3.12 TRANSPORTATION, TRAFFIC & SECURITY

This section describes the current transportation system in the SCAG region, discusses the potential impacts of the 2012-2035 Regional Transportation Plan/Sustainable Communities Strategies (2012-2035 RTP/SCS or Plan) on transportation, identifies mitigation measures for the impacts, and evaluates the residual impacts.

REGULATORY FRAMEWORK

Federal

U.S. Department of Homeland Security (DHS). The DHS is charged with the responsibility of protecting the territory of the United States from terrorist attacks and responding to natural disasters. The department was established on November 25, 2002, by the Homeland Security Act of 2002. The primary mission of the Department is to (a) prevent terrorist attacks within the United States; (b) reduce the vulnerability of the United States to terrorism; and (c) minimize the damage, and assist in the recovery, from terrorist attacks that do occur within the United States.

Federal Emergency Management Agency (FEMA). In March 2003, FEMA became a department of the DHS. The primary mission of FEMA is to reduce the loss of life and property and protect the nation from all hazards, including natural disasters, acts of terrorism, and other human-made disasters, by leading and supporting the nation in a risk-based, comprehensive emergency management system of preparedness, protection, response, recovery, and mitigation.

National Response Framework (NRF). The NRF presents the guiding principles that enable all response partners to prepare for and provide a unified national response to disasters and emergencies. It establishes a comprehensive, national, all-hazards approach to domestic incident response. The National Response Plan was replaced by the NRF effective March 22, 2008.

The NRF defines the principles, roles, and structures that organize how we respond as a nation. The NRF:

- Describes how communities, tribes, states, the federal government, private-sectors, and nongovernmental partners work together to coordinate national response;
- Describes specific authorities and best practices for managing incidents; and
- Builds upon the National Incident Management System (NIMS), which provides a consistent template for managing incidents.

United States Department of Defense (DOD). The DOD has several installations within the SCAG region. In the case of a large-scale emergency, the DOD is authorized to provide resources when response and recovery requirements are beyond the capabilities of civilian authorities, and these efforts do not interfere with the DOD's core mission or ability to respond to operational contingencies.

Requests for Defense Support to Civilian Authorities (DSCA) are made through the local, county and state authorities as a request for assistance to the federal coordinating official in the appropriate lead federal agency and is normally accompanied by, or submitted after a request from the Governor for a disaster declaration from the President. The Defense Coordinating Officer coordinates the DOD resources to be provided. The California National Guard may be activated as part of the DSCA and can provide law enforcement support, crisis management and consequence management services. Activation of the National Guard for local support during emergencies is done by the Governor via the California Office of Emergency Services.

Transportation Security Administration (TSA). The TSA is a component of the DHS and is responsible for security of the nation's transportation systems. With state, local and regional partners, the TSA oversees security for highways, railroads, buses, mass transit systems, and ports. A vast majority of its resources are dedicated to aviation security and is primarily tasked with screening passengers and baggage.

Maritime Transportation Security Act of 2002. The Maritime Transportation Security Act of 2002, signed on November 25, 2002, is designed to protect the nation's ports and waterways from a terrorist attack. This law is the U.S. equivalent of the International Ship and Port Facility Security Code (ISPS), and was fully implemented on July 1, 2004. It requires vessels and port facilities to conduct vulnerability assessments and develop security plans that may include passenger, vehicle and baggage screening procedures; security patrols; establishing restricted areas; personnel identification procedures; access control measures; and/or installation of surveillance equipment.

The Disaster Mitigation Act of 2000 (DMA 2000). The DMA 2000 provides an opportunity for states, Tribes, and local governments to take a new and revitalized approach to mitigation planning. DMA 2000 amended the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988 by adding Section 322 – Mitigation Planning. Section 322 placed new emphasis on mitigation planning requiring governments to develop and submit mitigation plans as a condition of receiving any funding from the Hazard Mitigation Grant Program (HMGP) project grants. This Act reinforces the importance of pre-disaster infrastructure mitigation planning to reduce disaster losses nationwide, and is aimed primarily at the control and streamlining of the administration of federal disaster relief and programs to promote mitigation activities.

National Incident Management System/Standardized Emergency Management System (NIMS). The NIMS is a tool for states, counties and local jurisdictions to respond to catastrophic events through better communication and coordination. NIMS provides a consistent nationwide template to enable Federal, state, local, and tribal governments and private sector and non-governmental organizations to work together effectively and efficiently to prepare for, prevent, respond to, and recover from domestic incidents, regardless of cause, size, or complexity, including acts of catastrophic terrorism.

California has a similar management system called the Standard Emergency Management System (SEMS) which is mandated under California Government Code Section §8607(a). State of California Executive Order S205 requires the State to integrate, to the extent appropriate, the NIMS, into the State's SEMS.

The NIMS Integration Center strongly recommends that all elected officials who will be interacting with multiple jurisdictions and agencies during an emergency incident to take several NIMS courses, at a minimum:

- FEMA IS700: NIMS, an Introduction
- ICS100: Introduction to Incident Command System (ICS) or equivalent

All federal, state, local, tribal, private sector and nongovernmental personnel with a direct role in emergency management and response must be NIMS and ICS trained. This includes all emergency service related disciplines such as Emergency Medical Technicians, hospitals, public health, fire service, law enforcement, public works/utilities, skilled support personnel, and other emergency management response, support and volunteer personnel.

The NIMS employs two levels of incident management, depending upon the type of incident:

- The **Incident Command System (ICS)** is a standard, on scene, all-hazard incident management system. ICS allows users to adopt an integrated organizational structure to match the needs of single or multiple incidents; and
- **Multi-Agency Coordination Systems** are a combination of facilities, equipment, personnel, procedures and communications integrated into a common framework for coordinating and supporting incident management.

ICS has been in use for over 30 years and is used for planned events, fires, earthquakes, hurricanes and acts of terrorism; ICS helps all responders communicate and coordinate logistics.

NIMS requires all emergency plans and standard operating procedures to incorporate NIMS components, principles and policies, including emergency planning, training, response, exercises, equipment, evaluation, and corrective actions. Chief elected and appointed officials in a community need to be directly involved in these NIMS preparedness elements, especially the elements that deal with exercising community emergency management policies, plans, procedures and resources.

State

California Department of Transportation (Caltrans). Caltrans, in conjunction with the California Highway Patrol (CHP), has created Transportation Management Centers (TMCs) to rapidly detect and respond to incidents while managing the resulting congestion. With the help of intelligent transportation system technologies, such as electronic sensors in the pavement, freeway call boxes, video cameras, ramp meter sensors, earthquake monitors, motorist cellular calls, and commercial traffic reports; as well as Caltrans highway crews, 911 calls and officers on patrol, the TMC provides coordinated transportation management for general commutes, special events and incidents affecting traffic. The TMCs are operated within each Caltrans district. For the SCAG region, Districts 7, 8, 11 and 12 all have TMCs.

California Emergency Management Agency (EMA). The EMA was established as part of the Governor's Office in 1950 as the State Office of Civil Defense. Then called the Governor's Office of Emergency Services, it coordinated overall State agency response to major disasters in support of local government. The EMA is responsible for assuring the State's readiness to respond to and recover from natural, human-made, and war-caused emergencies, and for assisting local governments in their emergency preparedness, response and recovery efforts.

The EMA serves as the central contact point in the State for any emergency or imminent disaster. It coordinates the notification of appropriate State administering agencies that may be required to respond, as well as the emergency activities of all State agencies in the event of an emergency. In doing so, the EMA does not focus on security specifically, but rather more broadly on addressing all potential incidents that could impact the State, such as earthquakes, fires, floods, and terrorist attacks. Furthermore, EMA coordinates with federal agencies, such as the DHS and FEMA, as well as other State and local agencies such as the CHP.

California's vision, mission, and principles for emergency management, as well as goals and objectives are located in its publication "Strategic Plan 2010-2015 – Keeping California Safe."[1]

Multi-Hazard Mitigation Plans. The goal of hazard mitigation plans is to guide implementation activities to achieve the greatest reduction of vulnerability, which will result in saved lives, reduced injuries, reduced property damages, and greater protection of the environment.

[1]California Emergency Management Agency, *Strategic Plan 2010-2015 – Keeping California Safe*, 2010.

FEMA now requires state and local governments to develop hazard mitigation plans. The DMA 2000, Section 322 (ad) 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; encourage 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 approved its State of California Multi-Hazard Mitigation Plan in 2010. 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 the hazards California faces and the strategies, goals, and activities the State will pursue to address these hazards. The Plan:[2]

- Documents Statewide hazard mitigation planning in California;
- Describes strategies and priorities for future mitigation activities;
- Facilitates the integration of local and tribal hazard mitigation planning activities into Statewide efforts;
- Meets State and federal statutory and regulatory requirements; and
- Is an annex to the State Emergency Plan.

All six SCAG counties and a number of cities within the SCAG region have completed Hazard Mitigation Plans. EMA dictates that these plans must be updated every three years.

County Offices of Emergency Services. Counties and cities are generally the first responders to any security or emergency situation. These responders include fire departments, police and sheriff department, hospitals, ambulance services and transportation agencies. Coordination among public and private agencies within various cities and counties make the most use of all available resources in the event of any emergency.

While each city and county has their own security procedures, the policies are generally similar. Mutual Aid agreements between cities, counties and private organizations help to maximize resources and reduce the human suffering associated with disaster situations. Each SCAG county has a department in charge of security and emergency response see **Table 3.12-1**.

TABLE 3.12-1: COUNTY OFFICES OF EMERGENCY SERVICES

County	Office Information	County	Office Information
Imperial	Office of Emergency Services 1078 Dogwood Road Heber, CA 92249 (760) 482-2400	Riverside	Office of Emergency Services 4080 Lemon Street, Suite 8 P.O. Box 1412 Riverside, CA 925021412 (951) 955-4700
Los Angeles	Office of Emergency Management 1275 N. Eastern Avenue Los Angeles, CA 90063 (323) 980-2261	San Bernardino	Office of Emergency Services 1743 W. Miro Way Rialto, CA 92376 (909) 356-3998
Orange	Office of Emergency Services 2644 Santiago Canyon Road Silverado, CA 92676 (714) 628-7055	Ventura	Office of Emergency Services Ventura County 800 South Victoria Avenue Ventura, CA 93009 (805) 654-2551

SOURCE: TAHA, 2011.

[2]California Emergency Management Agency, *Multi Hazard Mitigation Plan*, 2010.

Mutual Aid Agreements (MAA). Immediately following the 1994 Northridge earthquake, city and county emergency managers in the coastal, southern, and inland regions developed a coordinated emergency management concept called the Emergency Managers Mutual Aid (EMMA) system. EMMA provided a valuable service in the emergency response and recovery efforts at the Southern Regional Emergency Operations Center (REOC), local Emergency Operations Centers (EOCs), the Disaster Field Office (DFO), and community service centers.

The purpose of EMMA is to support disaster operations in affected jurisdictions by providing professional emergency management personnel. In accordance with the Master Mutual Aid Agreement, local and State emergency managers have responded in support of each other under a variety of plans and procedures.

The objectives of the EMMA Plan include:[3]

- Providing emergency management personnel from unaffected areas to support local jurisdictions, Operational Areas, and regional emergency operations during proclaimed emergencies;
- Providing a system, including an organization, information, and forms necessary to coordinate the formal request, reception, assignment, and training of assigned personnel;
- Establishing a structure to maintain this document (the Emergency Managers Mutual Aid Plan) and its procedures;
- Providing for the coordination of training for emergency managers, including Standardized Emergency Management System (SEMS/NIMS) training, emergency management course work, exercises, and disaster response procedures; and
- Promoting professionalism in emergency management.

METRANS Transportation Center. The METRANS Transportation Center, which is a joint partnership between the University of Southern California and California State University, Long Beach, is a U.S. Department of Transportation University Transportation Center that was established in 1998 under the Transportation Equity Act for the 21st Century. The mission of METRANS is to 'solve transportation problems of large metropolitan regions through interdisciplinary research, education and outreach'. In doing so, METRANS conducts research in several areas relating to transportation, including safety, security, and vulnerability. Specifically, this study attempts to analyze safety and security issues, such as pedestrian and transit safety, vulnerability of major infrastructure, and safety and risk mitigation.

Intelligent Transportation System (ITS). One way to incorporate safety and security into transportation planning is through greater collaboration between transportation planning and operations. Collaboration is particularly critical in metropolitan regions and congested corridors where numerous jurisdictions, agencies, and service providers are responsible for the safety, security, and efficient operation of various aspects of the transportation system. Not only are the roadway and transit system operators themselves dependent on the transportation system, but so are police, fire, and medical services, emergency response and domestic security systems, and port authorities.

Collaboration enables regional strategic development of projects and policies that have regional effects on users, including activities, such as incident management, advanced traveler information services, public safety/EMS/security, special events, electronic payment services, and performance measures.

ITS are one method of establishing a collaborative relationship. ITS projects were originally designed to increase transportation efficiency. It was recognized early on that ITS investments may also serve to enhance the safety, security and emergency response capabilities of the region. Such systems may be of assistance in the detection, response and recovery to human-made and natural disasters.

[3]California Emergency Management Agency, *Emergency Managers Mutual Aid Plan*, November 1997.

Because the successful operation of ITS projects usually depend on coordination and communication between different agencies and the systems they operate, it is essential that there be a region-wide framework for cooperation to help achieve that coordination and communication in the most cost-effective manner. This framework is referred to as the Southern California Regional ITS Architecture.

Southern California Regional ITS Architecture. The Southern California ITS Regional Architecture includes all six counties in the SCAG region. The goal of the project is to document the ITS Architecture covering the region. An ITS Architecture is a framework for ensuring institutional agreement and technical integration of technologies for the implementation of projects or groups of projects under an ITS strategy. Local components to the ITS Architecture exist for Los Angeles County, Orange County, Inland Empire, Ventura County, and Imperial County.

California Critical Needs Assessments. There have also been several assessments of the critical State transportation infrastructure, which include identification of the key transportation facilities. Assessments have been conducted by the following bodies:

- The Governor's Office of Emergency Services
- The California Attorney General's Office

CHP conducted a vulnerability assessment of the State's highway system and has issued a confidential report to the State Legislature

The results of these assessments have been shared with the transportation system operators and incorporated into their security planning. However, security considerations have precluded the inclusion or discussion of these critical system elements in public documents.

Strategic Highway Network (STRAHNET). The STRAHNET routes within the SCAG region are essential to readily accommodate the movement of military supplies and personnel in times of national emergency. STRAHNET routes were selected by the federal government, and include the National Interstate system, as well as key "non-interstate" routes and connectors to ports and military installations.

Within the SCAG region, all interstates are part of the STRAHNET. SR-14, SR-101 and Route 395 are part of the non-interstate STRAHNET routes. Various connectors between the ports, as well as various military installations and STRAHNET are also included. A visual representation of the STRAHNET within the SCAG region is displayed in **Map 2.0-1** located in Chapter 8.0 (Maps).

Local

Congestion Management Programs (CMPs). In order to meet federal certification requirements, SCAG and the county Congestion Management Agencies (CMAs) have worked together to develop a congestion management process for the region. In the SCAG region, the Congestion Management System (CMS) is comprised of the combined activities of the RTP/SCS, the CMP and the Regional Transportation Improvement Program (RTIP).

Under California law, CMPs are prepared and maintained by the CMAs. The Los Angeles County Metropolitan Transportation Authority (Metro), Orange County Transportation Authority (OCTA), Riverside County Transportation Commission (RCTC), San Bernardino Associated Governments (SANBAG), and Ventura County Transportation Commission (VCTC) are the designated CMAs of each county and are subject to State requirements. While Imperial County is not subject to State CMP requirements, CMP-related activities there are accomplished through the development of the RTP/SCS and the RTIP by the Imperial County Transportation Commission (ICTC).

In addition to SCAG's RTP/SCS and RTIP, the key elements of the federal Congestion Management Process are addressed through the counties CMPs. Because the magnitude of congestion and degree of urbanization differ among the counties, each CMP differs in form and local procedure. By State law, all CMPs perform the monitoring and management functions shown below which also fulfill the federal CMP requirements.

- Highway Performance – Each CMA monitors the performance of an identified highway system. This monitoring allows each county to track how their system, and its individual components, is performing against established standards, and how performance changes over time.
- Multi-Modal Performance – In addition to highway performance, each CMP contains an element to evaluate the performance of other transportation modes including transit.
- Transportation Demand Management (TDM) – Each CMP contains a TDM component geared at reducing travel demand and promoting alternative transportation methods.
- Land Use Programs and Analysis – Each CMP incorporates a program for analyzing the effects of local land use decisions on the regional transportation system.
- Capital Improvement Program (CIP) – Using data and performance measures developed through the activities identified above, each CMP develops a CIP. This becomes the first step in developing the County Transportation Improvement Program (TIP). Under State law, projects funded through the RTIP must first be contained in the county CIP.
- Deficiency Planning – The CMP contains provisions for "deficiency plans" to address unacceptable levels of congestion. Deficiency plans can be developed for specific problem areas or on a system-wide basis. Projects implemented through the deficiency plans must, by statute, have both mobility and air quality benefits. In many cases, the deficiency plans capture the benefits of transportation improvements that occur outside the county TIPs and RTIP such as non-traditional strategies and/or non-regionally significant projects.

The regional transportation planning process and the county congestion management process should be compatible with one another. To ensure consistency, SCAG and the CMAs have developed the Regional Consistency and Compatibility Criteria for CMPs. Information on the CMP activities and resulting data is updated on a biennial basis by each CMA and supplied to SCAG and air quality management districts.

EXISTING SETTING

The Southern California transportation system is a complex intermodal network designed to carry both people and goods. It consists of roads and highways, public transit, paratransit, bus, rail, airports, seaports and intermodal terminals. The regional highway system consists of an interconnected network of local streets, arterial streets, freeways, carpool lanes and toll roads. This highway network allows for the operation of private autos, carpools, private and public buses, and trucks. Active transportation modes, such as bicycles and pedestrians share many of these facilities. The regional public transit system includes local shuttles, municipal and area-wide public bus operations, rail transit operations, regional commuter rail services, and inter-regional 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, which transfer, store, and distribute goods. The transportation system supports the region's economic needs, as well as the demand for personal travel.

Transit use is growing in the SCAG region. As of 2009, transit agencies in the SCAG Region reported 747.3 million boardings. This represents growth of nearly 20 percent in the ten years between 2000 and

2010, but only 4 percent growth in per capita trips due to population growth. Metrolink and Metro Rail (Los Angeles County) have seen ridership growth of 6 to 8 percent a year.

Transportation Planning in the SCAG Region

Numerous agencies are responsible for transportation planning and investment decisions within the SCAG region. SCAG helps integrate the transportation-planning activities in the region to ensure a balanced, multi-modal plan that meets regional as well as county, subregional, and local goals.

Table 3.12-2 identifies local, state and federal governmental agencies that participated in the development of the 2012-2035 RTP/SCS. Seven major entities and agencies are involved including SCAG as the designated Metropolitan Planning Organization (MPO), the County Transportation Commissions (CTCs), Sub-regional Councils of Governments (COG), local and county governments, transit and transportation owners, operators and implementing agencies, resource/regulating agencies and other private non-profit organizations, interest groups and tribal nations.

TABLE 3.12-2: STAKEHOLDERS IN THE DEVELOPMENT OF THE PLAN

COUNTY TRANSPORTATION COMMISSIONS	
Imperial County Transportation Commission (ICTC)	Riverside County Transportation Commission (RCTC)
Los Angeles County Metropolitan Transportation Authority (Metro)	San Bernardino Associated Governments (SANBAG)
Orange County Transportation Authority (OCTA)	Ventura County Transportation Commission (VCTC)
SUBREGIONAL COUNCILS OF GOVERNMENTS	
Arroyo Verdugo Cities	SANBAG
Coachella Valley Association of Governments	San Fernando Valley COG
Gateway Cities Council of Governments (COG)	San Gabriel Valley COG
ICTC	South Bay Cities COG
Las Virgenes-Malibu-Conejo COG	Ventura County COG
City of Los Angeles	Western Riverside County COG
North Los Angeles County	Westside Cities COG
Orange County COG	
LOCAL, COUNTY, AND TRIBAL GOVERNMENTS	
OTHER OPERATORS AND IMPLEMENTING AGENCIES	
Caltrans	Transportation Corridor Agencies (TCA)
Airport Authorities	Transit / Rail Operators
Port Authorities	
RESOURCE/REGULATING AGENCIES	
US Department of Transportation • Federal Highway Administration (FHWA) • Federal Transit Administration (FTA) • Federal Aviation Administration (FAA) • Federal Railroad Administration (FRA)	U.S. Environmental Protection Agency (USEPA) California Air Resources Board (ARB) California Environmental Protection Agency (Cal/EPA) Air Districts
SOURCE: SCAG, 2012-2035 RTP/SCS Page 33, Table 8, 2011	

Each of the six counties in the SCAG region has a Transportation Commission or Authority. These agencies are charged with countywide transportation planning activities, allocation of locally generated transportation revenues and, in some cases, operation of transit services. In addition, there are 14 subregional COGs within the SCAG region which are groups of cities and communities geographically clustered (sometimes comprising an entire county), which work together to identify, prioritize, and seek transportation funding for needed investments in their respective areas.

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 a total of approximately 448 million vehicle miles of travel (VMT) and 13 million vehicle hours of travel (VHT). Of this total, over half occur in Los Angeles County and less in Orange County, San Bernardino County, Riverside County, Ventura County and Imperial County, respectively. A detailed summary of existing VMT and VHT for the region and six counties is presented in **Table 3.12-3**.

Much of the existing travel in the SCAG region takes place during periods of congestion, particularly during the morning (6:00 a.m. to 9:00 a.m.) and evening peak periods (3:00 p.m. to 7:00 p.m.). 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). **Table 3.12-4** presents the existing travel delays and percent of regional VHT in delay by County on freeways and arterials. As shown in **Table 3.12-4**, regional travel time in delay represents approximately 25 percent of all daily, 30 percent of all AM peak period, and 38 percent of all PM peak period travel times.

The average vehicle home-to-work trip duration in each county is generally similar while a greater range of average work distances is found in the different counties of the region (from a low of ten miles in Imperial County to a high of 18 miles in San Bernardino and Riverside Counties). 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.

Map 3.12-1 located in Chapter 8.0 (Maps), shows AM peak period congestion delay on the regional freeway system. Major portions of the system are extremely congested during the AM peak period, particularly in Los Angeles and Orange Counties and the areas immediately to the east and west. A substantial portion of AM peak period travel in each county takes place in delay, ranging from a low of three percent in Imperial County to a high of 33 percent in Los Angeles County, as indicated in **Table 3.12-4**.

Map 3.12-2 located in Chapter 8.0 (Maps), shows PM peak period congestion delay on the regional freeway system. Major portions of the system are extremely congested during the PM peak period, particularly in Los Angeles and Orange Counties and the areas immediately to the east and west. A substantial portion of PM peak period travel in each county takes place in delay, ranging from a low of four percent in Imperial County to a high of 43 percent in Los Angeles County, as indicated in **Table 3.12-4**.

TABLE 3.12-3: SUMMARY OF EXISTING DAILY VEHICLE MILES & PERCENT VEHICLE HOURS OF TRAVEL

	Vehicle Miles of Travel (VMT)						Vehicle Hours of Travel (VHT)					
	AM Peak Period		PM Peak Period		Daily		AM Peak Period		PM Peak Period		Daily	
County	Miles	% of Region	Miles	% of Region	Miles	% of Region	Hours	% of Region	Hours	% of Region	Hours	% of Region
Imperial	1,087,000	1%	1,643,000	1%	6,136,000	1%	22,000	1%	34,000	1%	123,000	1%
Los Angeles	46,321,000	51%	74,635,000	51%	224,312,000	50%	1,627,000	57%	3,181,000	59%	7,428,000	56%
Orange	15,589,000	17%	24,793,000	17%	75,224,000	17%	474,000	16%	879,000	16%	2,171,000	17%
Riverside	12,099,000	13%	18,817,000	13%	60,494,000	14%	320,000	11%	542,000	10%	1,469,000	11%
San Bernardino	12,242,000	13%	18,944,000	13%	61,010,000	14%	307,000	11%	512,000	10%	1,416,000	11%
Ventura	4,340,000	5%	6,929,000	5%	20,722,000	5%	121,000	4%	217,000	4%	548,000	4%
Total	**91,678,000**	**100%**	**145,761,000**	**100%**	**447,898,000**	**100%**	**2,871,000**	**100%**	**5,365,000**	**100%**	**13,155,000**	**100%**

SOURCE: SCAG 2012-2035 RTP/SCS, Highways and Arterials Appendix, Page 52, Table A12, 2011.

TABLE 3.12-4: SUMMARY OF EXISTING DELAY AND WORK TRIP LENGTH

	Vehicle Hours of Delay			% of Travel in Delay			Average Home-to-Work Trip Distance (miles)	Average Home-to-Work Trip Duration (minutes)	
County	AM Peak Period	PM Peak Period	Daily	AM Peak Period	PM Peak Period	Daily	Vehicle Trips (AM Only)	Vehicle Trips (AM Only)	Transit Trips (AM only)
Imperial	1,000	1,000	5,000	3%	4%	4%	10	13	66
Los Angeles	554,000	1,387,000	2,204,000	34%	44%	30%	14	26	69
Orange	128,000	313,000	493,000	27%	36%	23%	13	21	78
Riverside	78,000	158,000	263,000	24%	29%	18%	18	29	95
San Bernardino	64,000	125,000	205,000	21%	24%	14%	18	29	116
Ventura	29,000	68,000	107,000	24%	32%	19%	16	27	109
Total	**854,000**	**2,052,000**	**3,277,000**	**30%**	**38%**	**25%**	**15**	**26**	**73**

SOURCE: SCAG, 2012-2035 RTP/SCS, Highways and Arterials Appendix, Page 52, Table A12, 2011.

Based on average accident rates provided by Caltrans, transportation-related fatalities occur at an overall rate of 0.83 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). These specific accident rates and the resulting estimate of region-wide accidents are detailed in **Table 3.12-5**.

TABLE 3.12-5: TOTAL VEHICLE FATALITIES

County	Fatalities (2009)	Fatalities per 100 million Vehicle Miles Traveled	Annual Vehicle Miles Traveled per100 million
Imperial	37	1.76	21
Los Angeles	589	0.76	778
Orange	154	0.59	261
Riverside	219	1.04	210
San Bernardino	236	1.11	212
Ventura	62	0.86	72
Total	**1,297**	**0.83**	**1,554**

SOURCE: SCAG, 2011.

A summary of home-to-work trip characteristics by county is also presented in **Table 3.12-6**. Public transit in all forms (including school buses) carries approximately 2.4 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. Work trips made via public transit account for 6.1 percent of all home-to-work trips in the region, as detailed in **Table 3.12-6**.

TABLE 3.12-6: EXISTING TRAVEL MODE SPLIT (% 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	75%	3.9%	1.5%	7.6%	1.4%	10%	100%
	All Daily Trips	41%	7.4%	5.4%	20%	0.54%	25%	100%
Los Angeles	Home-Work/Univ	76%	3.4%	1.5%	7.1%	9.1%	3.0%	100%
	All Daily Trips	43%	8.0%	6.5%	24%	3.5%	14%	100%
Orange	Home-Work/Univ	81%	3.7%	1.5%	7.4%	3.4%	3.0%	100%
	All Daily Trips	46%	8.3%	6.8%	26%	1.4%	12%	100%
Riverside	Home-Work/Univ	82%	3.7%	1.8%	8.0%	1.5%	3.1%	100%
	All Daily Trips	42%	8.3%	7.3%	27%	0.72%	15%	100%
San Bernardino	Home-Work/Univ	82%	3.8%	1.8%	8.3%	1.4%	3.0%	100%
	All Daily Trips	43%	8.4%	7.3%	27%	0.58%	14%	100%
Ventura	Home-Work/Univ	82%	3.2%	1.4%	6.6%	2.7%	3.7%	100%
	All Daily Trips	43%	7.5%	6.3%	23%	1.1%	19%	100%
Total	**Home-Work/Univ**	**78%**	**3.5%**	**1.6%**	**7.3%**	**6.1%**	**3.1%**	**100%**
	All Daily Trips	**43%**	**8.1%**	**6.7%**	**25%**	**2.4%**	**14%**	**100%**

SOURCE: SCAG Transportation Modeling 2011.

Regional Freeway, Highway, and Arterial System

The regional freeway and highway system shown in **Map 3.12-3** located in Chapter 8.0 (Maps), is the primary means of person and freight movement for the region. This system provides for direct auto, bus and truck access to employment, services and goods. The network of freeways and State highways serves as the backbone of the system offering very high capacity limited-access travel and serving as the primary heavy-duty truck route system. The components of the regional highway and freeway system are included in **Table 3.12-7**.

TABLE 3.12-7: EXISTING REGIONAL FREEWAY ROUTE MILES AND LANE MILES BY COUNTY		
County	**Freeway Route Miles**	**Freeway Lane Miles**
Imperial	95	379
Los Angeles	637	4,583
Orange	167	1,294
Riverside	309	1,722
San Bernardino	471	2,512
Ventura	93	532
Total	**1,772**	**9,424**
SOURCE: SCAG Transportation Modeling 2011.		

Regional High Occupancy-Vehicle (HOV) System and Park & 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-occupant vehicles (HOVs). It 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. The current system is described in **Table 3.12-8**.

TABLE 3.12-8: EXISTING REGIONAL HIGH OCCUPANCY VEHICLE LANE MILES BY COUNTY	
County	**HOV Total Lane Miles**
Imperial	0
Los Angeles	479
Orange	241
Riverside	83
San Bernardino	105
Ventura	0
Total	**908**
SOURCE: SCAG Transportation Modeling 2011.	

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, by carpool or vanpool. Most rail transit stations have park and ride lots nearby. There are currently 189 park and ride lots in the SCAG region, including Metrolink station parking lots. These facilities include: 106 in Los Angeles County, 20 park and ride facilities in Orange County, 25 in Riverside County, 17 in San Bernardino County and 21 in Ventura County.[4]

Arterial Street System

The local street system provides access for local businesses and residents. Arterials account for over 80 percent of the total road network 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. The region's arterial street system is described in terms of number of miles in **Table 3.12-9**.

[4]Riverside County Transportation Commission and the San Bernardino Associated Governments, IE511.org, 2011.

TABLE 3.12-9: EXISTING REGIONAL ARTERIAL ROUTE MILES AND LANE MILES BY COUNTY

County	Arterials	Lane Miles
Imperial	Principal	433
	Minor	697
Los Angeles	Principal	8,848
	Minor	9,076
Orange	Principal	3,242
	Minor	3,147
Riverside	Principal	1,181
	Minor	3,235
San Bernardino	Principal	1,934
	Minor	4,365
Ventura	Principal	908
	Minor	986
SCAG Total	**Principal**	**16,547**
	Minor	**21,506**

SOURCE: SCAG Transportation Modeling 2011.

Goods Movement

Wholesale and retail trade, transportation, and manufacturing support over 3.3 million jobs in the region according to statistics provided by the State's Employment Development Department. Goods movement includes trucking, rail freight, air cargo, marine cargo, and both domestic and international freight, the latter entering the country via the seaports, airports, and the international border with Mexico. Additionally, many cargo movements are intermodal, e.g. sea to truck, sea to rail, air to truck, or truck to rail. The goods movement system includes not only highways, railroads, sea lanes, and airways, but also intermodal terminals, truck terminals, railyards, warehousing, freight consolidation/de-consolidation terminals, freight forwarding, package express, customs inspection stations, truck stops, and truck queuing areas.

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 connections with other railroads. They also provide freight rail service within California. In 2011, railroads moved approximately 150 million tons of cargo throughout California.

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 of the 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.

As an example, the Colton Crossing, is an at-grade railroad crossing located south of I-10 between Rancho Avenue and Mount Vernon Avenue in the City of Colton, where BNSF's San Bernardino Line crosses UP's Alhambra/Yuma Lines. In 2008, the Colton Crossing saw on average 110 freight trains per day.[5]

Another key component of the regional rail network is the Alameda Corridor, a 20-mile, four-lane freight rail expressway that began operations in April 2002. In 2010, approximately 14,177 intermodal trains transited the Alameda Corridor, an approximate increase of 8.6 percent since 2009.[6]

Heavy-Duty Trucks

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; i.e., 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 I-5 with the I-210 and the 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 case in the South Bay and Gateway Cities areas, including Wilmington and Carson and extending generally between 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, Burbank and Bakersfield. Specialized facilities for trucking that provide air cargo ground transport are located around regional airport facilities, notably LAX and LA/Ontario International Airport.

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

[5]SANBAG, 2011. Colton Crossing Project. http://www.coltoncrossing.com/EnvironmentalAndEngineeringDocuments/Colton%20Crossing_Final%20EA%20and%20FONSI_2011-05.pdf, accessed September 2011.

[6]Alameda Corridor Transportation Authority, Number of Trains Running on the Alameda Corridor (http://www.acta.org/pdf/CorridorTrainCounts.pdf), 2011.

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 310 million metric tons of cargo in 2010.[7]

In particular, the San Pedro Bay Ports (Long Beach and Los Angeles) dominate the container trade in the Americas by shipping and receiving more than 11.8 million twenty-foot Equivalent Units (TEUs) of containers in 2009.[8] Together these two ports rank third in the world, behind Rotterdam and Hong Kong, as the busiest maritime ports.

Regional Aviation System

The SCAG region contains 56 public use airports, including six active commercial service airports, 44 general aviation, two active limited-commercial service (commuter) airports, two former military airfields (now public-use airports) and two joint-use facilities. The existing active commercial service airports (shown on **Map 3.12-4** located in Chapter 8.0 (Maps)) handle the majority of passenger air traffic. They are:

- Los Angeles International Airport
- LA/Ontario International Airport
- John Wayne/Orange County Airport
- Bob Hope Airport
- Imperial County Airport (limited commercial service)
- Long Beach Airport
- Palm Springs International Airport
- Oxnard (limited commercial service)

In all, some 81 million annual passengers (MAP) were served in the region in 2010, more than double the number served in 1980. The level of air passenger demand is forecast to be approximately 146 MAP by 2035. While none of the individual airports is the largest in the U.S., the region's airports collectively are the busiest of any region in the country. The existing level of activity reflecting air passenger demand (MAP), operations (take-offs and landings or TOAL) and air cargo demand at each of the six existing airports is shown in **Table 3.12-10**. A brief discussion of the location, major access routes and facilities at each of these airports follows. In addition, the six other regional airports at which major improvements and/or conversion to civilian uses are contemplated are also described below.

TABLE 3.12-10: EXISTING (2010) ACTIVITY AT MAJOR COMMERCIAL AIRPORTS IN THE SCAG REGION

	Burbank	John Wayne	Long Beach	Los Angeles	LA/ Ontario	Palm Springs	Regional Total
Passenger Volume (1,000)	4,461	8,663	2,978	59,069	4,808	1,420	81,399
Percent of Regional Total	5.5%	10.6%	3.7%	72.6%	5.9%	1.7%	100%
Cargo Volume (tons)	48,084	14,920	28,690	1,926,825	392,427	<100	2,410,946
Percent of Regional Total	2.0%	0.6%	1.2%	79.9%	16.3%	0.0%	100%
Annual Operations	112,658	200,278	315,340	575,835	98,332*	64,490	1,366,933
Average Daily Operations	309	549	864	1,578	269*	177	3,745
Percent of Regional Total	8.2%	14.7%	23.1%	42.1%	7.2%	4.7%	100%

Note: Ontario data is from 2009 statistics.
SOURCE: SCAG, 2011

[7]Port of Los Angeles 2010 Financial Statement; Port of Los Angeles 2010 Tonnage Statistics; and Port of Long Beach December 2010 Monthly Tonnage Summary Report.

[8]SCAG. *Port Activity and Competitiveness Tracker (PACT)*, 2011.

Los Angeles International Airport

Los Angeles International Airport (LAX), as shown in **Map 3.12-4** located in Chapter 8.0 (Maps), is located in the southwestern portion of the City of Los Angeles, bordered by Arbor Vitae / Westchester Parkway to the north, I-405 to the east, I-105 / Imperial Highway to the south, and the Pacific Ocean to the west. It is surrounded by the communities of Westchester and Playa del Rey to the north; the City of El Segundo to the south; and the City of Inglewood and unincorporated areas of Los Angeles County (Lennox and Del Aire) to the east. Major access routes include I-405 and I-105 and a complex network of surface streets extending throughout the surrounding area, including Sepulveda Boulevard, Lincoln Boulevard, La Cienega Boulevard, Aviation Boulevard, Century Boulevard, Arbor Vitae / Westchester Parkway and Imperial Highway.

LA/Ontario International Airport

LA/Ontario International Airport (ONT) is located in the southwest section of San Bernardino County within the city of Ontario, approximately two miles east of Ontario's Central Business District between Holt and Mission Boulevards, and between Haven and Grove Avenues, as shown in **Map 3.12-4** located in Chapter 8.0 (Maps). Major access routes include I-10 and SR-60 and the major surface streets in the surrounding area, including Holt Boulevard, Archibald and Vineyard Avenues.

John Wayne Airport

John Wayne Airport (SNA) is located in the western portion of Orange County, directly south of I-405, one mile east of SR-55, and one mile north of SR-73, as shown in **Map 3.12-4** located in Chapter 8.0 (Maps). Major access routes include these freeways and the major surface streets in the surrounding area, including MacArthur Boulevard and Michelson Drive. The majority of the land surrounding the Airport is within the cities of Newport Beach, Costa Mesa, and Irvine. In addition, the unincorporated community of Santa Ana Heights is located southeast of the Airport.

Bob Hope Airport

Bob Hope Airport (BUR) is located in the western portion of Los Angeles County, on the west side of the City of Burbank, one mile south of I-5, three miles east of SR-170, and three miles north of SR-134, as shown in **Map 3.12-4** located in Chapter 8.0 (Maps). Major access routes include these freeways and the major surface streets in the surrounding area, including Hollywood Way and San Fernando Road.

Long Beach Airport

Long Beach Airport (LGB) is located in the southern portion of Los Angeles County, in the center of the City of Long Beach, directly north of I-405, and three miles west of I-605, and three miles east of I-710, as shown in **Map 3.12-4** located in Chapter 8.0 (Maps). Major access routes include these freeways and the major surface streets in the surrounding area, including Lakewood Boulevard (SR 19).

Palm Springs International Airport

Palm Springs International Airport (PSP) is located in the central portion of Riverside County, in the City of Palm Springs, two miles southwest of I-10 and one mile northeast of Gene Autry Trail (SR-111), as shown in **Map 3.12-4** located in Chapter 8.0 (Maps). Major access routes include these highways and the major surface streets in the surrounding area, including Ramon Road.

Palmdale Regional Airport

Palmdale Regional Airport (PMD) is located in northern Los Angeles County, within the north central portion of the City of Palmdale in United States Air Force Plant 42 (AFP 42), one mile north of SR-138, and

three miles east of SR-14, as shown in **Map 3.12-4** located in Chapter 8.0 (Maps). Major access routes include these highways and the major surface streets in the surrounding area, including 20th Street and Avenue P.

San Bernardino International Airport

San Bernardino Airport (SBD), formerly Norton Air Force Base, is within the City of San Bernardino and is surrounded by unincorporated areas of San Bernardino County and the cities of Redlands, Loma Linda, Highland, and Colton. The Airport is approximately three miles east of I-215, two miles north of I-10, and one mile west and two miles south of SR 30, as shown in **Map 3.12-4** located in Chapter 8.0 (Maps). Major access routes include these highways and the major surface streets in the surrounding area, including Tippecanoe Avenue, Mill Street and 3rd Street.

Southern California Logistics Airport

Southern California Logistics Airport (VCV), formerly George Air Force Base, is within the City of Victorville, surrounded by unincorporated areas of San Bernardino County and the cities of Victorville and Adelanto. It is approximately two miles east of Route 395, and three miles northwest of I-15, as shown in **Map 3.12-4** located in Chapter 8.0 (Maps). Major access routes include these highways and the major surface streets in the surrounding area, including Adelanto Road and Air Base Road.

March Air Reserve Base/March Inland Port

March Air Reserve Base / March Inland Port (March), formerly March Air Force Base, is located in the western portion of Riverside County east of and adjacent to I-215 and two miles south of SR-60, as shown in **Map 3.12-4** located in Chapter 8.0 (Maps). The joint-use facility is bordered by the cities of Moreno Valley to the north and east, Riverside to the northwest, and Perris to the south. Major access routes include these freeways and the major surface streets in the surrounding area, including Van Buren Boulevard and Perris Boulevard.

Security and Emergency Access

Southern California is home to significant natural disasters; including earthquakes, wildfires, flooding and mudslides (discussed in Section 3.5 Geology and Soils, of this PEIR). 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 11th, 2001 terrorist attacks. The September 11th 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.[9]

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 all of the agencies and organizations involved in planning, mitigation, response and recovery.

Safety is defined as the protection of persons and property from unintentional damage or destruction caused by accidental or natural events.

Security is defined as the protection of persons or property from intentional damage or destruction caused by vandalism, criminal activity or terrorist attacks. The Transportation Research Board has classified emergency events that affect transportation agencies into several categories, which are illustrated below in **Table 3.12-11**.[10]

TABLE 3.12-11: TRANSPORTATION SECURITY VULNERABILITIES

ROADWAYS AND FREEWAY	
Freeway Lanes Miles (excluding carpool)	9,424 miles
Carpool Lane Miles	1,033 miles
Road Lane Miles	38,871 miles
PUBLIC TRANSIT	
Buses	5,443 vehicles
Metro Rail	73 miles and 65 stations
Metrolink	512 miles and 55 stations
AVIATION/PORTS	
Commercial/General Aviation Airports	57
LAX rank among world's airports	6 in passengers and
	11 in air cargo tonnage
Long Beach/Los Angeles rank among world container ports	5th
Share of United States Maritime Trade	41 percent

SOURCE: SCAG 2012-2035 RTP/SCS, Transportation Security Appendix, Page 3, 2011.

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 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.

[9]National Cooperative Highway Research Project 525 Volume 3 Transportation Planning Process, page 16.
[10]National Cooperative Highway Research Program Report 525 Volume 9 "Guidelines for Transportation Emergency Training Exercises" McCormick Taylor Inc. 2006.

Seaports. The DHS has designated the seaports of Long Beach, Los Angeles, and Port Hueneme as at risk for potential terrorist actions.[11] 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:

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.

Airports. 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 system has six established air carrier airports including Los Angeles International (LAX), Bob Hope (formerly Burbank), John Wayne, Long Beach, LA/Ontario International and Palm Springs. There are also three emerging air

[11] Fiscal Year 2006 Infrastructure Protection Program. U.S. Department of Homeland Security, September 25, 2006.

carrier airports in the Inland Empire and North Los Angeles County. These include San Bernardino International Airport (formerly Norton Air Force Base), March Inland Port (joint use with March Air Reserve Base) and Southern California Logistics Airport (formerly George Air Force Base). Palmdale Airport (joint use with Air Force Plant 42) was once thought to be a potential regional airport; however, it is currently a general aviation facility. The only commercial airline - United Airlines - that serviced the Airport with flights to/from San Francisco ceased operations in December 2008. There is no indication presently of any commercial air service, and Los Angeles World Airport has surrendered its federal certification to operate Palmdale Regional as a commercial facility. The airport features a modern 9,000-square-foot terminal capable of handling up to 300,000 passengers annually. The regional system includes 45 general aviation airports and two commuter airports, for a total of 57 public use airports.

Airport security planning is the joint responsibility of the federal Transportation Security Administration (TSA), the airlines, and the individual airports. Airports in the SCAG region have upgraded their security systems since 9/11 using a variety of strategies in conjunction with local, State and federal law enforcement. However, a number of aviation vulnerabilities continue to persist. These included effective screening of passengers and baggage for threat objects and explosives, adequate controls for limiting access to secure areas at airports, and adequate security for air traffic control computer systems and facilities.

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. Today, regional transit in the SCAG region is comprised of:

- Approximately 640 bus routes
- Approximately 67 local bus (demand response and paratransit) operators
- 13 commuter express bus services[12]
- Two subway lines and 3 light rail lines situated within Los Angeles County

The numbers of customers using public transportation each and every day creates ongoing challenges for enhancing security within transit environments. A number of 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 (SEMS).

Public Transit, Bicycle, or Pedestrian Facilities

Public Transit. In Southern California public transit service is comprised of local and express buses, transitways, Rapid Bus, 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. Transit service is provided by approximately 67 separate public agencies. 12 of these agencies provide 91 percent of the existing public bus transit service. Local service is supplemented by municipal lines and shuttle services. Private bus companies provide additional regional service.

Many people depend on reliable transit service to participate in the economic, cultural and social benefits of Southern California. Transit ridership was approximately 708 million in 2010.[13] The largest provider of public transit service in Imperial County is Imperial Valley Transit which serves the cities and communities

[12]Santa Clarita, Antelope Valley, LADOT and VISTA operate Commuter Express bus services. Santa Monica, Foothill, Montebello, Torrance, Gardena and Orange County operate local limited bus service into downtown Los Angeles.
[13]SCAG Transit Data Collection, 2011.

of Brawley, Bombay Beach, Calexico, Calipatria, El Centro, Heber, Hotville, Imperial, Niland, Ocotillo, Salton Sea, Seeley, Westmorland, and Winterhaven. There are approximately 28 routes with multiple trips daily Monday through Friday and a reduced schedule on Saturdays. In 2010, the system experienced approximately 49,000 average monthly boardings, and approximately 15 percent of the system's operating expenses were recovered through passenger fares.[14]

The largest provider of public transit service in Los Angeles County is the Los Angeles County Metropolitan Transportation Authority (Metro). Metro operates a comprehensive network of fixed-route bus routes and an urban light rail system (Metro Rail) and subway. Among the fixed-route bus services operated by the Metro is Metro Rapid Bus, which consists of a simple route layout, frequent service, less frequent stops, low-level buses for fast boarding and exiting, color-coded buses and stop, and bus priority at intersections. In 2010, the system experienced approximately 41.9-million average monthly boardings, and approximately 24 percent of the system's bus operating expenses were recovered through passenger fares.[15]

The largest provider of public transit service in Orange County is the Orange County Transportation Authority (OCTA), which operates 77 bus local and express routes and approximately 62,000 bus stops located throughout the urbanized portions of Orange County. In 2010, the system experienced approximately 4.8 million average monthly boardings, and approximately 25 percent of the system's operating expenses were recovered through passenger fares.[16]

The largest provider of public transit service in Riverside County is the Riverside Transit Agency (RTA), which is the primary provider of fixed-route and paratransit services throughout a 2,500 square mile service area in the western portion of the county. It operates 231 buses on approximately 43 local and express routes. In 2010, the system experienced approximately 950,000 average monthly boardings, and approximately 15 percent of the system's operating expenses were recovered through passenger fares.[17]

The largest provider of public transit service in San Bernardino County is Omnitrans, which provides bus and paratransit services in a 480 square mile area in Southwestern San Bernardino County, which includes the cities and communities of Chino, Colton, Fontana, Loma Linda, Montclair, Ontario, Redlands, Rialto, San Bernardino, Upland, Chino Hills, Grand Terrace, Highland, Rancho Cucamonga, Yucaipa, Bloomington, Mentone and Muscoy. It operates a fleet of more than 277 buses over approximately 27 routes. In 2010, the system experienced approximately 1.3 million average monthly boardings, and approximately 23 percent of the system's operating expenses were recovered through passenger fares.[18]

The largest provider of public transit service in Ventura County is Gold Coast Transit, which provides bus and paratransit services over 91 square miles in the western portion of the county. Service is provided to the cities of Ojai, Oxnard, Port Hueneme, Ventura and the unincorporated areas in between the cities. It operates a fleet of 78 buses over approximately 18 routes. In the fiscal year 2010, the system experienced approximately 407,000 average monthly boardings, and approximately 20 percent of the system's operating expenses were recovered through passenger fares.[19]

Rail transit ridership has been steadily increasing as new routes have been added. Commuter rail service has continued to grow steadily since its introduction in 1992, both in service and patronage. A summary of the current service and patronage for the largest transit operators in each county is presented in **Table 3.12-12**.

[14]National Transit Database, 2011.
[15]*Ibid*.
[16]*Ibid.*
[17]*Ibid*.
[18]*Ibid*.
[19]*Ibid*.

TABLE 3.12-12: STATISTICS FOR MAJOR TRANSIT OPERATORS (2010)

County	Largest Transit Operator	Average Weekday Boardings	Annual Boardings	Annual Vehicle Revenue Miles(VRM)	Passenger Fares as a % of Operation Expenses*
FIXED ROUTE BUS SERVICE					
Imperial	IVT	2,000	593,000	666,000	15.2%
Los Angeles	Metro	1,579,000	503,071,000	139,274,000	24.4%
Orange	OCTA	182,000	58,104,000	21,666,000	25.1%
Riverside	RTA	36,000	11,368,000	10,163,000	15.2%
San Bernardino	Omnitrans	49,000	15,685,000	10,035,000	22.9%
Ventura	Gold Coast Transit	15,000	4,880,000	3,853,000	19.6%
METRO RAIL – HEAVY RAIL					
Los Angeles	Metro	150,000	47,906,000	5,885,000	38.7%
METRO RAIL – LIGHT RAIL					
Los Angeles	Metro	146,000	46,409,000	9,646,000	18.3%
REGIONAL COMMUTER RAIL					
Various	SCRRA (Metrolink)	38,000	12,006,000	10,479,000	42.4%

SOURCE: National Transit Database, 2011.

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 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 as shown in **Map 3.12-5** located in Chapter 8.0 (Maps), and the Metro Gold Line which runs from East Los Angeles (Atlantic station) to Pasadena via Union Station. The Metro Rail system is operated seven days a week. A system total of 79 route miles serves a total of 73 stations. Ridership on the Metro Rail system is approximately 303,000 boardings every day.[20]

Regional Commuter 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 September 2010, the system operated 144 trains on weekdays, 40 on Saturdays and 26 on Sundays to 55 stations on 512 route miles. Average weekday ridership is approximately 40,544 passengers.[21]

Amtrak provides significant regional and inter-regional service on the LOSSAN—San Diego to San Luis Obispo corridor (also known as Amtrak's Pacific Surfliner corridor) operating twelve daily round-trip services, which stop at the Los Angeles Union Station. Additionally, Amtrak operates four interstate routes

[20] Los Angeles Metropolitan Transportation Authority. Facts at a Glance – October 2011, 2011.
[21] Southern California Regional Rail Authority. (2010). http://www.metrolinktrains.com/about/?id=6, accessed September 2011.

within the region (Coast Starlight, Sunset Limited, Southwest Chief and Texas Eagle) that on average have one daily trip.[22] These regional commuter rail lines are shown in **Map 3.12-5** located in Chapter 8.0 (Maps).

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 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.[23]

Bicycle and Pedestrian Facilities (Non-motorized Transportation)

Biking and walking primarily constitutes non-motorized transportation. Non-motorized transportation plays a bigger role in the densely-populated, mixed-land-use areas of the region. In 2009 biking and walking accounts for approximately 20.9 percent of total trips and 3.2 percent of trips to work or university from home.[24]

The region's bikeways encourage non-motorized travel, serve as recreational facility, and provide inexpensive, environmentally-friendly transportation opportunities. 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. Nearly 4,615 miles of Class I and II bikeways exist through the region, as well as mountain bike trails, some of which are also designated for hiking and horseback riding.[25] The City of Los Angeles alone has more than 216 miles of Class I and II bikeways. 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. **Map 3.12-6** located in Chapter 8.0 (Maps) shows the regional bicycle.

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.

THRESHOLDS OF SIGNIFICANCE

The 2012-2035 RTP/SCS would have a significant impact related to transportation, traffic and security if it would:

- Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit;

[22] Amtrak. (2011) Routes. http://www.amtrak.com/servlet/ContentServer?c=Page&pagename=am%2FLayout&p=1237405732511&cid=1237608331430, accessed September 2011.
[23] Access Services, About Us. http://www.asila.org/about_us/overview.html, accessed September 2011
[24] City of Los Angeles, *Bicycle Master Plan*, 2011.
[25] SCAG, *Draft 2012 Regional Transportation Plan*, 2011.

- Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways;
- Result in inadequate emergency access; and/or
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

The following specific thresholds were developed by SCAG based on precedence as appropriate thresholds by which to determine significant impacts on transportation, traffic and security:

- Generate substantially more total daily Vehicle Miles of Travel (VMT) than the current daily VMT;
- Result in a substantially higher average Vehicle Hours of Delay (VHD) in delay for all trips compared to the current VHD delay;
- Result in substantially greater average delay and percent of total VHD in delay for heavy-duty truck trips than the current condition;
- Result in substantial decrease in the percent of work opportunities within 45 minutes travel time by personal vehicle or by transit, relative to the existing condition;
- Result in a substantially higher system-wide fatality accident rate for all travel modes compared to the existing condition;
- Result in a substantially higher system-wide injury accident rate for all travel modes compared to the existing condition; or
- Cause a cumulatively considerable adverse effect on regional transportation and associated environmental effects.

Methodology

Transportation data was obtained from the SCAG's Regional Travel Demand Model (RTDM, see a detailed description of that model in appendices to the RTP). This regional tool for characterizing the transportation environment divides the region into 11,267 Transportation Analysis Zones. Model inputs include: Socioeconomic Data by Census Block Group; Highway Networks; Land Use and Accessibility for Auto Ownership Model; Land Use, parking, pricing TDM, Walk and Bike for Mode Choice Model; Transit Networks; External Trips (inter-regional trips); Airport Trips and Employment, Commodity Flow, Ports and Warehouse Activities. The model includes modules that address Household Classification (size, number of workers, income, single-family or multi-family unit); Auto Ownership; Trip Generation; Trip Distribution; Mode Choice; Heavy Duty Trucks; Network Assignment; Model Convergence; and Highway Performance Monitoring System (HPMS) VMT-based Post processing.

A detailed description of the RTDM is provided in the Conformity Report, an appendix to the 2012-2035 RTP/SCS. A detailed description of the methodology used to identify growth is provided in the growth and SCS appendices of the RTP.

While the RTP has the ability to influence where growth occurs and therefore traffic in the region, it has no control over the forecasted increase in population growth. The anticipated increase in births over deaths as well as in-migration to the region is the reason that population growth and resulting traffic impacts occur. [26]

Cumulative Analysis

The 2012-2035 RTP/SCS addresses transportation projects and land use distribution patterns, including land use scenarios. These land use distribution patterns identify growth distribution and anticipated land use

[26] The Environmental Justice section of the Plan and associated appendix contains substantial analysis of accessibility and other transportation impacts to low income, minority and other protected groups. See Environmental Justice Appendix of the 2012-2035 RTP/SCS. However, the PEIR does not rely on this analysis as it addresses transportation impacts to the community as a whole.

development to accommodate growth projections. The Regional Travel Demand Model (RTDM) used for this analysis captures pass-through traffic that does not have an origin or destination in the region, but does impact the region, so that too is included in the project analysis. Although the similar level of development is anticipated even without the 2012-2035 RTP/SCS, this Plan would influence growth, including distribution patterns, throughout the region. To address this, the analysis in the PEIR covers overall impacts of all transportation projects and land development described in the 2012-2035 RTP/SCS. In addition, this PEIR considers cumulative impacts from other regional plans (e.g., the South Coast Air Quality Management Plan), which could result in additional impacts inside and outside the region.

Comparison with the No Project Alternative

The analysis of transportation resources includes a comparison between the expected future conditions with the Plan and the expected future conditions if no Plan were adopted (No Project Alternative). This evaluation is not included in the determination of the significance of impacts (which is based on a comparison of future conditions with the Plan to today); however it provides a meaningful perspective on the effects of the Plan.

Determination of Significance

The significance of impacts was determined by applying the significance criteria above to compare current regional transportation conditions to expected future conditions with the Plan. The RTDM provides performance data for future Plan conditions. The performance measure output for year 2035 with the Plan was compared to the existing regional conditions for each significance criterion to determine the significance of impacts. The 2035 transportation model output provides a regional and cumulative level of analysis for the impacts of the Plan on transportation resources.

IMPACTS

Impact 3.12-1: Potential to increase total daily Vehicle Miles of Travel (VMT) in 2035 compared to current daily VMT. The Plan would result in a significant impact related to VMT.

Regional VMT is related to growth and land use. The expansion of highways and local arterials has slowed down over the last decade. This has occurred in part due to roadway improvements not keeping pace with the growing population, this is at least in part because of increasing costs and environmental concerns. However, there are still critical gaps in the network that hinder access to certain parts of the region and/or hinder efficient regional operations. Locally-developed county transportation plans have identified projects to close these gaps and complete the system, and they are included in the Plan. These projects include the Limited Access Expressway SR-115 in Imperial County, the SR-710 Gap Closure in Los Angeles County, the High Desert Corridor in Los Angeles and San Bernardino Counties, the SR-241 Improvements in Orange County, the CETAP Inter-county Corridor A in Orange and Riverside Counties, and the U.S. 101 and SR-118 Improvements in Ventura County.

Heavy investment in HOV lanes has given the region one of the nation's most comprehensive HOV networks and highest rideshare rates. The Plan proposes strategic HOV gap closures and freeway-to-freeway direct HOV connectors to complete the system. Another key HOV strategy in the Plan is the conversion of certain HOV lanes in the region to allow for continuous access. Orange County has taken a leadership role on this over the past few years, and their recent studies have concluded that continuous-access HOV lanes do not perform any worse than limited-access HOV lanes. At the same time, they provide carpoolers with greater freedom of movement in and out of HOV lanes

Local streets and roads account for over 80 percent of the total road network and carry almost 50 percent of total traffic. They serve different purposes in different parts of the region, or even in different parts of the same city. Many streets serve as major thoroughfares or even alternate parallel routes to congested freeways. At the same time, street right-of-ways often support different modes of transportation besides the automobile,

including bicycles, pedestrians, and transit. The Plan contains a host of arterial projects and improvements to achieve different purposes in different areas. In all parts of the region, it includes operational and technological improvements to maximize system productivity in a more cost-effective way than simply adding capacity. Such strategic improvements include spot widening, signal prioritization, driveway consolidation and relocation, and grade separations at high-volume intersections.

While the Plan's multimodal strategy aims to reduce per capita VMT over the next 25 years, total demand to move people and goods will continue to grow due to the region's population increase. A strategic expansion of the transportation system is needed in order to provide the region with the mobility it needs. The Plan targets this expansion around transportation systems that have room to grow, including transit, high-speed rail, active transportation, express lanes, and goods movement. Some of these systems, such as transit, active transportation, and express lanes, have proven over the years to be a reliable and convenient form of transportation for those who are able to easily access it.

The Plan calls for an impressive expansion of transit facilities and service over the next 25 years. While these capital projects will provide the SCAG region with a much more mature public transportation system, operational improvements and new transit pro-grams and policies will also contribute greatly to attracting more trips to transit and away from single-occupant vehicle travel. First, the expanding HOV and express lane networks calls for the development of an extensive express bus point-to-point network. Second, transit oriented and land use developments 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.

The Plan proposes three passenger rail strategies that will provide additional travel options for long-distance travel within the region and to neighboring regions. These are improvements to the Los Angeles to San Diego Corridor (LOSSAN), improvements to the existing Metrolink system, and the implementation of Phase I of the California High-Speed Train (HST) project.

The recent release of the draft CA HST Business Plan confirmed the funding and implementation challenges of the project. The draft Business Plan now estimates a Phase I cost of $98.5 billion (in year of expenditure dollars) with service extended to the region in 2033. Within the draft Business Plan, there are a variety of strategies to connect Northern and Southern California to the State network. This plan assumes that Southern California will be connected to the network in 2033, but that incremental improvements can be made in advance of and in preparation for that connection. Therefore, stakeholders throughout Southern California are seeking to implement a phased and blended implementation strategy for high-speed rail by employing State and federal high-speed rail funds to improve existing services, eventually meeting the Federal Rail Administration's 110 miles per hour definition of high-speed service. These speed and service improvements to the existing LOSSAN and Metrolink corridors will deliver the California High-Speed Rail Authority's new blended approach, and at the same time permanently improve the region's commuter and intercity rail services.

Another emphasis on transit network improvements includes transit priority facilities, such as bus lanes and traffic signal priority. The region has virtually no bus lanes, especially compared to other major metropolitan areas. The Los Angeles County Metro Rapid Bus network employs bus signal priority that gives buses up to ten percent more green light time from the normal green light phase. This should be expanded to other counties in the region. Additional enhancements to the region's transit services include expanding bike-carrying capacity on transit vehicles, implementing regional and inter-county fare agreements and media, such as LA County's EZ Pass, and expanding and improving real-time passenger information systems.

Active transportation refers to transportation such as walking or using a bicycle, tricycle, velomobile, wheelchair, scooter, skates, skateboard, push scooter, trailer, hand cart, shopping car, or similar electrical devices. In the Plan, active transportation generally refers to bicycling and walking, the two most common

methods. Walking and bicycling are essential parts of the SCAG transportation system and can help reduce roadway congestion. As the region works towards reducing congestion, walking and bicycling will become more essential to meet the future needs of Californians.

Substantial growth and development is anticipated to occur within the region between 2011 and 2035. Despite the regional planning efforts to reduce per capita VMT, predicted growth will increase total VMT. As shown in **Table 3.12-13**, average daily VMT is expected to grow from 448 million miles in 2011 to 517 million miles per day in 2035. This change constitutes a 13.3 percent increase over this period and includes light, medium and heavy-duty vehicle VMT in all six counties.[27] The greatest percentage increase in VMT will occur in Riverside County San followed by Bernardino County. Implementation of Mitigation Measures Mitigation Measures **MM-TR1** through **MM-TR98** would reduce VMT, however, impacts would remain significant.

TABLE 3.12-13: DAILY VEHICLE MILES TRAVELED IN 2012 AND 2035

	In Thousands		
County	**2012**	**2035 No Project**	**2035 Plan**
Imperial	6,000	10,000	10,000
Los Angeles	224,000	252,000	234,000
Orange	75,000	84,000	79,000
Riverside	60,000	89,000	89,000
San Bernardino	61,000	89,000	84,000
Ventura	21,000	23,000	22,000
SCAG Region	448,000	547,000	517,000

SOURCE: SCAG Transportation Modeling 2011, SCSG 2012-2035 RTP/SCS, Highways & Arterials Appendix, Tables A16, page 56, 2011

Impact 3.12-2: The Plan would reduce average Vehicle Hours of Delay (VHD) in 2035 compared to current condition. The Plan would result in less than significant impact related to VHD.

As shown in **Table 3.12-14**, total daily VHD in delay are expected to shrink from 3,277,000 vehicle-hours in 2011 to 3,115,000 vehicle-hours in 2035. This constitutes a decrease from existing conditions and includes light, medium and heavy-duty vehicles VHD in all six counties.[28] Delay would decrease in Los Angeles, Orange, and Ventura Counties and increase in Imperial, Riverside, and San Bernardino Counties. This result is considered to be a regional benefit. Therefore, the Plan would result in a less-than-significant impact related to VHD.

TABLE 3.12-14: TOTAL DAILY HOURS OF DELAY IN 2012 AND 2035

	In Thousands of Vehicle-Hours		
County	**2012**	**2035 No Project**	**2035 Plan**
Imperial	5	25	12
Los Angeles	2,204	3,031	1,895
Orange	493	688	437
Riverside	263	1,244	395
San Bernardino	205	846	279
Ventura	107	181	97
Regional	3,277	6,015	3,115

SOURCE: SCAG Transportation Modeling 2011, SCSG 2012-2035 RTP/SCS, Highways & Arterials Appendix, Tables A16, page 56, 2011

[27] SCAG, Regional Travel Demand Model Results, 2011.
[28] *Ibid*.

Impact 3.12-3: Potential to create substantially greater average daily VHD for heavy-duty truck trips in 2035 compared to current condition. The Plan would result in a significant impact related to truck VHD.

The transportation system is heavily influenced by goods movement, especially by heavy-duty trucks on the roadway network. Recent regional efforts have focused on strategies to develop a coherent, refined, and fully integrated regional goods movement system. In past RTPs, SCAG has envisioned a system of truck-only lanes extending from the San Pedro Bay Ports to downtown Los Angeles along the I-710, connecting to an east-west segment, and finally reaching the I-15 in San Bernardino County. Such a system would address the growing truck traffic on core highways through the region and serve key goods movement industries. Truck-only freight corridors are effective as they add capacity in congested corridors and improve truck operations and safety by separating trucks and autos.

Significant progress towards a regional freight corridor system has continued as evidenced by recent work on an environmental impact report (expected to be completed in 2012) for the I-710 segment. The Plan includes a refined concept for the east-west corridor component of the system and connections to an initial segment of I-15. The East-West Freight Corridor would carry between 58,000 and 70,000 trucks per day - trucks that would be removed from adjacent general-purpose lanes and local arterial roads.

Despite the regional planning efforts to improve the efficiency of goods movement, increased demand for goods will lead to substantial increased in total heavy-duty trucks on the roadway network under the Plan. As shown in **Table 3.12-15**, total daily heavy-duty truck trip VHD in delay are expected to increase from 117,000 average daily heavy-duty truck vehicle hours of delay in 2012 to 158,000 hours in 2035. This constitutes a 35 percent increase from conditions in 2012.[29] Implementation of Mitigation Measures Mitigation Measures **MM-TR1** through **MM-TR98** would reduce criteria pollutant impacts, however, impacts would remain significant.

TABLE 3.12-15: TOTAL DAILY HEAVY-DUTY TRUCKS TRIPS HOURS OF DELAY IN 2012 AND 2035

	In Thousands of Hours		
County	**2012 Base Year**	**2035 No Project**	**2035 Plan**
Imperial	0	2	1
Los Angeles	72	154	81
Orange	15	29	18
Riverside	14	73	30
San Bernardino	13	91	24
Ventura	3	6	4
Regional	117	354	158

SOURCE: SCAG Transportation Modeling 2011, SCSG 2012-2035 RTP/SCS, Highways & Arterials Appendix, Tables A16, page 56, 2011

Impact 3.12-4: Potential to increase the percent of work opportunities within 45 minutes travel time by personal vehicle or by transit in 2035 relative to the current condition. This result is considered to be a regional benefit. The Plan would result in a less-than-significant impact related to work commute.

PM peak period work trips were used to assess impacts to work commute as the evening is this is the portion of the day prone to the most vehicle delay. It was determined that 45 minutes represents a reasonable benchmark to account for commute lengths for both the auto and transit modes.

As shown in **Table 3.12-16**, 79 percent of the Existing PM peak period work trips take 45 minutes or less by single occupancy vehicle, 73 percent of the Existing PM peak period work trips take 45 minutes or less by high occupancy vehicle, and 22 percent occur within 45 minutes by transit.

[29] *Ibid.*

TABLE 3.12-16: PERCENTAGE OF PM PEAK PERIOD WORK TRIPS COMPLETED WITHIN 45 MINUTES			
County	**2012**	**2035 No Project**	**2035 Plan**
AUTOS –SINGLE OCCUPANCY VEHICLES			
Imperial	97%	96%	96%
Los Angeles	76%	76%	80%
Orange	87%	87%	88%
Riverside	77%	75%	81%
San Bernardino	78%	79%	80%
Ventura	80%	81%	82%
Region	79%	79%	82%
AUTOS – HIGH OCCUPANCY VEHICLES			
Imperial	90%	89%	87%
Los Angeles	73%	65%	77%
Orange	83%	83%	85%
Riverside	67%	64%	74%
San Bernardino	64%	61%	68%
Ventura	73%	70%	73%
Region	73%	68%	77%
TRANSIT			
Imperial	4%	4%	5%
Los Angeles	25%	22%	24%
Orange	12%	12%	12%
Riverside	9%	7%	9%
San Bernardino	4%	5%	6%
Ventura	9%	8%	9%
Region	22%	20%	21%
SOURCE: SCAG Transportation Modeling 2011.			

In 2035, with the implementation of the Plan, 82 percent of the PM peak period work trips take 45 minutes or less by single occupancy vehicle, 77 percent of the PM peak period work trips take 45 minutes or less by high occupancy vehicle, and 21 percent occur within 45 minutes by transit.

There would be an increase in the percent of work opportunities within 45 minutes travel time by personal vehicle as compared to the current condition. The transit percentage would remain approximately the same. This result is considered to be a regional benefit. Therefore, the Plan would result in a less-than-significant impact related to work commute.

Impact 3.12-5: Potential to lower system-wide fatality accident rate for all travel modes in 2035 relative to the current condition. The Plan would result in a less-than-significant impact related to transportation fatality rates.

The Plan includes Transportation System Management strategies that improve safety through reducing the concentration of weaving and merging and that clear existing incidents and accidents more quickly. It was assumed that SCAG goals and the goals/actions outlined in the California Strategic Highway Safety Plan would reduce fatalities and injuries by 25 percent based on recent trends. As shown in **Table 3.12-17**, implementation of the Plan would result in a system-wide daily fatality rate of 0.17 fatalities per million persons for all travel modes, a decrease of 0.03 daily fatalities per million persons when compared to the existing rate of 0.20. Therefore, the Plan would result in a less-than-significant impact related to transportation fatality rates.

TABLE 3.12-17: EXISTING AND 2035 REGIONAL TRANSPORTATION SYSTEM ACCIDENT RATES

Daily Per Million Persons	2012	2035 No Project	2035 Plan
Fatalities	0.20	0.18	0.17
Injuries	18.27	13.67	12.93

SOURCE: SCAG Transportation Modeling 2011.

Impact 3.14-6: Potential to lower system-wide injury rate for all travel modes in 2035 relative to the current condition. Therefore, the Plan would result in a less-than-significant impact related to transportation injury rates.

The Plan includes Transportation System Management strategies that improve safety through reducing the concentration of weaving and merging, and that clear existing incidents and accidents more quickly, among other measures. As shown in **Table 3.12-17**, implementation of the Plan would result in a system-wide daily injury rate of 12.93 injuries per million persons for all travel modes, a decrease of 5.34 daily injuries per million persons when compared to the existing rate of 18.27. Therefore, the Plan would result in a less-than-significant impact related to transportation injury rates.

Cumulative Impact 3.12-7: Potential to contribute to a cumulatively considerable amount of transportation impacts, such as VMT and all-vehicle VHD, in areas outside of the SCAG region.

The RTDM analyzes the population, households, and employment projected for 2035, which is anticipated to be the year with the largest demand on the transportation system expected during the lifetime of the Plan. In accounting for the effects of regional growth, the model output provides a long-term and cumulative level of analysis for the impacts of the Plan on transportation resources. Forecast urban development and growth that would be accommodated by the transportation investments in the Plan, together with the increased mobility provided by the Plan would contribute to the significant impacts described in Impacts 3.12-1, 3.12-2, and 3.12-3 above. The regional growth, and thus cumulative impacts, is captured in the VMT, VHD, and heavy-duty truck VHD data reported for the above impacts.

As the population increases through 2035, the number of trips originating and ending in Santa Barbara, San Diego, and Kern counties to and from the SCAG region is anticipated to increase. The transportation demand from growth, in combination with the accommodating projects within the Plan would contribute to a cumulatively considerable transportation impact in these areas and potentially beyond.

MITIGATION MEASURES

Mitigation Measures **MM-TR1** through **MM-TR16** shall be implemented by SCAG over the lifetime of the 2012-2035 RTP/SCS. Mitigation Measures **MM-TR17** through **MM-TR21** shall be implemented by SCAG and can and should be implemented by project sponsors (for both development and transportation projects) as applicable. Mitigation Measures **MM-TR21** through **MM-TR98** can and should be implemented by project sponsors (for both development and transportation projects) as applicable. Project specific environmental documents may adjust these mitigation measures as necessary to respond to site-specific conditions. Projects taking advantage of CEQA Streamlining provisions of SB 375 can and should apply mitigation measures as appropriate to site-specific conditions.

MM-TR1: SCAG shall establish a forum where policy-makers can be educated and can develop consensus on regional transportation safety and security policies

MM-TR2: SCAG shall work with local officials to assist with implementation of regional transportation safety and security policies.

MM-TR3: SCAG shall conduct workshops focused on Smart Growth strategies. Project-specific workshops should be held by local agencies.

MM-TR4: SCAG shall help ensure the rapid repair of transportation infrastructure in the event of an emergency. This will be accomplished by SCAG, in cooperation with local and State agencies, identifying 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.

MM-TR5: SCAG shall continue to promote the use of intelligent transportation system (ITS) technologies that enhance transportation security. SCAG should work to expand the use of ITS to improve surveillance, monitoring and distress notification systems and to assist in the rapid evacuation of disaster areas. SCAG shall facilitate the incorporation of security into the Regional ITS Architecture. Transit operators should incorporate ITS technologies as part of their security and emergency preparedness and share that information with other operators. Aside from deploying ITS technologies for advanced customer information, transit agencies should work intensely with ethnic, local and disenfranchised communities through public information / outreach sessions ensuring public participation is utilized to its fullest. In case of evacuation, these transit dependent persons may need additional assistance to evacuate to safety.

MM-TR6: SCAG shall establish transportation infrastructure practices that promote and enhance security. SCAG shall work with transportation operators to plan and coordinate transportation projects, as appropriate, with DHS grant projects, to enhance the regional transit security strategy (RTSS). SCAG shall establish transportation infrastructure practices that identify and prioritize the design, retrofit, hardening, and stabilization of critical transportation infrastructure to prevent failure, to minimize loss of life and property, injuries, and avoid long term economic disruption. SCAG shall establish a Transportation Security Working Group (TSWG) with goals of 2012-2035 RTP/SCS consistency with RTSS, and to find ways SCAG programs can enhance RTSS.

MM-TR7: SCAG shall help to enhance the region's ability to deter and respond to acts of terrorism, human-caused or natural disasters through regionally cooperative and collaborative strategies. SCAG shall work with local officials to develop regional consensus on regional transportation safety, security, and safety security policies.

MM-TR8: SCAG shall help to enhance the region's ability to deter and respond to terrorist incidents, human-caused or natural disasters by strengthening relationship and coordination with transportation. This will be accomplished by the following:

- SCAG shall work with local officials to develop regional consensus on regional transportation safety, security, and safety security policies.
- SCAG shall encourage all SCAG elected officials are educated in NIMS.
- SCAG shall work with partner agencies, federal, State and local jurisdictions to improve communications and interoperability and to find opportunities to leverage and effectively utilize transportation and public safety/security resources in support of this effort.

MM-TR9: SCAG shall work to enhance emergency preparedness awareness among public agencies and with the public at large.

MM TR10: SCAG shall work with local officials to develop regional consensus on regional transportation safety, security, and safety security policies.

MM-TR11: SCAG shall work to improve the effectiveness of regional plans by maximizing the sharing and coordination of resources that would allow for proper response by public agencies.

MM-TR12: SCAG shall encourage and provide a forum for local jurisdictions to develop mutual aid agreements for essential government services during any incident recovery

MM-TR13: SCAG shall help to enhance the capabilities of local and regional organizations, including first responders, through provision and sharing of information. This will be accomplished by:

- SCAG shall work with local agencies to collect regional GeoData in a common format, and provide access to the GeoData for emergency planning, training and response.
- SCAG shall establish a forum for cooperation and coordination of these plans and programs among the regional partners including first responders and operations agencies
- SCAG shall develop and establish a regional information sharing strategy, linking SCAG and its member jurisdictions for ongoing sharing and provision of information pertaining to the region's transportation system and other critical infrastructure.

MM-TR14: 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 to provide this data, in coordination with the California OES in the event that an event disrupts SCAG's ability to function.

MM-TR15: Congestion Pricing: SCAG shall advocate for a regional, market-based system to price or charge for auto trips during peak hours.

MM-TR16: Beyond the currently financially and institutionally feasible measures included in the 2012-2035 RTP/SCS, SCAG shall identify further reduction in VMT, and fuel consumption that could be obtained through land-use strategies, additional car-sharing programs, additional vanpools, additional bicycle programs, and implementation of a universal employee transit access pass (TAP) program.

MM-TR17: SCAG shall (for its employees) and local jurisdictions can and should institute teleconferencing, telecommute and/or flexible work hour programs to reduce unnecessary employee transportation.

MM-TR18: Local jurisdictions can and should create a ride-sharing program. Promote existing ride sharing programs e.g., by designating a certain percentage of parking spaces for ride sharing vehicles, designating adequate passenger loading and unloading for ride sharing vehicles, and providing a web site or message board for coordinating rides.

MM-TR19: SCAG shall and local jurisdictions can and should create or accommodate car sharing programs, e.g., provide parking spaces for car share vehicles at convenient locations accessible by public transportation.

MM-TR20: SCAG shall and local jurisdictions can and should provide a vanpool for employees.

MM-TR21: Transportation Planning: SCAG shall and local jurisdictions can and should ensure that new developments incorporate both local and regional transit measures into the project design that promote the use of alternative modes of transportation.

MM-TR22: As may be appropriate, project sponsors can and should submit fair share traffic payments to the local agency for funding capital improvement projects to accommodate future traffic demand in the area.

MM-TR23: Local jurisdictions can and should coordinate controlled intersections so that traffic passes more efficiently through congested areas. Where traffic signals or streetlights are installed, require the use of Light Emitting Diode (LED) technology.

MM-TR24: Local jurisdictions can and should promote ride sharing programs e.g., by designating a certain percentage of parking spaces for high-occupancy vehicles, providing larger parking spaces to accommodate vans used for ride-sharing, and designating adequate passenger loading and unloading and waiting areas.

MM-TR25: Local jurisdictions can and should encourage the use of car-sharing programs such as ZipCar. Accommodations for such programs include providing parking spaces for the car-share vehicles at convenient locations accessible by public transportation.

MM-TR26: The Plan includes measures intended to reduce vehicle hours of delay. These include: system management, increasing rideshare and work-at-home opportunities to reduce demand on the transportation system, investments in non-motorized transportation, maximizing the benefits of the land use-transportation connection and key transportation investments targeted to reduce delay. SCAG shall encourage local agencies to fully implement these policies and projects.

MM-TR27: The Plan includes measures intended to reduce daily heavy-duty truck vehicle hours of delay. These include: goods movement capacity enhancements, system management, increasing rideshare and work-at-home opportunities to reduce demand on the transportation system, investments in non-motorized transportation, maximizing the benefits of the land use-transportation connection and key transportation investments targeted to reduce heavy-duty truck delay. SCAG shall encourage local agencies to fully implement these policies and projects.

MM-TR28: Project sponsors of a commercial use can and should submit to the Lead Agency (or other appropriate government agency) a Transportation Demand Management (TDM) plan containing strategies to reduce on-site parking demand and single occupancy vehicle travel. The sponsor should implement the approved TDM plan. The TDM should include strategies to increase bicycle, pedestrian, transit, and carpools/vanpool use. All four modes of travel should be considered. Strategies to consider include the following:

- Inclusion of additional bicycle parking, shower, and locker facilities that exceed the requirement

- Construction of bike lanes per the prevailing Bicycle Master Plan (or other similar document)
- Signage and striping onsite to encourage bike safety
- Installation of pedestrian safety elements (such as cross walk striping, curb ramps, countdown signals, bulb outs, etc.) to encourage convenient crossing at arterials
- Installation of amenities such as lighting, street trees, trash and any applicable streetscape plan.
- Direct transit sales or subsidized transit passes
- Guaranteed ride home program
- Pre-tax commuter benefits (checks)
- On-site car-sharing program (such as City Car Share, Zip Car, etc.)
- On-site carpooling program
- Distribution of information concerning alternative transportation options
- Parking spaces sold/leased separately
- Parking management strategies; including attendant/valet parking and shared parking spaces

MM-TR29: Project sponsors and construction contractors can and should meet with the appropriate Lead Agency (or other government agency) to determine traffic management strategies to reduce, to the maximum extent feasible, traffic congestion and the effects of parking demand by construction workers during construction of this project and other nearby projects that could be simultaneously under construction. The project sponsor should develop a construction management plan for review and approval by the Lead Agency (or other government agency as appropriate). The plan should include at least the following items and requirements:

- A set of comprehensive traffic control measures, including scheduling of major truck trips and deliveries to avoid peak traffic hours, detour signs if required, lane closure procedures, signs, cones for drivers, and designated construction access routes.
- Notification procedures for adjacent property owners and public safety personnel regarding when major deliveries, detours, and lane closures will occur.
- Location of construction staging areas for materials, equipment, and vehicles at an approved location.
- A process for responding to, and tracking, complaints pertaining to construction activity, including identification of an onsite complaint manager. The manager should determine the cause of the complaints and should take prompt action to correct the problem. The Lead Agency should be informed who the Manager is prior to the issuance of the first permit.
- Provision for accommodation of pedestrian flow.
- As necessary, provision for parking management and spaces for all construction workers to ensure that construction workers do not park in on street spaces.
- Any damage to the street caused by heavy equipment, or as a result of this construction, should be repaired, at the project sponsor's expense, within one week of the occurrence of the damage (or excessive wear), unless further damage/excessive wear may continue; in such case, repair should occur prior to issuance of a final inspection of the building permit. All damage that is a threat to public health or safety should be repaired immediately. The street should be restored to its condition prior to the new construction as established by the Lead Agency (or other appropriate government agency) and/or photo documentation, at the sponsor's expense, before the issuance of a Certificate of Occupancy.
- Any heavy equipment brought to the construction site should be transported by truck, where feasible.

- No materials or equipment should be stored on the traveled roadway at any time.
- Prior to construction, a portable toilet facility and a debris box should be installed on the site, and properly maintained through project completion.
- All equipment should be equipped with mufflers.
- Prior to the end of each work-day during construction, the contractor or contractors should pick up and properly dispose of all litter resulting from or related to the project, whether located on the property, within the public rights-of-way, or properties of adjacent or nearby neighbors.

MM-TR30: Local jurisdictions can and should encourage the use of public transit systems by enhancing safety and cleanliness on vehicles and in and around stations, providing shuttle service to public transit, offering public transit incentives and providing public education and publicity about public transportation services.

MM-TR31: Local jurisdictions can and should encourage bicycling and walking by incorporating bicycle lanes into street systems in regional transportation plans, new subdivisions, and large developments, creating bicycle lanes and walking paths directed to the location of schools and other logical points of destination and provide adequate bicycle parking, and encouraging commercial projects to include facilities on-site to encourage employees to bicycle or walk to work.

MM-TR32: Transit agencies can and should encourage bicycling to transit facilities by providing additional bicycle parking, locker facilities, and bike lane access to transit facilities when feasible.

MM-TR33: Project sponsors can and should ensure that prior to construction all necessary local and State road and railroad encroachment permits are obtained. 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 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 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.

MM-TR34: Local jurisdictions can and should meet an identified transportation-related benchmark.

MM-TR35: Local jurisdictions can and should adopt a comprehensive parking policy that discourages private vehicle use and encourages the use of alternative transportation.

MM-TR36: Project sponsors can and should build or fund a major transit stop within or near the development.

MM-TR37: Local jurisdictions and transit agencies can and should provide public transit incentives such as free or low-cost monthly transit passes to employees, or free ride areas to residents and customers.

MM-TR38: Local jurisdictions and project sponsors can and should promote "least polluting" ways to connect people and goods to their destinations.

MM-TR39: Local jurisdictions and project sponsors can and should incorporate bicycle lanes, routes and facilities into street systems, new subdivisions, and large developments.

MM-TR40: Local jurisdictions can and should require amenities for non-motorized transportation, such as secure and convenient bicycle parking.

MM-TR41: Local jurisdictions can and should ensure that the project enhances, and does not disrupt or create barriers to, non-motorized transportation.

MM-TR42: Local jurisdictions can and should connect parks and open space through shared pedestrian/bike paths and trails to encourage walking and bicycling.

MM-TR43: Local jurisdictions can and should create bicycle lanes and walking paths directed to the location of schools, parks and other destination points.

MM-TR44: Local jurisdictions can and should work with the school districts to improve pedestrian and bike access to schools and to restore or expand school bus service using lower-emitting vehicles.

MM-TR45: Local jurisdictions and transit agencies can and should provide information on alternative transportation options for consumers, residents, tenants and employees to reduce transportation-related emissions.

MM-TR46: Local jurisdictions can and should educate consumers, residents, tenants and the public about options for reducing motor vehicle-related greenhouse gas emissions. Include information on trip reduction; trip linking; vehicle performance and efficiency (e.g., keeping tires inflated); and low or zero-emission vehicles.

MM-TR47: Local jurisdictions can and should purchase, or create incentives for purchasing, low or zero-emission vehicles.

MM-TR48: Local jurisdictions can and should create local "light vehicle" networks, such as neighborhood electric vehicle systems.

MM-TR49: Local jurisdictions can and should enforce and follow limits idling time for commercial vehicles, including delivery and construction vehicles.

MM-TR50: Local jurisdictions can and should provide the necessary facilities and infrastructure to encourage the use of low or zero-emission vehicles.

MM-TR51: Local jurisdictions can and should reduce GHG emissions by reducing vehicle miles traveled and by increasing or encouraging the use of alternative fuels and transportation technologies.

MM-TR52: Local jurisdictions can and should reduce VMT-related emissions by encouraging the use of public transit through adoption of new development standards that would require improvements to the transit system and infrastructure, increase safety and accessibility, and provide other incentives.

MM-TR53: Project Selection: Local jurisdictions can and should give priority to transportation projects that would contribute to a reduction in vehicle miles traveled per capita, while maintaining economic vitality and sustainability.

MM-TR54: Equal Pedestrian Access Local jurisdictions can and should include separated sidewalks whenever possible, on both sides of all new street improvement projects, except where there are severe topographic or natural resource constraints.

MM-TR55: Public Involvement: Local jurisdictions can and should carry out a comprehensive public involvement and input process that provides information about transportation issues, projects, and processes to community members and other stakeholders, especially to those traditionally underserved by transportation services.

MM-TR56: System Interconnectivity: Local jurisdictions can and should create an interconnected transportation system that allows a shift in travel from private passenger vehicles to alternative modes, including public transit, ride sharing, car sharing, bicycling and walking, by incorporating the following:

- Ensure transportation centers are multi-modal to allow transportation modes to intersect;
- Provide adequate and affordable public transportation choices, including expanded bus routes and service, as well as other transit choices such as shuttles, light rail, and rail;
- To the extent feasible, extend service and hours of operation to underserved arterials and population centers or destinations such as colleges;
- Focus transit resources on high-volume corridors and high-boarding destinations such as colleges, employment centers and regional destinations;
- Coordinate schedules and routes across service lines with neighboring transit authorities;
- Support programs to provide "station cars" for short trips to and from transit nodes (e.g., neighborhood electric vehicles);
- Study the feasibility of providing free transit to areas with residential densities of 15 dwelling units per acre or more, including options such as removing service from less dense, underutilized areas to do so;
- Employ transit-preferential measures, such as signal priority and bypass lanes. Where compatible with adjacent land use designations, right-of-way acquisition or parking removal may occur to accommodate transit-preferential measures or improve access to

transit. The use of access management should be considered where needed to reduce conflicts between transit vehicles and other vehicles;

- Provide safe and convenient access for pedestrians and bicyclists to, across, and along major transit priority streets;
- Use park-and-ride facilities to access transit stations only at ends of regional transitways or where adequate feeder bus service is not feasible.

MM-TR57: Transit System Infrastructure: Local jurisdictions can and should upgrade and maintain transit system infrastructure to enhance public use, including:

- Ensure transit stops and bus lanes are safe, convenient, clean and efficient;
- Ensure transit stops have clearly marked street-level designation, and are accessible;
- Ensure transit stops are safe, sheltered, benches are clean, and lighting is adequate;
- Place transit stations along transit corridors within mixed-use or transit-oriented development areas at intervals of three to four blocks, or no less than one-half mile.

MM-TR58: Customer Service: Transit agencies can and should enhance customer service and system ease-of-use, including:

- Develop a Regional Pass system to reduce the number of different passes and tickets required of system users;
- Implement "Smart Bus" technology, using GPS and electronic displays at transit stops to provide customers with "real-time" arrival and departure time information (and to allow the system operator to respond more quickly and effectively to disruptions in service);
- Investigate the feasibility of an on-line trip-planning program.

MM-TR59: Transit Funding: Local jurisdictions can and should prioritize transportation funding to support a shift from private passenger vehicles to transit and other modes of transportation, including:

- Give funding preference to improvements in public transit over other new infrastructure for private automobile traffic;
- Before funding transportation improvements that increase roadway capacity and VMT, evaluate the feasibility and effectiveness of funding projects that support alternative modes of transportation and reduce VMT, including transit, and bicycle and pedestrian access.

MM-TR60: Transit and Multimodal Impact Fees: Local jurisdictions can and should assess transit and multimodal impact fees on new developments to fund public transportation infrastructure, bicycle infrastructure, pedestrian infrastructure and other multimodal accommodations.

MM-TR61: Local jurisdictions can and should implement traffic and roadway management strategies to improve mobility and efficiency, and reduce associated emissions.

MM-TR62: System Monitoring: Local jurisdictions can and should monitor traffic and congestion to determine when and where new transportation facilities are needed in order to increase access and efficiency.

MM-TR63: Arterial Traffic Management: Local jurisdictions can and should modify arterial roadways to allow more efficient bus operation, including bus lanes and signal priority/preemption where necessary.

MM-TR64: Signal Synchronization: Local jurisdictions can and should expand signal timing programs where emissions reduction benefits can be demonstrated, including maintenance of the synchronization system, and will coordinate with adjoining jurisdictions as needed to optimize transit operation while maintaining a free flow of traffic.

MM-TR65: HOV Lanes: Local jurisdictions can and should encourage the construction of high-occupancy vehicle (HOV) lanes or similar mechanisms whenever necessary to relieve congestion and reduce emissions.

MM-TR66: Delivery Schedules: Local jurisdictions can and should establish ordinances or land use permit conditions limiting the hours when deliveries can be made to off-peak hours in high traffic areas.

MM-TR67: Local jurisdictions can and should reduce VMT related-emissions by implementing and supporting trip reduction programs.

MM-TR68: Ride-Share Programs: Local jurisdictions can and should promote ride sharing programs, including:

- Designate a certain percentage of parking spaces for ride-sharing vehicles;
- Designate adequate passenger loading, unloading, and waiting areas for ride-sharing vehicles;
- Provide a web site or message board for coordinating shared rides;
- Encourage private, for-profit community car-sharing, including parking spaces for car share vehicles at convenient locations accessible by public transit;
- Hire or designate a rideshare coordinator to develop and implement ridesharing programs.

MM-TR69: Employer-based Trip Reduction: Local jurisdictions can and should support voluntary, employer-based trip reduction programs, including:

- Provide assistance to regional and local ridesharing organizations;
- Advocate for legislation to maintain and expand incentives for employer ridesharing programs;
- Require the development of Transportation Management Associations for large employers and commercial/ industrial complexes;
- Provide public recognition of effective programs through awards, top ten lists, and other mechanisms.

MM-TR70: Ride Home Programs: Local jurisdictions can and should implement a "guaranteed ride home" program for those who commute by public transit, ride-sharing, or other modes of transportation, and encourage employers to subscribe to or support the program.

MM-TR71: Local Area Shuttles: Transit agencies can and should encourage and utilize shuttles to serve neighborhoods, employment centers and major destinations.

MM-TR72: Local jurisdictions and transit agencies can and should create a free or low-cost local area shuttle system that includes a fixed route to popular tourist destinations or shopping and business centers.

MM-TR73: Local jurisdictions can and should work with existing shuttle service providers to coordinate their services.

MM-TR74: Low- and No-Travel Employment Opportunities: Local jurisdictions can and should facilitate employment opportunities that minimize the need for private vehicle trips, including:

- Amend zoning ordinances and the Development Code to include live/work sites and satellite work centers in appropriate locations;
- Encourage telecommuting options with new and existing employers, through project review and incentives, as appropriate.

MM-TR75: Local jurisdictions can and should support bicycle use as a mode of transportation by enhancing infrastructure to accommodate bicycles and riders, and providing incentives.

MM-TR76: Development Standards for Bicycles: Local jurisdictions can and should establish standards for new development and redevelopment projects to support bicycle use, including:

- Amending the Development Code to include standards for safe pedestrian and bicyclist accommodations, by incorporating the following:
  - "Complete Streets" policies that foster equal access by all users in the roadway design;
  - Bicycle and pedestrian access internally and in connection to other areas through easements;
  - Safe access to public transportation and other non-motorized uses through construction of dedicated paths;
  - Safe road crossings at major intersections, especially for school children and seniors;
  - Adequate, convenient and secure bike parking at public and private facilities and destinations in all urban areas;
  - Street standards will include provisions for bicycle parking within the public right of way.

MM-TR77: Local jurisdictions can and should require new development and redevelopment projects to include bicycle facilities, as appropriate with the new land use, including:

- Construction of weatherproof bicycle facilities where feasible, and at a minimum, bicycle racks or covered, secure parking near the building entrances;
- Provision and maintenance of changing rooms, lockers, and showers at large employers or employment centers.
- Prohibit projects that impede bicycle and pedestrian access, such as large parking areas that cannot be safely crossed by non-motorized vehicles, and developments that block through access on existing or potential bicycle and pedestrian routes;
- Encourage the development of bicycle stations at intermodal hubs, with attended or "valet" bicycle parking, and other amenities such as bicycle rental and repair, and changing areas with lockers and showers;
- Conduct a connectivity analysis of the existing bikeway network to identify gaps, and prioritize bikeway development where gaps exist.

MM-TR78: Bicycle and Pedestrian Trails: Local jurisdictions can and should establish a network of multi-use trails to facilitate safe and direct off-street bicycle and pedestrian travel, and will provide bike racks along these trails at secure, lighted locations.

MM-TR79: Bicycle Safety Program: Local jurisdictions can and should develop and implement a bicycle safety educational program to teach drivers and riders the laws, riding protocols, routes, safety tips, and emergency maneuvers.

MM-TR80: Bicycle and Pedestrian Project Funding: Local jurisdictions can and should pursue and provide enhanced funding for bicycle and pedestrian facilities and access projects, including, as appropriate:

- Apply for regional, State, and federal grants for bicycle and pedestrian infrastructure projects;
- Establish development exactions and impact fees to fund bicycle and pedestrian facilities;
- Use existing revenues, such as State gas tax subventions, sales tax funds, and general fund monies for projects to enhance bicycle use and walking for transportation.

MM-TR81: Bicycle Parking: Local jurisdictions can and should adopt bicycle parking standards that ensure bicycle parking sufficient to accommodate 5 to 10 percent of projected use at all public and commercial facilities, and at a rate of at least one per residential unit in multiple-family developments (suggestion: check language with League of American Bicyclists).

MM-TR82: Local jurisdictions can and should establish parking policies and requirements that capture the true cost of private vehicle use and support alternative modes of transportation.

MM-TR83: Parking Policy: Local jurisdictions can and should adopt a comprehensive parking policy to discourage private vehicle use and encourage the use of alternative transportation by incorporating the following:

- Reduce the available parking spaces for private vehicles while increasing parking spaces for shared vehicles, bicycles, and other alternative modes of transportation;
- Eliminate or reduce minimum parking requirements for new buildings;
- "Unbundle" parking (require that parking is paid for separately and is not included in the base rent for residential and commercial space);
- Use parking pricing to discourage private vehicle use, especially at peak times;
- Create parking benefit districts, which invest meter revenues in pedestrian infrastructure and other public amenities;
- Establish performance pricing of street parking, so that it is expensive enough to promote frequent turnover and keep 15 percent of spaces empty at all times;
- Encourage shared parking programs in mixed-use and transit-oriented development areas.

MM-TR84: Event Parking Policies: Local jurisdictions can and should establish policies and programs to reduce onsite parking demand and promote ride-sharing and public transit at large events, including:

- Promote the use of peripheral parking by increasing on-site parking rates and offering reduced rates for peripheral parking;
- Encourage special event center operators to advertise and offer discounted transit passes with event tickets;
- Encourage special event center operators to advertise and offer discount parking incentives to carpooling patrons, with four or more persons per vehicle for on-site parking;
- Promote the use of bicycles by providing space for the operation of valet bicycle parking service.

MM-TR85: Parking "Cash-out" Program: Local jurisdictions can and should require new office developments with more than 50 employees to offer a Parking "Cash-out" Program to discourage private vehicle use.

MM-TR86: Electric/Alternative Fuel Vehicle Parking: Local jurisdictions can and should require new commercial and retail developments to provide prioritized parking for electric vehicles and vehicles using alternative fuels.

MM-TR87: Local jurisdictions can and should support and promote the use of low- and zero-emission vehicles, and alternative fuels, and other measures to directly reduce emissions from motor vehicles.

MM-TR88: Low and Zero Emission Vehicles: Local jurisdictions can and should support and promote the use of low- and zero-emission vehicles, by doing the following:

- Develop the necessary infrastructure to encourage the use of zero emission vehicles and clean alternative fuels, such as development of electric vehicle charging facilities and conveniently located alternative fueling stations;
- Encourage new construction to include vehicle access to properly wired outdoor receptacles to accommodate ZEV and/or plug in electric hybrids (PHEV);
- Encourage transportation fleet standards to achieve the lowest emissions possible, using a mix of alternate fuels, PZEV or better fleet mixes;
- Establish incentives, as appropriate, to taxicab owners to use alternative fuel or gas-electric hybrid vehicles.

MM-TR89: Vehicle Idling: Local jurisdictions can and should enforce State idling laws for commercial vehicles, including delivery and construction vehicles.

MM-TR90: Pedestrian and Bicycle Promotion: Local jurisdictions can and should work with local community groups and downtown business associations to organize and publicize walking tours and bicycle events, and to encourage pedestrian and bicycle modes of transportation.

MM-TR91: Local jurisdictions can and should organize events and workshops to promote GHG-reducing activities.

MM-TR92: Fleet Replacement: Local jurisdictions and agencies can and should establish a replacement policy and schedule to replace fleet vehicles and equipment with the most fuel efficient vehicles practical, including gasoline hybrid and alternative fuel or electric models.

MM-TR93: Local jurisdictions can and should implement measures to reduce employee vehicle trips and to mitigate emissions impacts from municipal travel.

MM-TR94: Trip Reduction Program: Local jurisdictions can and should implement a program to reduce vehicle trips by employees, including:

- Providing incentives and infrastructure for vanpooling and carpooling, such as pool vehicles, preferred parking, and a website or bulletin board to facilitate ride-sharing;
- Providing subsidized passes for mass transit;
- Offering compressed work hours, off-peak work hours, and telecommuting, where appropriate;
- Offer a guaranteed ride home for employees who use alternative modes of transportation to commute.

MM-TR95: Bicycle Transportation Support: Local jurisdictions can and should promote and support the use of bicycles as transportation, including:

- Providing bicycle stations with secure, covered parking, changing areas with storage lockers and showers, as well as a central facility where minor repairs can be made;
- Providing bicycles, including electric bikes, for employees to use for short trips during business hours;
- Implementing a police-on-bicycles program;
- Providing a bicycle safety program, and information about safe routes to work.

MM-TR96: Municipal Parking Management: Local jurisdictions can and should implement a Parking Management Program to discourage private vehicle use, including:

- Encouraging carpools and vanpools with preferential parking and a reduced parking fee;
- Institute a parking cash-out program;
- Renegotiate employee contracts, where possible, to eliminate parking subsidies;
- Install on-street parking meters with fee structures designed to discourage private vehicle use;
- Establish a parking fee for all single-occupant vehicles.

MM-TR97: Travel Mitigation: Local jurisdictions can and should mitigate business-related travel, especially air travel, through the annual purchase of verified carbon offsets.

MM-TR98: Transit Access to Municipal Facilities: Local jurisdiction and agency facilities can and should be located on major transit corridors, unless their use is plainly incompatible with other uses located along major transit corridors.

SIGNIFICANCE OF IMPACTS AFTER MITIGATION

Vehicle Miles Traveled

Implementation of Mitigation Measures **MM-TR1** through **MM-TR98** would to reduce VMT. However, 2035 VMT would still be substantially greater than existing VMT. Therefore, the Plan would result in a significant impact related to VMT.

Vehicle Hours Traveled in Delay for All Vehicles

Impacts related to VHD were determined to be less than significant without mitigation because vehicle hours in delay would improve under the Plan.

Vehicle Hours Traveled for Heavy-Duty Trucks

Implementation of Mitigation Measures **MM-TR1** through **MM-TR98** would reduce VHD for heavy trucks. However, the 2035 heavy-duty truck VHD would still be substantially greater than the existing VHD. Therefore, the Plan would result in a significant and unavoidable impact related to heavy-duty truck VHD.

Worker Commute

Impacts related to worker commute were determined to be less than significant without mitigation as the percentage of trips occurring within 45 minutes would increase under the Plan compared to today.

Transportation System Fatality Rate

Impacts related transportation system fatality rates were determined to be less than significant without mitigation because fatality rates are anticipated to decrease.

Transportation System Injury Rate

Impacts related to transportation system injury rates were determined to be less than significant without mitigation because injury rates are anticipated to decrease.

Cumulative Effects

Implementation of Mitigation Measures **MM-TR1** through **MM-TR98** identified in the Plan would be expected to reduce VMT and VHD. However, as the population increases through 2035, the number of trips originating and ending in Santa Barbara, San Diego and Kern counties to and from the SCAG region would increase. The transportation demand from growth, in combination with the accommodating projects in the Plan would contribute to a cumulatively considerable transportation impact in these other counties.

COMPARISION WITH THE NO PROJECT ALTERNATIVE

Direct Impacts

Vehicle Miles Traveled. The relationship between the VMT in 2035 with implementation of the Plan and without implementation of the Plan (the No Project Alternative) is shown in **Table 3.12-13**. The No Project Alternative would not include transportation and land use strategies that focus growth along existing corridors and in urbanized areas. As a result, population would be more scattered thought the region when compared to the Plan, and per capita VMT would not be reduced and other transportation metrics would not be improved. Implementation of the Plan would reduce vehicle miles of travel in 2035 from 547 million miles to 517 million miles. This constitutes a seven percent decrease from the No Project Alternative. **The Plan impact would be less than the No Project impacts for Impact 3.12-1.**

Vehicle Hours Traveled for All Vehicles in Delay. The relationship between the VHD in delay 2035 with implementation of the Plan and without implementation of the Plan (the No Project Alternative) is shown in **Table 3.12-4.** Implementation of the Plan would reduce VHD in 2035 from 6,015 thousand vehicle-hours to 3,115 thousand vehicle-hours. This constitutes a 48 percent decrease from the No Project Alternative and includes light, medium and heavy-duty truck VHD in all six counties. **The Plan impact would be less than the No Project impact for Impact 3.12-2.**

Vehicle Hours Traveled in Delay for Heavy-Duty Trucks. The relationship between the heavy-duty truck VHD in 2035 with implementation of the Plan and without implementation of the Plan (the No Project Alternative) is shown in **Table 3.12-15**. Implementation of the Plan would reduce heavy-duty truck VHD in 2035 from 354,000 hours to 158,000 thousand hours. This constitutes a 55 percent decrease from the No Project Alternative. **The Plan impact would be less than the No Project impacts for Impact 3.12-3.**

Worker Commute. The relationships between the percent of work opportunities within 45 minutes travel time with implementation of the Plan and without implementation of the Plan (the No Project alternative) are shown in **Table 3.12-16**. Implementation of the No Project Alternative would decrease the work opportunities within 45 minutes travel time by single occupancy vehicle in 2035 as compared to the Plan from 82 percent to 79 percent, would decrease the work opportunities within 45 minutes travel time by high occupancy vehicle from 77 to 68 percent, and would decrease the work opportunities within 45 minutes travel time by transit from 21 to 20 percent. The No Project Alternative would not improve the percent of

work opportunities within 45 minutes travel time. **The Plan impact would be less than the No Project impacts for Impact 3.12-4.**

Transportation System Fatality Rate. The relationship between the transportation fatality rates in 2035 with implementation of the Plan and without implementation of the 2012-2035 RTP/SCS (the No Project Alternative) is shown in **Table 3.12-17**. Implementation of the Plan would result in a system-wide daily fatality rate of 0.17 fatalities per million persons for all travel modes, a decrease of 0.01 daily fatalities per million persons when compared to the No Project Alternative rate of 0.18. **The Plan impact would be less than the No Project impact for Impact 3.12-5.**

Transportation System Injury Rate. The relationship between the transportation injury rates in 2035 with implementation of the Plan and without implementation of the 2012-2035 RTP/SCS (the No Project Alternative) is shown in **Table 3.12-17**. Implementation of the Plan would result in a system-wide daily injury rate of 12.93 injuries per million persons for all travel modes, a decrease of 5.34 daily injuries per million persons when compared to the No Project Alternative rate of 13.67. **The Plan impact would be less than the No Project impact for Impact 3.12-6.**

Indirect Impacts

The Plan includes transportation and land use strategies that focus growth along existing corridors and in urbanized areas, rather than allowing development of vacant, open space/recreation and agricultural lands. This compact development pattern included in the Plan would concentrate population in urban areas and encourage alternative modes of travel other than automobiles. Without the planned development patterns, vehicles miles travels, vehicle hours of delay, worker commute trips, and accident rates would be higher than under the Plan. **The Plan impacts would be less than the No Project impacts for Impact 3.12-7.**