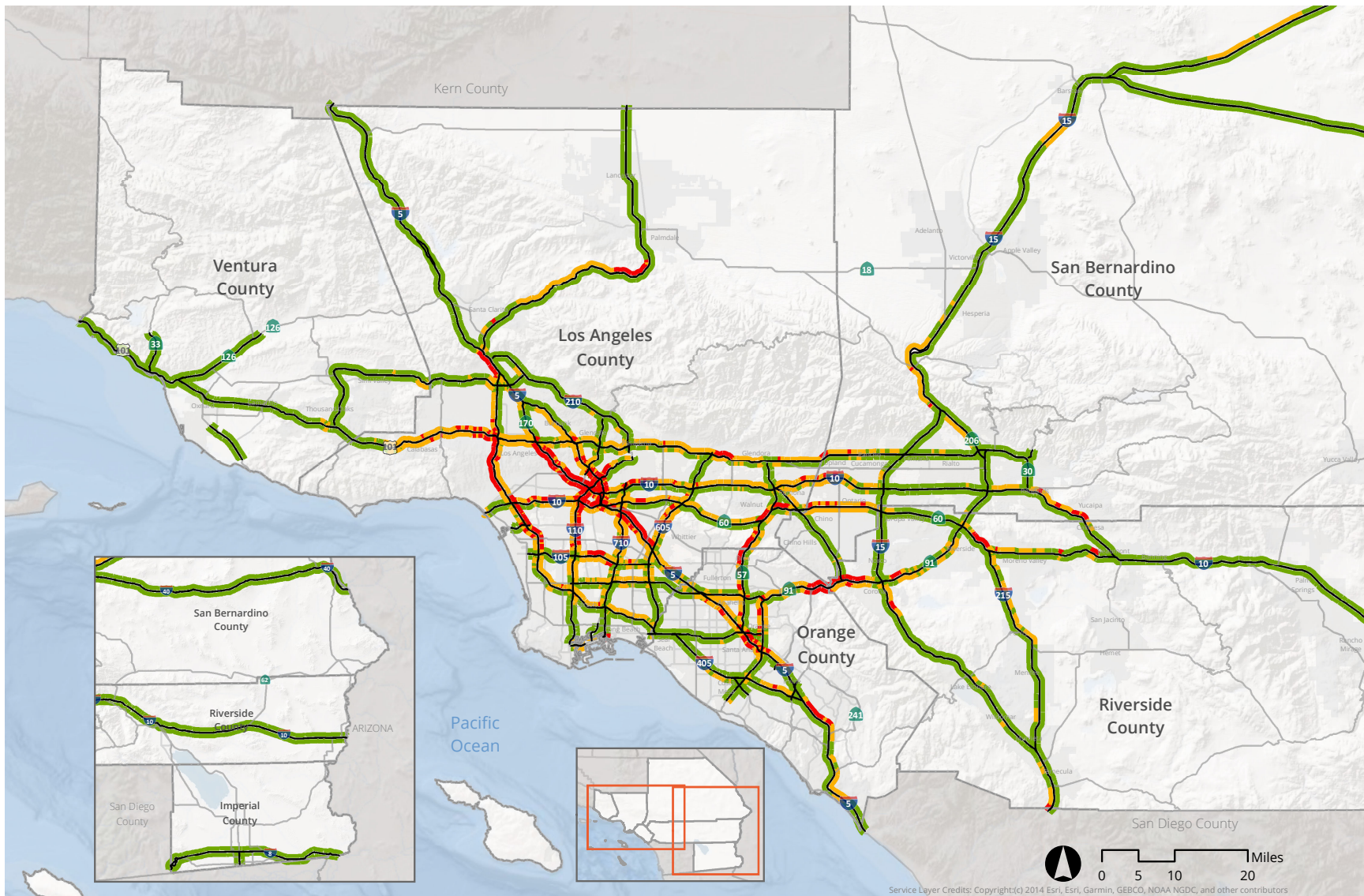
Speed in Miles Per Hour

- ▬ Less than 35
- ▬ 36 to 50
- ▬ Greater than 50

SOURCE: SCAG, 2019

FIGURE 3.17-1

2019 AM Peak Period Congestion Delay on Regional Freeway System



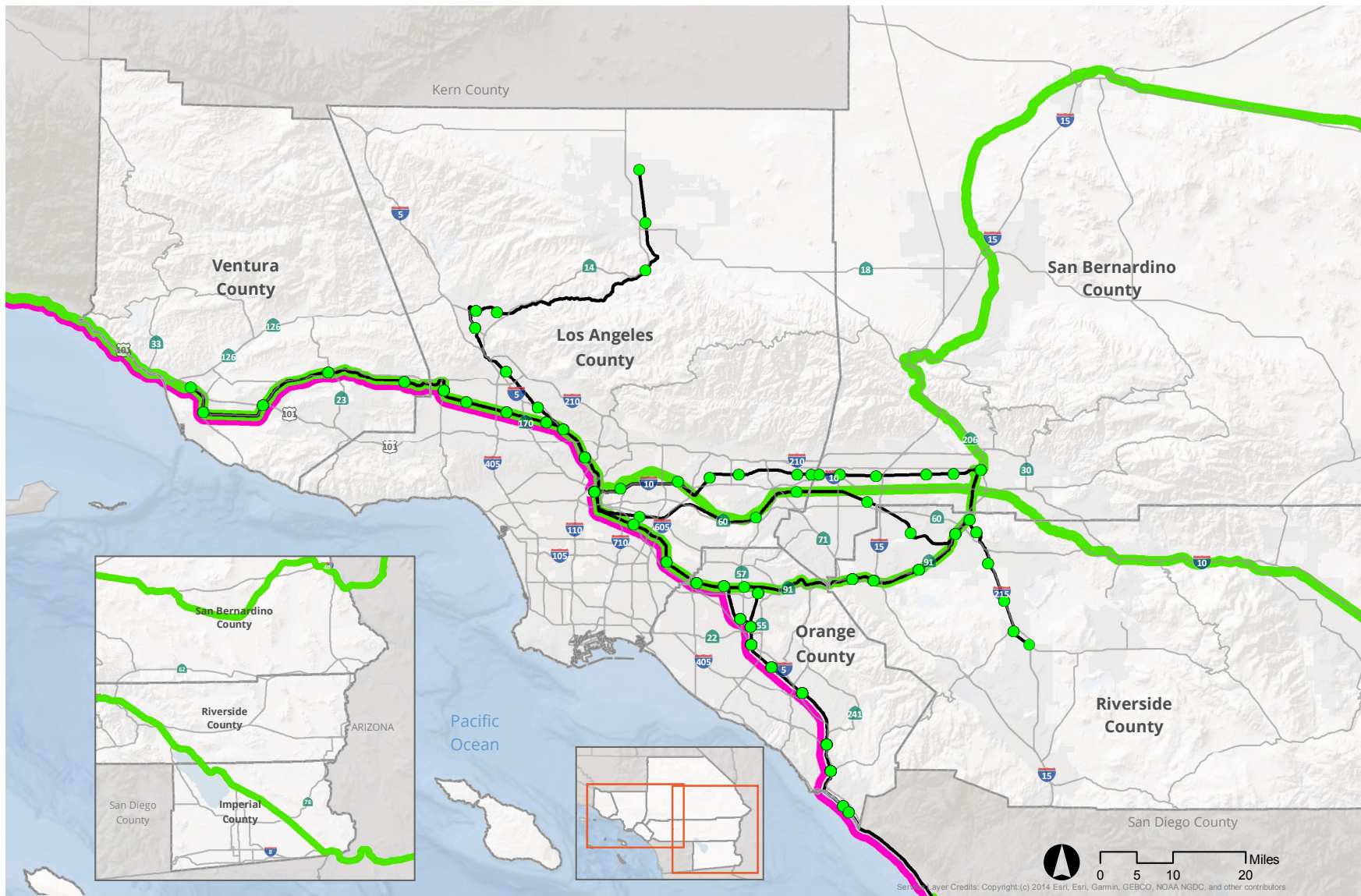
Speed in Miles Per Hour

- ↗ Less than 35
- ↗ 36 to 50
- ↗ Greater than 50

SOURCE: SCAG, 2019

FIGURE 3.17-2

2045 AM Peak Period Congestion Delay on Regional Freeway System

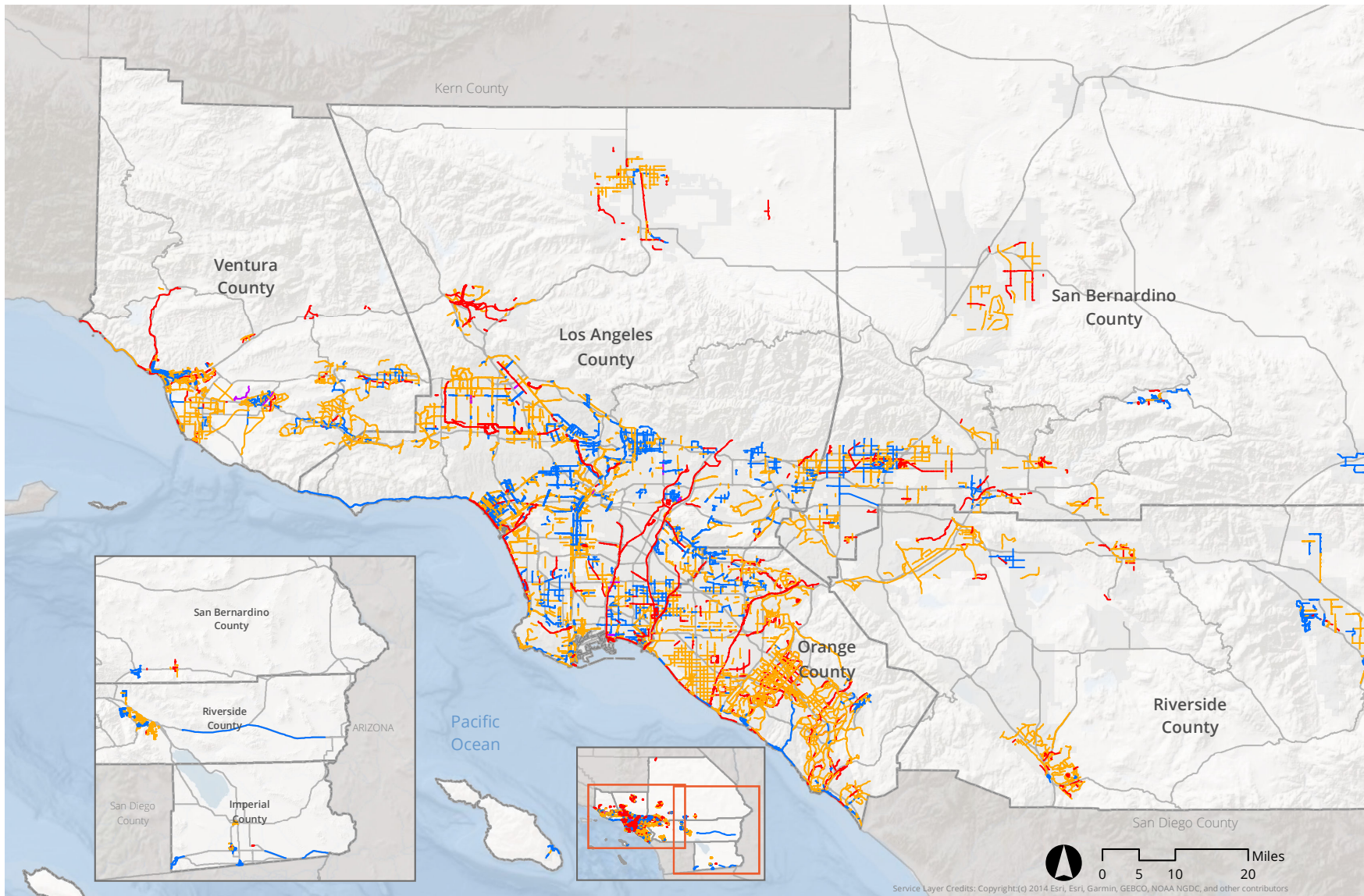


- ~ Pacific Surliner (Amtrak)
- ~ Amtrak (Long Distance)
- ~ Existing Metrolink
- Existing Metrolink Stations
- County Boundaries
- ~ Freeway

SOURCE: SCAG, 2019

FIGURE 3.17-5

Amtrak Railways

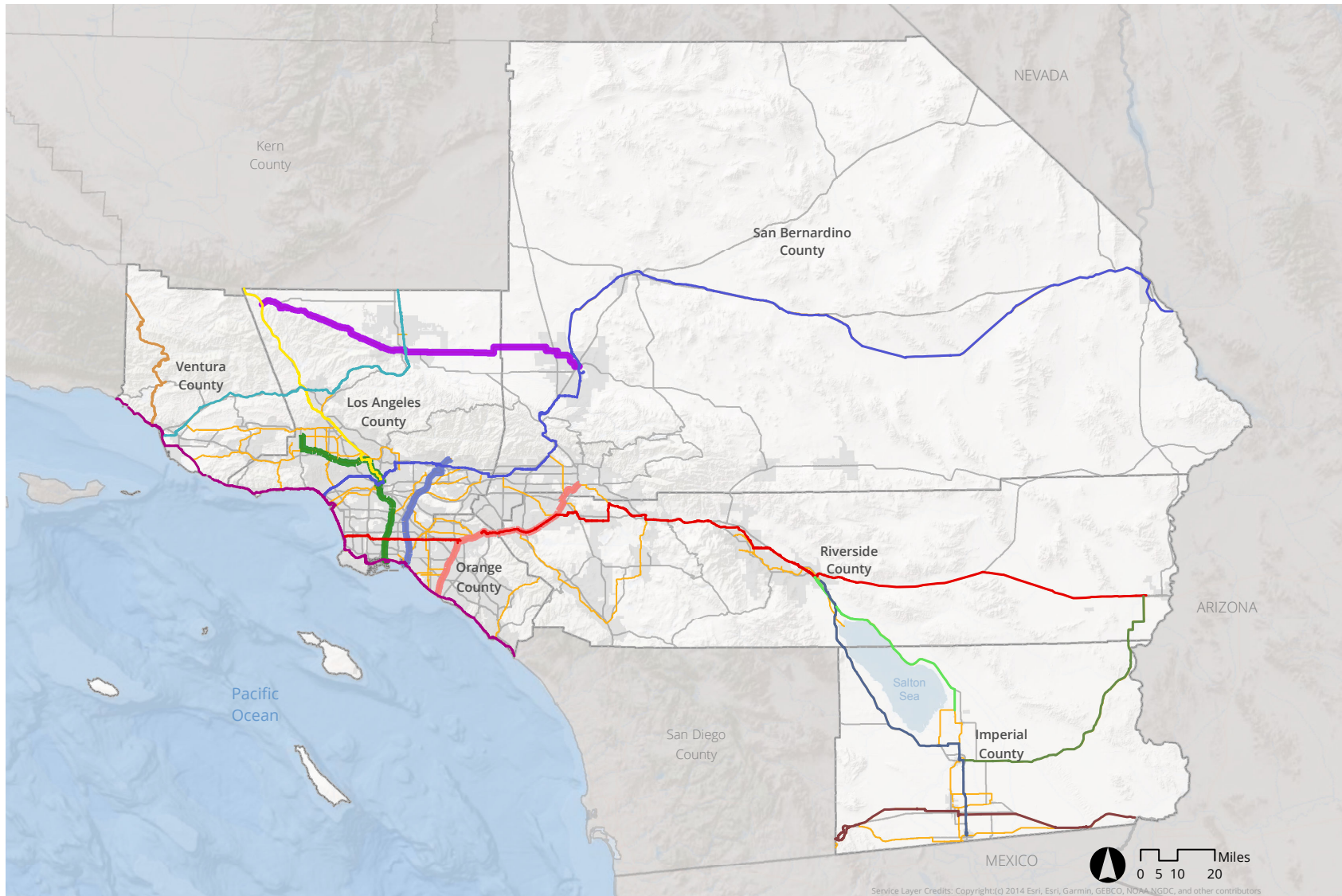


- County Boundaries
- Freeway
- Class I
- Class II
- Class III
- Class IV
- City Boundaries

SOURCE: SCAG, 2019

FIGURE 3.17-6

Existing Regional Bikeways

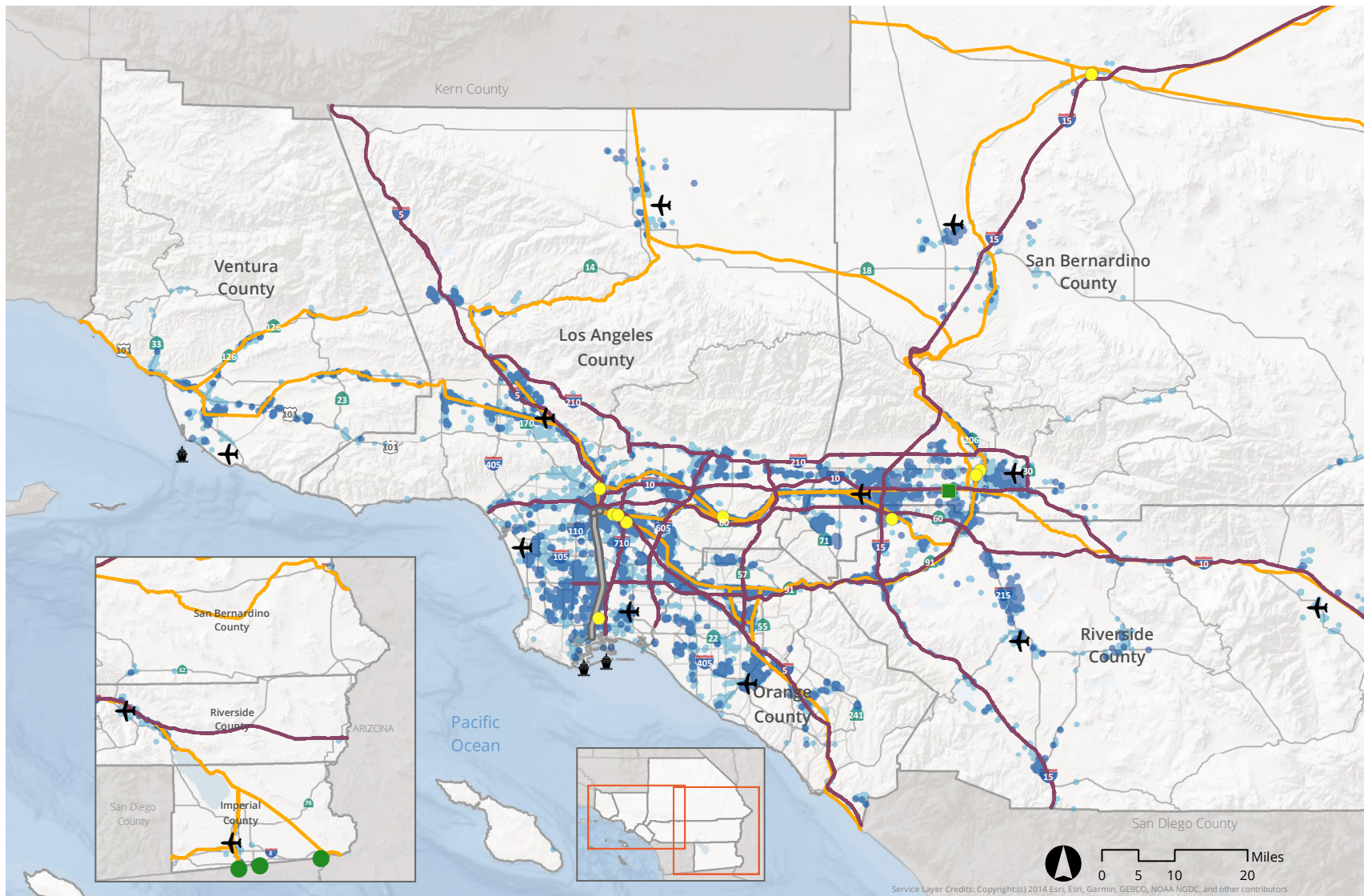


- | | | | | | | |
|----------------------------------|-------------------|-----------------------|-------------------|------------------|---|-------------------------|
| Desert & River Routes | San Gabriel River | Bicycle Routes | Bicycle Route 126 | Bicycle Route 66 | Bicycle Route 86 | Other Regional Bikeways |
| High Desert Corridor | Santa Ana River | Bicycle Route 10 | Bicycle Route 33 | Bicycle Route 78 | Bicycle Route 95, Pacific Coast Highway | |
| Los Angeles River | Bicycle Route 111 | Bicycle Route 5 | Bicycle Route 8 | | | |

SOURCE: SCAG, 2019

FIGURE 3.17-7

Existing and Proposed Regional Bikeways (2045)



- Airport
- Ports
- Ports of Entry
- Intermodal Facilities
- Classification Facilities
- Major Freight Highway Corridors
- Main Line Rail
- Alameda Corridor
- Warehouses
 ≥ 50,000 sq ft
- Warehouses
 < 50,000 sq ft

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

FIGURE 3.17-8

Existing Regional Goods Movement System

3.17.4 SOURCES

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