4.16 TRANSPORTATION AND TRAFFIC

This section evaluates the potential impacts to transportation associated with implementation of the 2050 RTP/SCS. The information presented was compiled from multiple sources, including SANDAG studies and publications, public transit organizations, and other transportation planning agencies. Future transportation operating conditions used to analyze the transportation impacts were modeled by SANDAG and the associated data tables are included in the Technical Appendix 3 to the Draft 2050 RTP (SANDAG 2011b). When potential significant impacts would result, feasible mitigation measures are presented and the resulting level of significance after mitigation is identified.

4.16.1 EXISTING CONDITIONS

The San Diego regional transportation system is a complex and expansive multimodal network that supports the region’s economic base and the demand for personal travel. The transportation network facilitates the movement of people throughout the region for purposes of traveling to places of employment, education, recreation, and for personal needs. Beyond people, the transportation network is essential for the movement of goods and continued economic development. Goods and freight are transported to, from, and through the region with major distribution centers located primarily to the north in the Los Angeles area and south across the international border.

The transportation system includes interstate and state highways, local arterial roadways, public transportation systems, nonmotorized transportation facilities, maritime and aviation facilities, and land ports of entry. The regional roadway system is an interconnected network of interstates, freeways, highways, toll roads, arterial streets, and local streets. This roadway network allows for the movement of private vehicles, commercial vehicles, buses, and heavy trucks. The regional public transit system includes local and regional bus operations, regional and interregional commuter rail services, and light rail service. The freight railroad network includes three freight rail lines serving cargo and goods services. Nonmotorized transportation facilities generally include walkways and bikeways. Often, facilities such as bikeways share space with roadway facilities. The airport system consists of commercial, general, and military aviation facilities serving passenger, freight, business, recreational, and military needs. Individual components of the regional transportation network are described in the following sections.

In 2010, generally four different modes of transportation were used throughout the region for work trips during peak periods: (1) drive alone, (2) carpool, (3) public transit, and (4) walk/bike. As shown in Table 4.16-1, the vast majority of peak period trips, 80 percent, are currently made by driving single occupancy vehicles.

<table>
<thead>
<tr>
<th>Transportation Mode</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drive Alone</td>
<td>80%</td>
</tr>
<tr>
<td>Carpool</td>
<td>11%</td>
</tr>
<tr>
<td>Public Transit</td>
<td>6%</td>
</tr>
<tr>
<td>Walk/Bike</td>
<td>3%</td>
</tr>
</tbody>
</table>

Source: SANDAG 2011b

Roadway Network

The primary purpose of the roadway network is to facilitate the movement of goods and people. The existing regional network consists of 610 miles of highways (including 20 miles of high occupancy vehicle [HOV] and high occupancy toll lanes) and more than 1,000 miles of regional arterials. The
existing highway network is shown in Figure 4.16-1. Roadways in the region serve many purposes and accommodate different types of travel, such as buses and other transit vehicles, automobiles, the movement of freight, and bicycles. The local streets and arterials that traverse communities are typically used for shorter trips, while the region’s highways provide access to major centers for jobs, education, shopping, recreation, and travel to destinations outside the region. In 2010, the average amount of systemwide vehicle miles traveled (VMT) per capita on a daily basis is 24.2 miles. The regional roadway network is a complex and expansive system that is regulated, maintained, and planned by numerous jurisdictions and agencies, such as the various cities, the County of San Diego, Caltrans, FHWA, tribal governments, SANDAG, and others.

The ease, convenience, and reliability of mobility are often based upon indicators such as average travel time, roadway operating conditions, time spent in congestion, and other trip delay factors. The majority of roadway congestion occurs during peak commute hours in the morning and evening. In 2010, the average work trip travel time in the San Diego region is approximately 26 minutes. During peak period work trips, the average travel speed is 35 mph (drive alone) to 36 mph (carpool) on roadways and 10 mph for transit systems. Table 4.16-2 details the percentage of work and higher education trips during peak periods that are accessible in 30 minutes or less in the San Diego region by transportation mode in 2010. Table 4.16-3 shows the percentage of non-work-related trips that are accessible in 15 minutes by mode. As indicated in these tables, when driving on the regional roadway network, more than 70 percent of trips to work or education, or non-work-related trips are currently accessible in 30 or 15 minutes, respectively.

Table 4.16-2
Percentage of Peak Period Work and Higher Education Trips Accessible in 30 Minutes

<table>
<thead>
<tr>
<th>Transportation Mode</th>
<th>Percent Accessible (2010)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drive Alone</td>
<td>75%</td>
</tr>
<tr>
<td>Carpool</td>
<td>76%</td>
</tr>
<tr>
<td>Transit</td>
<td>7%</td>
</tr>
</tbody>
</table>

Source: SANDAG 2011b

Table 4.16-3
Percentage of Non-Work-Related Trips Accessible in 15 Minutes

<table>
<thead>
<tr>
<th>Transportation Mode</th>
<th>Percent Accessible (2010)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drive Alone</td>
<td>71%</td>
</tr>
<tr>
<td>Carpool</td>
<td>72%</td>
</tr>
<tr>
<td>Transit</td>
<td>4%</td>
</tr>
</tbody>
</table>

Source: SANDAG 2011b

The amount of VMT in congested conditions varies throughout the day and corresponds directly to travel during peak or off-peak hours. Table 4.16-4 details the percentage of VMT that occurs in congested conditions in 2010.

Table 4.16-4
Percentage of Total Vehicle Miles Traveled in Congested Conditions (2010)

<table>
<thead>
<tr>
<th>Transportation Mode</th>
<th>Peak Periods</th>
<th>Non-Peak Periods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto Travel</td>
<td>11%</td>
<td>5%</td>
</tr>
<tr>
<td>Transit Travel</td>
<td>5%</td>
<td>4%</td>
</tr>
</tbody>
</table>

Source: SANDAG 2011b
In 2010, the per capita daily vehicle delay throughout the San Diego region is approximately 2.6 minutes. Heavy trucks traveling on the regional roadway network spend approximately 5,000 hours a day delayed in traffic.

**Public Transit**

The region's transit systems provide about 33 million miles of annual transit service, carrying over 70 million total annual passengers (SANDAG 2011a). In 2010, the transit passenger miles per capita averaged 0.46 mile. The existing transit network is shown in Figure 4.16-2.

The primary forms of public transportation throughout the San Diego region are bus and rail service. Generally, these forms of public transit are centered in the western portion of the region, near the more densely populated coastal communities and commuter corridors. Many of the less dense and rural communities in the eastern portion of the region have limited access to regional public transportation.

Regional bus and rail public transportation services are primarily provided by MTS and NCTD. MTS provides bus and rail services directly or by contract for about 570 square miles of the urbanized areas of the San Diego region as well as the rural parts of East County, totaling 3,240 square miles. MTS serves 94 million annual passengers or 290,000 passengers each weekday through its bus and rail transportation services (MTS 2011). NCTD provides four forms of bus and rail service to 1,020 square miles in the northern San Diego region with an annual ridership of 12.5 million people (NCTD 2011).

As shown in Tables 4.16-2 and 4.16-3, when using the regional transit system, 7 percent of trips to work or education are accessible in 30 minutes and 4 percent of non-work-related trips are accessible in 15 minutes. A key component to the ease and accessibility of public transit is distance to a transit stop. Table 4.16.5 shows percentage of trips that are currently located within 0.5 mile of a transit stop.

<table>
<thead>
<tr>
<th>Trip Type</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peak Period Trip</td>
<td>75%</td>
</tr>
<tr>
<td>Daily Trips</td>
<td>78%</td>
</tr>
</tbody>
</table>

*Source: SANDAG 2011b*

**Public Bus Service**

MTS operates 82 fixed-bus routes throughout its service area, which primarily cover the central and southern portions of the San Diego region. Bus services are provided by the San Diego Transit Corporation (SDTC), which is owned by MTS. Bus service extends from the international border to as far north as Escondido. MTS Access operates wheelchair lift-equipped buses, which provide transportation to transit riders whose disabilities prevent them from using regular bus or Trolley services in compliance with ADA requirements (MTS 2011).

The NCTD bus system, known as the BREEZE, serves the northern San Diego region. BREEZE buses carry passengers on approximately 30 routes from Oceanside to Del Mar, northeast to Escondido, east to Ramona, and north to Fallbrook and to San Clemente in Orange County. The BREEZE also includes service for Marine Corps Base Camp Pendleton. The BREEZE has 30,000 boardings each weekday and 13,000 on weekends, accounting for 70 percent of NCTD ridership (NCTD 2011). Certain routes provide connections to other public transportation services such as commuter rail or park-and-ride facilities. The NCTD service area also includes four Native American reservations governed by the Rincon Band of
Figure 4.16-2
Existing (2010) Transit Network
June 2011

- MTS Bus
- NCTD Bus
- Rural Bus
- Coaster Commuter Rail
- Sprinter Light Rail
- San Diego Trolley

Source: SANDAG 2011
Luiseño Indians, Pala Band of Mission Indians, Pauma Band of Luiseño Indians, and San Pasqual Band of Diegueno Mission Indians. NCTD's BREEZE buses, SPRINTER trains, and COASTER trains are all accessible to persons with disabilities. NCTD’s LIFT program is the ADA paratransit service for passengers with disabilities in North County and serves approximately 480 people each weekday (NCTD 2011).

**Rail Facilities**

Two major railroad corridors traverse the San Diego region: the Los-Angeles-San Diego-San Luis Obispo (LOSSAN) rail corridor and the San Diego & Arizona Eastern (SD&AE) Railway corridor. The LOSSAN rail corridor covers 351 miles along the Southern California coast, with over 60 miles located in the San Diego region. San Diego’s Santa Fe Depot marks the southern end of the LOSSAN rail corridor. In the San Diego region, MTS owns the line within the City of San Diego and NCTD owns the line north of San Diego to the San Diego County/Orange County Line. The line segment is officially referred to as the San Diego Subdivision. The majority of the portion of the LOSSAN rail corridor that runs through the San Diego region is a single line that currently operates at maximum capacity, serving both passenger and freight operations (LOSSAN 2007).

The SD&AE Railway straddles international border with Mexico, connecting San Diego, Tijuana, Tecate, and the Imperial Valley. The U.S. section of the railroad is owned by MTS, and the 44 miles in Mexico are owned by the Mexican government. San Diego and Imperial Valley Railroad (SD&IV) operates freight services on this line while MTS operates the San Diego Trolley on this line. Carrizo Gorge Railway manages freight operations in Mexico and on the Desert Line (SANDAG 2007).

**Passenger Rail Service**

Throughout the San Diego region, passenger and commuter rail service is provided by Amtrak, NCTD, MTS, and Metrolink as described below. The commuter rail network is depicted in Figure 2.0-14.

The Pacific Surfliner is a passenger train service operated by Amtrak that travels along the Pacific coastline on the LOSSAN rail corridor providing intercity connections between downtown San Diego, Orange County, Los Angeles, Santa Barbara, and San Luis Obispo. The Pacific Surfliner offers 12 daily round-trip services between San Diego and Los Angeles, and between Santa Barbara and San Diego (Amtrak 2011). In fiscal year 2008–09, Pacific Surfliner ridership totaled 2.7 million passengers or 5.4 million on and offs (Wilbur Smith Associates 2010).

The COASTER is operated by NCTD along the LOSSAN rail corridor and provides passenger commuter rail service with eight stops between downtown San Diego and Oceanside. The COASTER primarily serves commuters on weekdays, with approximately 20 trains scheduled during typical commute hours. Additional trains operate on Friday and Saturday nights during the spring and summer months. The COASTER has approximately 4,800 boardings each weekday and 1,500 on Saturdays, totaling 1.5 million trips annually (NCTD 2011).

Metrolink is a regional commuter and passenger train system that operates on the LOSSAN rail corridor and was formed by the Southern California Regional Rail Authority. The Metrolink system consists of seven routes covering over 500 miles and servicing 55 stations. The only Metrolink station located with the San Diego region is the Oceanside Station located on the Orange County Line, which provides service to Los Angeles and San Bernardino via the Inland Empire Orange County Line. The Orange County Line has a weekday ridership of 6,865 riders and the Inland Empire-Orange County Line has a weekday ridership of 3,835 riders (Metrolink 2010).
The NCTD SPRINTER is a light rail system that travels a 22-mile east-west route between Oceanside and Escondido on a rail line located generally parallel to SR 78. The SPRINTER has a ridership of approximately 7,200 boardings each weekday totaling 1.8 million trips annually.

The San Diego Trolley is a light rail passenger service operated by San Diego Trolley, Inc., which is owned by MTS. The Trolley system operates on over 53.5 miles of track with three routes serving 53 stations. Trolley service is approximately every 15 minutes to most stations 7 days a week and also provides special event service to destinations such as Qualcomm Stadium and Petco Park. In 2007, average weekday ridership was 100,000 to 110,000 riders, totaling an annual ridership of 35.1 million (MTS 2008).

**Nonmotorized Facilities**

Provision of a more bicycle- and pedestrian-friendly region contributes to bettering several complex and interrelated issues, including traffic congestion, air quality, climate change, public health, personal cost savings, and overall livability. Recent planning trends have emphasized concepts such as walkable communities and other smart growth initiatives that provide for increased pedestrian and bicycle facilities as living areas located within proximity to employment and shopping centers. In 2010, there were approximately 507,000 bike or walk trips per day in the San Diego region.

SANDAG allocates funds under the Transportation Development Act and TransNet local sales tax program to support bicycle and pedestrian transportation projects in the region through a competitive process on an annual basis. For fiscal year 2010, approximately $7.7 million was available for allocation.

The California Highway Design Manual defines a "bikeway" as a facility that is provided primarily for bicycle travel and defines three classes of bikeways, which are described below.

- **Class I Bikeway (Bike Path):** Provides a completely separated right-of-way for the exclusive use of bicycles and pedestrians with crossflow by motorists minimized.
- **Class II Bikeway (Bike Lane):** Provides a striped lane for one-way bike travel on a street or highway.
- **Class III Bikeway (Bike Route):** Provides for shared use with pedestrian or motor vehicle traffic.

The San Diego Regional Bike Plan defines two additional types of bike facilities as described below.

- **Cycle Track:** A hybrid bicycle facility that is located in roadway right-of-way but separated from vehicle lanes by physical barriers or buffers.
- **Bicycle Boulevards:** Local roads or residential streets that have been enhanced with traffic calming and other treatments to facilitate safe and convenient bicycle travel by accommodating bicyclists and motorists in the same travel lanes, typically without specific vehicle or bicycle lane delineation.

There are approximately 1,340 miles of existing bikeway facilities in the region as detailed below in Table 4.16-6. Class II facilities are the predominate type of bikeway at roughly 66 percent of the total, followed by Class III facilities at 18 percent of the regional total. Class I facilities compose about 12 percent of the regional total. All 19 regional jurisdictions have some amount of Class I, II, or III bikeways within their area. Figure 4.16-3 shows the existing bicycle network throughout the San Diego region.
### Aviation

The San Diego region is home to 16 public-use and military airports as shown in Figure 2.0-20. Located adjacent to downtown, SDIA, also known as Lindbergh Field, is the busiest single-runway commercial service airport in the nation with service provided by 16 passenger carriers. The airport has two terminals and one commuter terminal. In 2010, SDIA served 16.9 million passengers and was ranked 27th in the United States in terms of enplaned passengers by the FAA (SDIA 2011).

Other regional urban airports include Oceanside Municipal Airport, McClellan-Palomar Airport, Montgomery Field, Gillespie Field Airport, and Brown Field Municipal Airport. Rural airfields, generally located in the eastern portion of the San Diego region, include Fallbrook Community Airpark, Ramona Airport, Borrego Valley Airport, Ocotillo Airport, Agua Caliente Airport, and Jacumba Airport. Military airfields in the region include Marine Corps Base Camp Pendleton, Marine Corps Air Station Miramar, Naval Air Station North Island, and Naval Outlying Field Imperial Beach (SDCRAA 2011).

### Goods Movement

The movement of goods and freight throughout the San Diego area is an important component to the region’s transportation operations. San Diego’s location is critical in the international transport of goods with multiple international ports of entries (POEs) with Mexico to the south and the Ports of Los Angeles/Long Beach, which compose the fifth largest seaport complex in the world, to the north. Transportation systems for freight and goods movement include a number of infrastructural networks, including highways, railroads, airport cargo systems, seaports, intermodal centers, and commercial POEs.

The San Diego region roadway network supports high volumes of both vehicular travel and freight movement. The highway system carries nearly 98 percent of the goods that move through the region. There are three major north-south corridors handling goods movement in the region: I-5, I-805, and I-15. In addition, one toll road, SR 125, connects the Otay Mesa POE to other major north-south corridors. These routes carry significant volumes of truck traffic through the region and farther north to Orange and Riverside counties. I-8 is the major east-west freeway through the San Diego region. In general, the east-west corridors are not as significant for freight movement as the north-south freeways. The importance of the north-south corridors stems from their connectivity to major POEs along the San Diego region’s southern border with Mexico. In 2007, more than 895,000 trucks transported 9.3 million tons of goods, valued at almost $34 billion, through San Diego County border crossings (SANDAG 2010b). Commercial truck wait times at the Otay Mesa POE frequently exceeded 4 hours. SR 11 and a new POE at Otay Mesa East will improve the efficient movement of people and goods between the United States and Mexico. Scheduled to open in 2015, this POE and 2.5-mile, four-lane state highway will connect the U.S.-Mexican border to key regional, state, and international highways. The new border crossing also will provide an alternate entry for commercial traffic that currently is limited to the Otay Mesa POE (SANDAG 2010c).

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**Table 4.16-6**

<table>
<thead>
<tr>
<th>Facility Type</th>
<th>Miles</th>
<th>Percentage of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class I</td>
<td>159.3</td>
<td>11.9%</td>
</tr>
<tr>
<td>Class II</td>
<td>890.2</td>
<td>66.4%</td>
</tr>
<tr>
<td>Class III</td>
<td>243.9</td>
<td>18.2%</td>
</tr>
<tr>
<td>Freeway Shoulders</td>
<td>47.4</td>
<td>3.5%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,340.8</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Source: San Diego Regional Bike Plan (SANDAG 2010a)
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Freight and goods movement rail services are operated on the LOSSAN rail corridor by the Union Pacific Railroad (UP) and the Burlington Northern Santa Fe Railway (BNSF) (LOSSAN 2007). In the northern part of the San Diego region along the I-5 corridor, BNSF operates a line owned by NCTD, which connects Santa Fe Depot in downtown San Diego with the Orange County line to the north. BNSF also operates on two segments of the system, from Oceanside to Escondido, and from Oceanside to downtown San Diego and to the National City Marine Terminal. In the southern portion of the San Diego region, SD&IV operates two short lines owned by MTS that connect Santa Fe Depot in downtown San Diego with the San Ysidro POE and another with Santee to the east. Carrizo Gorge Railway owns the rights to operate limited service between the Mexican border at San Ysidro/Tijuana through Mexico to Division (near the Mexican border at Tecate) and on to Plaster City in the western part of Imperial County. However, the portion between Division and Plaster City is currently closed for operations (SANDAG 2010b). In 2008, all of the region’s rail operators handled approximately 32,000 carloads, including such commodities as motor vehicles, lumber, chemicals, petroleum, agricultural products, cement, and aggregate.

Freight also arrives and departs the San Diego region via SDIA. Airlines serving the airport transported 127,261 tons of cargo and mail in 2010 (SDIA 2011). The cargo facilities at the airport are used by a limited number of operators, including commercial airlines, courier services, cargo companies, and the U.S. Postal Service. The largest cargo loading area is run by Federal Express. In 2005, cargo operations (departures and arrivals of cargo aircraft planes) represented about 3.5 percent of all airport operations (SANDAG 2010b).

### 4.16.2 REGULATORY SETTING

**Federal Laws and Regulations**

On August 10, 2005, the President signed into law the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). The two previous landmark bills that brought surface transportation into the 21st century were the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) and the Transportation Equity Act for the 21st Century (TEA-21). These bills shaped the highway program and provided Metropolitan Planning Organizations (MPOs), like SANDAG, with the opportunity to draw upon a federally sponsored program to supplement and meet their regional transportation needs. SAFETEA-LU builds upon this foundation, supplying the funds and refining the programmatic framework for investments needed to maintain and develop a vital transportation infrastructure.

A number of SAFETEA-LU provisions are aimed at improving efficiency in highway program and project delivery. The metropolitan and statewide transportation planning processes are continued, but changes have been made in the planning process for surface transportation. The changes have added new consultation and environmental planning requirements. Requirements have been added for plans to address environmental mitigation, improved performance, multimodal capacity, and enhancement activities; tribal, bicycle, pedestrian, and disabled interests are also to be represented. The policy for the metropolitan planning process is to promote consistency between transportation improvements and state and local planned growth and economic development patterns.

SAFETEA-LU continues a core formula program emphasis coupled with targeted investment and featuring the following components:

*Safety* – The Safety feature is structured to make significant progress in reducing highway fatalities by almost doubling the funding for infrastructure safety and requiring strategic highway safety planning.
**Equity** – The Equity Bonus Program provides states with a minimum guarantee on its share of contributions to the Highway Trust Fund with at least a 90.5 percent return in 2005 building toward a minimum 92 percent in 2008. Each state is guaranteed a specific rate of growth over its annual average TEA-21 funding level.

**Innovative Finance** – SAFETEA-LU makes it easier and more attractive for the private sector to participate in highway infrastructure projects through eligibility for private activity bonds, flexibility to use tolling to finance infrastructure improvements, and broader specific program loan policies.

**Congestion Relief** – States are given more flexibility to use road pricing to manage congestion and promote real-time traffic management. This also improves transportation security and provides better information to travelers and emergency responders.

**Mobility & Productivity** – SAFETEA-LU provides a substantial investment in core Federal Aid Programs. The programs include international and interregional transportation, addressing regional needs, funding for critical high-cost transportation projects of national and regional significance, and improved freight transportation.

**Efficiency** – The Highway for LIFE pilot program will advance longer lasting highways using innovative technologies and practices to expedite the construction of efficient and safe highways and bridges.

**Environmental Stewardship** – SAFETEA-LU retains and increases funding for environmental programs from TEA-21 and adds new programs focused on the environment, including a pilot program for nonmotorized transportation and Safe Routes to School. SAFETEA-LU also includes significant new environmental requirements for statewide and metropolitan planning processes.

**Environmental Streamlining** – Streamlining the environmental process for transportation projects includes additional steps and requirements on transportation agencies. The provisions include a new environmental review process for highways, transit, and multimodal projects, with increased authority for transportation agencies.

The SAFETEA-LU components described above are closely linked to the six policy goals of the 2050 RTP: Reliability, Mobility, System Preservation & Safety, Healthy Environment, Social Equity, and Prosperous Economy. The 2050 RTP/SCS, its policy goals, and their planned implementation represent an interrelated and important link to SAFETEA-LU and the region’s strategy for integrating public policies and investments to maintain, manage, and improve the regional transportation system through the year 2050.

The Environmental Streamlining component of SAFETEA-LU includes an MOU that sponsors a pilot program where five states (Alaska, Ohio, Texas, Oklahoma, and California) assume all U.S. Department of Transportation (USDOT) environmental responsibilities under NEPA and other federal environmental laws (NEPA Delegation). This opportunity for NEPA Delegation has been embraced by Caltrans statewide and, as of July 2007, Caltrans assumed full NEPA Delegation responsibilities. As previously discussed, the established partnership between SANDAG and Caltrans, and the recent NEPA authority delegated to Caltrans present a unique opportunity to draw upon this partnership and facilitate delivery of projects within the regional transportation system.

Under SAFETEA-LU, USDOT requires that MPOs, such as SANDAG, prepare long-range transportation plans. In federally designated air quality nonattainment or maintenance areas, the long-range transportation plan is to be updated every four years. SANDAG adopted the existing 2030 RTP: Pathways
for the Future on November 30, 2007. When adopted, the 2050 RTP/SCS will replace the 2030 RTP as the San Diego region's long-range transportation plan.

Key federal requirements for long-range transportation plans include the following (23 USC §134(i)):

- Plans must be developed through an open and inclusive process that ensures public input and seeks out and considers the needs of those traditionally underserved by existing transportation systems.

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

- Plans must have a financially constrained element and transportation revenue assumptions must be reasonable.

- Plans must conform to the applicable State Implementation Plan (SIP) for air quality (42 USC §7506(c)).

- Plans must consider seven planning factors and strategies in the local context: economic vitality, safety and security of the transportation system, accessibility/mobility, environment and quality of life, connectivity of the transportation system, efficiency, and preservation of the existing transportation system.

- Plans shall contain an identification of transportation facilities (including major new roadways, transit, multimodal and intermodal facilities, and intermodal connectors) that should function as an integrated metropolitan transportation system, giving emphasis to those facilities that serve national and regional transportation functions.

- Plans shall contain operational and management strategies to improve the performance of existing transportation facilities to relieve vehicular congestions and maximize the safety and mobility of people and goods.

- Plans shall contain proposed transportation and transit enhancement activities.

**State Laws and Regulations**

State regulations for the preparation of long-range transportation plans are similar to federal regulations. Key additional requirements in Government Code §65080 et seq. include the following:

- Plans must comply with CEQA.

- The first 4 years of the plan must be consistent with the 4-year State Transportation Improvement Program (STIP), as incorporated into the RTIP.

- Program-level performance measures must establish objective criteria that reflect the goals and objectives of the plan used in the evaluation of the plan.

- Plans must include a policy element, an action element, and a financial element.
- Plans must include a Sustainable Communities Strategy. (See discussion of Senate Bill 375 below.)

**Senate Bill 375**

Senate Bill 375 (SB 375, Steinberg, Statutes of 2008) requires California’s MPOs to prepare a Sustainable Communities Strategy (SCS) that demonstrates how the region will meet its greenhouse (GHG) reduction targets through integrated land use, housing and transportation planning. The SCS is incorporated into the RTP.

The following state-mandated plans and policies are not specifically related to the regulatory requirement to prepare a RTP; however, these transportation-related legislation, plans, and programs aid in the study, planning, and compilation of data and information necessary to complete an accurate RTP document.

**Senate Bill 10**

Senate Bill (SB) 10 of 2007 requires airport multimodal planning to be conducted and coordinated by SANDAG and the Airport Authority. The main planning provisions of SB 10 include the development of a Regional Aviation Strategic Plan (RASP) and an Airport Multimodal Accessibility Plan (AMAP).

**Regional and Local Plans and Policies**

The following local plans and policies are not specifically related to the regulatory requirement to prepare an RTP/SCS; however, these transportation-related legislation, plans, and programs aid in the study, planning, and compilation of data and information necessary to complete an accurate and progressive RTP/SCS document.

**2050 Regional Transportation Plan/Sustainable Communities Strategy**

The 2050 Regional Transportation Plan (2050 RTP) presents a system designed to maximize transit enhancements, integrate biking and walking elements, and promote programs to reduce demand and increase efficiency (SANDAG 2011). The 2050 RTP includes a Sustainable Communities Strategy (SCS) that integrates land use planning, housing development, and transportation planning. The SCS also addresses how the transportation system is developed in such a way that the region reduces per-capita greenhouse gas emissions to state-mandated levels. The SCS includes a land use pattern that accommodates our region’s future employment and housing needs, and protects sensitive habitats and resource areas. The 2050 RTP/SCS land use pattern focuses housing and jobs growth in existing urbanized areas, protects sensitive lands, and invests in a transportation network that provides residents and workers with alternatives to driving alone. New development would be more compact and more accessible to public transit and other travel choices, such as walking and bicycling.

**Regional Transportation Improvement Program**

SANDAG, as the MPO and the Regional Transportation Planning Agency, is required by state and federal laws to develop and adopt a Regional Transportation Improvement Program (RTIP). The RTIP is a multibillion dollar, multiyear program of proposed projects for major highway, arterial, transit, and bikeway projects. Any transportation projects funded with federal, state funds or by the TransNet Ordinance must be included in an approved RTIP. The RTIP covers 5 fiscal years and incrementally develops the long-range RTP. Adopted in September 2010, the 2010 RTIP is the current RTIP document and covers fiscal years 2010 through 2014 (SANDAG 2010d).
TransNet

*TransNet* is the half-cent sales tax for local transportation projects that was first approved by voters in 1988 and then extended in 2004 for another 40 years. Administered by SANDAG, the program has been instrumental in expanding the region’s transportation system, reducing traffic congestion, and bringing critical transportation programs to life.

The *TransNet* extension, a regional half-cent sales tax for transportation approved by more than two-thirds of San Diego County voters in 2004, runs from 2008 to 2048. It is expected to raise $32 billion (calculated in year of planned expenditure) to help fund major highway expansion projects and numerous local road projects, in addition to a more robust public transportation system that includes new light rail and bus rapid transit services, improvements to existing commuter rail and light rail services, and new carpool/express lanes along many of the major transportation corridors. The extension also funds some added features, including innovative environmental and smart growth programs. The Environmental Mitigation Program will fund habitat related environment mitigation activities required to implement projects identified in the RTP.

**San Diego Regional Bicycle Plan**

The San Diego Regional Bicycle Plan (SANDAG 2010a), adopted in May 2010, establishes a network of regional bikeway corridors for intercommunity bicycle travel and proposes a comprehensive set of programs to support bicycling in order to make the bicycle a practical means of transportation in the region. Figure 2.0-19 shows the 2050 Regional Bicycle Network. The San Diego Regional Bicycle Plan provides that network, as well as the programs that are necessary to support it. As an integral part of the 2050 RTP/SCS, the San Diego Regional Bicycle Plan will become part of the Sustainable Communities Strategy mandated by SB 375. Implementation of the San Diego Regional Bicycle Plan will help the region meet its goals in reducing greenhouse gas emissions and will improve mobility. It also provides benefits to public health by encouraging more people to adopt a physically active mode of transportation for at least some of their trips. The San Diego Regional Bicycle Plan provides detailed information on the structure of the Regional Bicycle Network, the supporting policies and programs, and the resulting benefits from implementation.

**Congestion Management Plan**

State Proposition 111, passed by voters in 1990, established a requirement that urbanized areas prepare and regularly update a Congestion Management Program (CMP). The purpose of the CMP is to monitor the performance of the region’s roadway transportation system, develop programs to address near- and long-term congestion, and better integrate transportation and land use planning. SANDAG, as the designated Congestion Management Agency for the San Diego region, is responsible for developing, adopting, and updating the CMP. On November 7, 2008, the SANDAG Transportation Committee approved the 2008 CMP (SANDAG 2008). In 1996, the California legislature passed Assembly Bill 2419 to allow urbanized areas the option to be exempt from preparation and implementation of the state CMP. In 2009, the San Diego region elected to be exempt from CMP requirements. Even with the region exempt from CMP requirements, SANDAG is still required to comply with federal congestion management provisions that allows for more flexibility than the CMP and use the RTP as the primary tool to resolve congestion problems.
General Plans

As mandated by state law, general plans must have a transportation element (sometimes referred to as circulation or mobility elements) that is consistent with all other elements of the general plan. These transportation elements describe the individual jurisdictions’ acceptable operating standards and level of service, define roadway classifications, and outline goals and policies. General plans also typically address public transit, and pedestrian and bicycle facilities. Transportation elements and their compatibility with land use plans are an important part of overall regional transportation planning as each general plan works to harmonize local land uses and development patterns with transportation goals and needs.

4.16.3 SIGNIFICANCE CRITERIA

To gauge the performance of the transportation system, several performance indicators were developed to evaluate how well the transportation system would meet the two stated 2050 RTP/SCS themes of Quality of Travel and Livability, and Sustainability. The significance criteria that were developed for the transportation impact analysis base the significance of transportation impacts on how well the transportation system functions. While nearly 40 performance measures were developed for the 2050 RTP/SCS, several of the performance measures described below were selected as the best indicators of the significance of transportation impacts based on travel time for work and non-work trips. Development of the performance indicators is fully detailed in Technical Appendix 3 of the 2050 RTP/SCS.

It is recognized that project-level EIRs often use additional significance criteria for transportation impacts appearing in Appendix G of the CEQA Guidelines. These significance criteria address conflicts with plans, ordinances, policies, and programs that (1) establish performance measures for effectiveness of the transportation system, (2) reduce traffic congestion, and (3) address transit, bicycle, and pedestrian facilities. These significance criteria were not used in this transportation impact analysis because the 2050 RTP/SCS is a regional plan that will set the regional framework and direction for other transportation plans, ordinances, policies, and programs, thereby minimizing the potential for any conflicts.

The 2050 RTP/SCS would have a significant impact related to transportation if implementation were to:

T-1 Substantially increase average work trip travel time (in minutes). A substantial increase is equal to 3 minutes or greater.

T-2 Substantially decrease the percentage of work and higher education trips accessible within 30 minutes in peak periods. A substantial decrease is equal to 3 percent or greater.

T-3 Substantially decrease the percentage of non-work-related trips accessible within 15 minutes. A substantial decrease is equal to 3 percent or greater.

T-4 Substantially increase the congested vehicle miles travelled (LOS E and F) in peak periods. A substantial increase is equal to 3 percent or greater.

T-5 Impede times for emergency access and response.

4.16.4 IMPACT ANALYSIS

This section analyzes the potential transportation impacts associated with implementation of the 2050 RTP/SCS. It is organized in sections to address impacts that may occur with the two main components of
the 2050 RTP/SCS: regional growth and transportation network improvements. Analysis for each significance criterion includes a programmatic-level discussion of anticipated impacts in the planning horizon years of 2020, 2035, and 2050. Significant impacts are identified and mitigation measures are provided where appropriate.

The 2050 RTP/SCS is a programmatic network and any single transportation network improvement project is not looked at in isolation. Thus, the net results of all proposed transportation network improvements are considered for impact analysis of each threshold for each scenario year.

T-1 WORK TRIP TRAVEL TIME

Generally, regional growth can impact work trip travel times in two distinct ways. The first type of regional growth impact to work trip travel time is related to distance required for a person’s commute from home to work. If regional growth occurs with a land use pattern that involves expansion into newly developed areas outside of established communities and employment centers, it is likely that persons living in the new, more distant development areas would have increased work trip travel times. An increase in distance from a person’s home to their place of work would naturally increase necessary commute time. However, when regional growth occurs in a pattern that increases density in existing communities and established locations near employment centers, and results in people living near their places of work, work trip travel times decrease.

The second way that regional growth can influence work trip travel time is related to the volume of commuters using the transportation network during peak hours. As the population of the San Diego region increases, it results in additional people traveling to and from work during peak morning and afternoon periods. The added volume of commuters during peak times would create increased congestion on the regional roadway network and place additional demand on the transit system. Increased congestion slows commuters and results in longer work trip travel times.

The transportation network plays a vital role in the ability of commuters to travel from their home to place of employment in a reasonable amount of time without substantial increases in the future. Improvements to the transportation network are essential to support the ongoing regional growth that is anticipated for the San Diego region. The ability of the transportation network to provide adequate facilities and transit options for commuters to travel from home to work will continue to degrade as the region grows if appropriate improvements are not made.

Potential change to average work trip travel time for both highway and transit modes is forecasted for years 2020, 2035, and 2050 and compared to baseline 2010 conditions. A substantial increase in average work trip travel time is considered an increase of 3 minutes or greater.

2020

Regional Growth/Land Use Change

Regional population growth of almost 10 percent and a 7 percent increase in the number of jobs by the year 2020 would increase the number of people living in the San Diego region and commuting to work on a daily basis, typically during peak hours. In addition, land use changes per the SCS growth patterns could influence the average commute time within the region. The land use changes that would occur throughout the region within the next 10 years would not create substantial modifications to the existing regional land use patterns or developed areas, and growth would generally center around transportation corridors such as I-15, I-805, SR 125, SR 56, SR 76, and SR 78. The land use change from 2010 through 2020 in the eastern portion of the region is fairly minimal, with much of the land remaining as
undeveloped and open space. Because growth patterns in 2020 do not locate residents in locations distant to employment centers or convenient transportation modes, the land use change would not be expected to substantially impact commute times.

Due to the increases in regional population and jobs, the average work trip travel time is forecast to be 27 minutes in 2020 with the 2050 RTP/SCS improvements in place. This is an increase of 1 minute of commute time over the 2010 baseline condition of 26 minutes (SANDAG 2011b). Thus, implementation of the 2050 RTP/SCS would not substantially increase the average commute time in exceedance of the 3-minute significance threshold and would result in a less than significant impact related to work trip travel time in 2020.

**Transportation Network Improvements**

The transportation network improvements that would be implemented between 2010 and 2020 generally include widening and/or installation of HOV lanes and Managed Lanes along portions of I-5, I-15, I-805, SR 78, and SR 94; completion of SR 905 and SR 11; and HOV connector projects along I-805. Some key transit network improvements in place by 2020 would include increases in existing COASTER service, including extension of COASTER service to the San Diego Convention Center and Petco Park. BRT downtown express services from inland and south bay locations would be expanded as well as new BRT routes from the south bay area and along I-15. Rapid bus service would add new routes and streetcar routes would be established. Local bus service would be improved to 15 minutes in key corridors. Double-tracking of the LOSSAN rail corridor would occur to accommodate increased frequency in COASTER and other rail services that utilize this rail line. In addition, the new Mid-Coast Trolley line from Old Town to University Town Center would be constructed and the Green Line Trolley would be extended to downtown San Diego. In addition, various active transportation (bicycle and pedestrian) improvements would be built.

These new transit services and operational improvements would serve to reduce congestion during peak travel times and increase the availability of more convenient and efficient transit options for commuters, both of which are key goals of the 2050 RTP/SCS. In 2020, the average work trip travel time would increase by 1 minute over 2010 conditions. This is not considered a substantial increase in average commute time and would result in a less than significant impact related to work trip travel time.

**Conclusion**

Implementation of both the land use and transportation projects results in an average work trip travel time increase of 1 minute in 2020 over 2010 conditions, from approximately 26 minutes to 27 minutes. A 3-minute increase in commute time is considered to constitute a significant increase. Thus, implementation of the 2050 RTP/SCS would not substantially increase the average commute time in excess of the 3-minute threshold and would result in a less than significant impact related to work trip travel time in 2020.

**2035**

**Regional Growth/Land Use Change**

Regional population growth of almost 25 percent and a 20 percent increase in the number of jobs over the next 25 years would substantially increase the number of people living in the San Diego region and commuting to work on a daily basis. By 2035, areas of increased urban residential density would be apparent in some coastal cities such as Oceanside and Encinitas, and City of San Diego coastal communities. Also, increased density would occur in more inland areas along the I-8 corridor through Mission Valley, College Area, and into the City of La Mesa, as well as eastern Chula Vista. Some
regional growth would be accommodated in the more eastern, rural areas of the region and centered mostly along highway corridors, such as SR 78, SR 67, I-8, east of El Cajon, SR 94, and SR 905, and generally within San Diego County community planning areas. Additional rural residential development would occur along the I-15 and SR 76 corridors north of Escondido toward the northern county line. In contrast to the growing urban centers, these expanded rural areas would have less access to transit modes and options and would likely have to travel farther for work, school, or personal trips.

Due to the increases in regional population, jobs, and land use pattern, the average work trip travel time is forecast to be 29 minutes in 2035 with the 2050 RTP/SCS improvements in place. This is a commute time increase of 3 minutes over the 2010 baseline condition of 26 minutes (SANDAG 2011b). This increase would occur even with implementation of the smart growth land use strategies and sustainable communities measures included in the 2050 RTP/SCS. This 3-minute increase would be a substantial increase in the average commute time and would result in a significant impact related to work trip travel time in 2035 as compared to 2010.

**Transportation Network Improvements**

Numerous transportation network improvements would be completed and operational by 2035. Some key highway improvements in place by 2035 would include continued widening along portions of I-5; additional HOV and Managed Lanes along portions of I-5, I-805, and SR 52; widening of portions of SR 125 and SR 67; and additional freeway and HOV connector improvements. Some important transit projects operational by 2035 would include continued increases in COASTER service, increases in SPRINTER service, increases in downtown area streetcar service, and substantial increases in rapid bus service throughout the region. The Blue Line Trolley would be extended from UTC to Mira Mesa via Sorrento Mesa and Carroll Canyon; the Orange Line would be extended to Lindbergh Field; and a new line from Pacific Beach to El Cajon via Kearny Mesa, Mission Valley, and San Diego State University would be established. Double-tracking along the SPRINTERRail line through the cities of Oceanside, Vista, San Marco, and Escondido would take place by 2035 as well as continued double-tracking along the LOSSAN corridor. In addition, various active transportation (bicycle and pedestrian) improvements would be built.

However, even with these transportation network improvements in place, the average work trip travel time would increase from 26 minutes in 2010 to 29 minutes in 2035. This 3-minute increase would be a substantial increase in the average commute time and would result in a significant impact related to work trip travel time in 2035.

**Conclusion**

Implementation of both the land use and transportation improvements results in an increase in the average work trip travel time of 3 minutes in 2035 over 2010 conditions, from approximately 26 minutes to 29 minutes. A 3-minute increase in commute time is considered to constitute a significant increase. Thus, even with implementation of the 2050 RTP/SCS, a significant impact related to work trip travel time would occur in 2035, for which mitigation is described in Section 4.16.5.

**2050**

**Regional Growth/Land Use Change**

Regional population growth of 36 percent and a 33 percent increase in the number of jobs over the next 40 years would substantially increase the number of people living in the San Diego region and commuting to work on a daily basis. By 2050, urban centers in the western third of the San Diego region would have most available land developed with single- and multi-family uses, commercial and office
uses, and industrial uses. Substantial dense growth within the urban centers corresponds with major transportation corridors such as I-5, I-8, I-15, and I-805 and these are also alignments that would have extensive transit opportunities. Similar to the description in the 2035 analysis, growth would continue in more eastern locations of the region, such as east of I-15 in the northern area, east of SR 67 through the middle portion of the region, and east of SR 94 in the southern area. However, by 2050, spaced rural residential development would have expanded beyond areas along existing transportation corridors and established rural communities and into areas with very minimal development at present. In contrast to the growing urban centers, the expanded rural areas would have less access to transit modes and options and would likely have to travel farther for work, school, or personal trips.

Similar to 2035, the population and employment growth and land use development pattern throughout the region would result in the average work trip travel time increasing by 3 minutes over 2010 conditions, from 26 to 29 minutes (SANDAG 2011b). This increase would occur even with implementation of the smart growth land use strategies and sustainable communities measures included in the 2050 RTP/SCS. This 3-minute increase would be a substantial increase in the average commute time and would result in a significant impact related to work trip travel time in 2050.

**Transportation Network Improvements**

Most of the transportation network improvements anticipated in the 2050 RP/SCS would be completed and operational by 2050. Some key highway improvements that would be in place by 2050 would include widening portions of SR 52, SR 56, SR 76, SR 94, SR 125, and I-5; additional HOV lanes and Managed Lanes along segments of I-5, I-15, I-805, SR 94, SR 125, and SR 54; and freeway and HOV connector improvements. Important transit improvements in place by 2050 would include the extension of Trolley lines and increased Trolley service frequency. The Green Line Trolley would be extended to Downtown-Bayside; a new line connecting San Diego State University to Downtown San Diego via El Cajon Boulevard/Mid-City would be constructed; and a line from University Town Center to Palomar Trolley Station in the South Bay via Kearny Mesa, Mission Valley, Mid-City, and National City would be established. In addition, various active transportation (bicycle and pedestrian) improvements would be built.

However, even with these transportation network improvements in place, the average work trip travel time would increase from 26 minutes in 2010 to 29 minutes in 2050. This 3-minute increase would be a substantial increase in the average commute time and would result in a significant impact related to work trip travel time in 2050.

**Conclusion**

Similar to 2035, implementation of both the land use changes and transportation improvements results in an increase in the average work trip travel time of 3 minutes in 2050 over 2010 conditions, from approximately 26 minutes to 29 minutes. A 3-minute increase in commute time is considered to constitute a significant increase. Thus, even with implementation of the 2050 RTP/SCS, a significant impact related to work trip travel time would occur in 2050, for which mitigation is described in Section 4.16.5.

**T-2 WORK AND HIGHER EDUCATION TRIPS**

Similar to the discussion provided under work trip travel time, regional growth can impact the ability of people to access their place of employment or high education institution in two independent ways. Regional growth can influence the distance between a person’s home and their place of work or education if land use patterns involve expansion into newly developed areas outside of established communities. It is likely that persons living in new, more distant development areas would have increased commute times to work or school.
Commute time to places of employment or higher education institutions can also be impacted by the volume of commuters using the transportation network during peak hours. With anticipated population growth in the San Diego region, the added volume of commuters during busy times would create increased congestion on the regional roadway network and place additional demand on the transit system, causing longer travel times to work and school.

The transportation network plays a vital role in the ability of commuters to travel from their homes to place of employment or higher education in a reasonable amount of time, without substantial increases in the future. The percentage change of work and higher education trips accessible within 30 minutes in peak periods for all transportation modes is forecasted for years 2020, 2035, and 2050 and compared to baseline 2010 conditions. A substantial decrease in the percent of those trips is considered to be a decrease of 3 percent or greater.

2020

Regional Growth/Land Use Change

Regional population growth of almost 10 percent and a 7 percent increase in the number of jobs by the year 2020 would increase the number of people living in the San Diego region and commuting during peak hours. The growth pattern described under the 2020 analysis for T-1 is applicable for this discussion as well. The forecasted percentage of accessible trips is shown in Table 4.16-7. As indicated, the percentage of trips accessible within 30 minutes when driving alone would decrease by 1 percent. This means that fewer people commuting alone would be able to travel from their home to their place of work or higher education institution within 30 minutes. However, both carpool and transit modes would experience an increase of 3 percent, meaning that more people using these modes of transportation would be able to access their workplaces or higher education institutions within 30 minutes. The overall change would be a 5 percent increase.

<table>
<thead>
<tr>
<th>Transportation Mode</th>
<th>Percent Accessible 2010</th>
<th>Percent Accessible 2020</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drive Alone</td>
<td>75%</td>
<td>74%</td>
<td>1% decrease</td>
</tr>
<tr>
<td>Carpool</td>
<td>76%</td>
<td>79%</td>
<td>3% increase</td>
</tr>
<tr>
<td>Transit</td>
<td>7%</td>
<td>10%</td>
<td>3% increase</td>
</tr>
<tr>
<td>Combined</td>
<td></td>
<td></td>
<td>5% net increase</td>
</tr>
</tbody>
</table>

Table 4.16-7

Year 2020: Percentage of Peak Period Work and Higher Education Trips Accessible within 30 Minutes

Implementation of the 2050 RTP/SCS would not substantially decrease the percentage of work and higher education trips accessible in 30 minutes in peak periods by 3 percent or more. Thus, a less than significant impact related to accessibility of work and higher education trips within 30 minutes during peak periods would result in 2020.

Transportation Network Improvements

A number of transportation network improvements would be completed by 2020 as detailed under the 2020 discussion for T-1. The analysis of work trip travel time for year 2020 discusses some of those operational and service improvements that would serve to help reduce congestion during peak travel times and increase the availability of more convenient and efficient transit options for commuters, including people traveling to work or school. Table 4.16-7 shows that, while the percentage of peak period work
and higher education trips accessible in 30 minutes would decrease by 1 percent for people driving alone, carpool and transit modes would both result in a positive 3 percent increase for an overall 5 percent increase. Implementation of the 2050 RTP/SCS would not substantially decrease the percentage of work and higher education trips accessible in 30 minutes in peak periods by 3 percent or more. Thus, a less than significant impact related to accessibility of work and higher education trips in 30 minutes during peak periods would result in 2020.

Conclusion

In 2020, implementation of both the land use changes and transportation improvements results in a decrease in the percentage of work or higher education trips accessible within 30 minutes when driving alone by 1 percent as compared to 2010. Carpool and transit modes would both experience an increase of 3 percent. Implementation of the 2050 RTP/SCS would not substantially decrease the percentage of work and higher education trips accessible in 30 minutes in peak periods by 3 percent or more as compared to 2010; thus, a less than significant impact related to accessibility of peak period work and higher education trips within 30 minutes during peak periods would result in 2020.

2035

Regional Growth/Land Use Change

Regional population growth of almost 25 percent and a 20 percent increase in the number of jobs over the next 25 years would substantially increase the number of people living in the San Diego region and commuting to work or school on a daily basis. The growth pattern described under the 2035 analysis for T-1 is applicable for this discussion as well. The forecasted percentage of peak period work and higher education trips accessible in 30 minutes in 2035 as compared to 2010 is shown in Table 4.16-8. As indicated, the percentage of trips accessible within 30 minutes when driving alone would decrease by 4 percent and those carpooling would decrease by 3 percent. This means that fewer people driving alone or in a carpool would be able to travel from their home to their place of work or higher education institution within 30 minutes. However, transit would experience an increase of 6 percent, meaning that more people using transit options would be able to access their workplaces or higher education institutions within 30 minutes. The overall change would be a 1 percent decrease.

<table>
<thead>
<tr>
<th>Transportation Mode</th>
<th>Percent Accessible 2010</th>
<th>Percent Accessible 2035</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drive Alone</td>
<td>75%</td>
<td>71%</td>
<td>4% decrease</td>
</tr>
<tr>
<td>Carpool</td>
<td>76%</td>
<td>73%</td>
<td>3% decrease</td>
</tr>
<tr>
<td>Transit</td>
<td>7%</td>
<td>13%</td>
<td>6% increase</td>
</tr>
</tbody>
</table>

**Combined** | **1% net decrease** |

A substantial decrease in the percentage of those trips accessible within 30 minutes during peak periods is considered to be a decrease of 3 percent or greater. The overall change would be a 1 percent decrease. Thus, a less than significant impact would occur relative to the decrease in percentage of peak period work and higher education trips accessible within 30 minutes in 2035.

Transportation Network Improvements

A number of transportation network improvements would be completed by 2035 as detailed under the 2035 analysis for T-1. The analysis of work trip travel time for year 2035 discusses some of those
operational improvements that would serve to help reduce congestion during peak travel times and increase the availability of more convenient and efficient transit options for commuters, including people traveling to work or school. Table 4.16-8 shows that, while the percentage of peak period work and higher education trips accessible in 30 minutes in 2035 would decrease by 4 percent for people driving alone and 3 percent for people using carpools, a 6 percent increase would result for transit users. A 3 percent decrease in trips accessible within 30 minutes during peak periods is considered substantial. Because the overall change would be a 1 percent decrease, a less than significant impact would occur relative to the decrease in percentage of peak period work and higher education trips accessible within 30 minutes in 2035.

Conclusion

In 2035, implementation of both the land use changes and transportation improvements results in a decrease in percentage of peak period work and higher education trips. In 2035, the percentage of work or higher education trips accessible within 30 minutes when driving alone or carpooling would decrease by 4 and 3 percent, respectively, as compared to 2010. Transit would experience an increase of 6 percent. A 3 percent decrease in trips accessible within 30 minutes during peak periods is considered substantial. Because the overall change would be a 1 percent decrease, a less than significant impact would occur relative to the percentage of peak period work and higher education trips accessible within 30 minutes in 2035.

2050

Regional Growth/Land Use Change

Regional population growth of 36 percent and a 33 percent increase in the number of jobs over the next 40 years would substantially increase the number of people living in the San Diego region and commuting to work and school on a daily basis. The growth pattern described under the 2050 analysis for T-1 is applicable for this discussion as well. The forecasted percentage of peak period work and higher education trips accessible within 30 minutes in 2050 as compared to 2010 is shown in Table 4.16-9. As indicated, the percentage of trips accessible within 30 minutes when driving alone would decrease by 5 percent and those carpooling would decrease by 4 percent. This means that fewer people driving alone or in a carpool would be able to travel from their home to their place of work or higher education institution within 30 minutes. However, transit would experience an increase of 7 percent, meaning that more people using transit options would be able to access their workplace or higher education institution within 30 minutes. The overall change would be a 2 percent decrease.

<table>
<thead>
<tr>
<th>Transportation Mode</th>
<th>Percent Accessible 2010</th>
<th>Percent Accessible 2050</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drive Alone</td>
<td>75%</td>
<td>70%</td>
<td>5% decrease</td>
</tr>
<tr>
<td>Carpool</td>
<td>76%</td>
<td>72%</td>
<td>4% decrease</td>
</tr>
<tr>
<td>Transit</td>
<td>7%</td>
<td>14%</td>
<td>7% increase</td>
</tr>
<tr>
<td>Combined</td>
<td></td>
<td></td>
<td>2% net decrease</td>
</tr>
</tbody>
</table>

A 3 percent or greater decrease in trips accessible within 30 minutes during peak periods is considered substantial. Thus, because the overall change would be a 2 percent decrease, a less than significant impact would occur relative to the decrease in percentage of peak period work and higher education trips accessible within 30 minutes in 2050.
Transportation Network Improvements

Most of the transportation network improvements anticipated in the 2050 RP/SCS would be completed and operational by 2050 as detailed in the 2050 analysis of T-1. The analysis of work trip travel time for year 2050 discusses some of those key operational and service improvements that would serve to help reduce congestion during peak travel times and increase the availability of more convenient and efficient transit options for commuters, including people traveling to work or school. Table 4.16-9 shows that while the percentage of peak period work and higher education trips accessible within 30 minutes in 2050 would decrease by 5 percent for people driving alone and 4 percent for people using carpools, a 7 percent increase would result for transit users. The overall change would be a 2 percent decrease. A 3 percent or greater decrease in trips accessible within 30 minutes during peak periods is considered substantial. Thus, because the overall change would be a 2 percent decrease, a less than significant impact would occur relative to the decrease in percentage of peak period work and higher education trips accessible within 30 minutes in 2050.

Conclusion

In 2050, implementation of both the land use changes and transportation improvements results in a decrease in percentage of peak period work and higher education trips. In 2050, the percentage of work or higher education trips accessible within 30 minutes when driving alone or carpooling would decrease by 5 and 4 percent, respectively, as compared to 2010. Transit would experience an increase of 7 percent. A 3 percent or more decrease in trips accessible within 30 minutes during peak periods is considered substantial. Because the overall change would be a 2 percent decrease, a less than significant impact would occur relative to the percentage of peak period work and higher education trips accessible within 30 minutes in 2050.

T-3 NON-WORK-RELATED TRIPS

Regional growth can impact the ability for people to quickly access non-work-related trips. Regional growth can influence the distance between a person’s home and locations they need to access for non-work-related purposes, especially if land use patterns involve expansion into newly developed areas outside of established communities where commercial and retail centers or other personal destinations are typically located. It is likely that persons living in new, more distant development areas would have increased travel times for non-work-related personal trips and errands.

However, unlike most work and education trips, non-work-related trips and personal travel for errands or other shopping needs may not occur as frequently during peak morning and evening commute periods. Personal travel is more likely to occur before or after work hours or at random times during the day. People can even plan their personal travel around the most congested times of day. For this reason, the added volume of trips due to regional population and job growth may not have as substantial an impact to non-work-related trips as peak commute trips.

The transportation network is necessary for people to travel locally and to more distant locations for non-work-related personal needs in a reasonable amount of time without substantial increases in the future. The percentage change of non-work-related trips accessible within 15 minutes for all transportation modes is forecasted for years 2020, 2035, and 2050 and compared to baseline 2010 conditions. A decrease of 3 percent or more in those trips is considered substantial.
2020

Regional Growth/Land Use Change

Regional population in 2020 would increase the number of people living in the San Diego region and using the transportation network to access non-work-related destinations, such as shopping or retail centers. Smart growth concepts and increased density in urbanized areas, forecasted in the 2050 RTC/SCS would aid in developing land use patterns that promote living near everyday destinations. The growth pattern described under the 2020 analysis for T-1 is applicable for this discussion as well. The forecasted percentage of non-work-related trips accessible within 15 minutes is shown in Table 4.16-10. As indicated, the percentage of trips accessible within 15 minutes when driving alone or carpooling would decrease by 1 percent, respectively. This means that fewer people driving alone or carpooling would be able to travel from their home to their non-work-related destination within 15 minutes. However, transit options would experience an increase of 2 percent, meaning that more people using a transit mode of transportation would be able to access their non-work-related destination within 15 minutes.

<table>
<thead>
<tr>
<th>Transportation Mode</th>
<th>Percent Accessible 2010</th>
<th>Percent Accessible 2020</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drive Alone</td>
<td>71%</td>
<td>70%</td>
<td>1% decrease</td>
</tr>
<tr>
<td>Carpool</td>
<td>73%</td>
<td>72%</td>
<td>1% decrease</td>
</tr>
<tr>
<td>Transit</td>
<td>4%</td>
<td>6%</td>
<td>2% increase</td>
</tr>
</tbody>
</table>

Source: SANDAG 2011b

Regional growth along with implementation of the 2050 RTP/SCS would not decrease the percentage of non-work-related trips accessible within 15 minutes by 3 minutes or more. Thus, a less than significant impact related to accessibility of non-work-related trips within 15 minutes would result in 2020.

Transportation Network Improvements

A number of transportation network improvements would be completed by 2020. The growth pattern described under the 2020 analysis for T-1 is applicable for this discussion as well. Important components of the transportation network that would support the ability of people to travel to non-work-related destinations such as shopping centers would include the completion of smaller arterial roadway projects and improved local transit options such as additional bus routes and frequency. These types of transportation network improvements would best serve people accessing local destinations, rather than longer peak period commute type trips. Completion of many of these improvements would rely on local jurisdictions. Table 4.16-10 shows 1 percent fewer people driving alone or carpooling would be able to travel from their home to their non-work-related destination within 15 minutes in 2020 as compared to 2010, while people using transit options would experience an increase of 2 percent. The overall change would be zero percent. Implementation of the 2050 RTP/SCS would not decrease the percentage of non-work-related trips accessible in 15 minutes by 3 minutes or more. Thus, a less than significant impact related to accessibility of non-work-related trips within 15 minutes would result in 2020.

Conclusion

In 2020, implementation of both the land use changes and transportation improvements results in a decrease in the percentage of non-work-related trips accessible within 15 minutes when driving alone or carpooling of 1 percent as compared to 2010. Transit would experience an increase of 2 percent. The
overall change would be zero percent; thus, a less than significant impact related to accessibility of non-work-related trips within 15 minutes would result in 2020.

2035

Regional Growth/Land Use Change

Regional population growth of almost 25 percent in the next 25 years would substantially increase the number of people living in the San Diego region and using the transportation network to access non-work-related destinations, such as shopping or retail centers. The growth pattern described under the 2035 analysis for T-1 is applicable for this discussion as well. The forecasted percentage of these trips is shown in Table 4.16-11. Smart growth concepts and increased density in urbanized areas, as forecasted in the 2050 RTC/SCS, would aid in developing land use patterns that promote living near everyday destinations. However, the percentage of trips accessible within 15 minutes when driving alone or carpooling would decrease by 3 and 4 percent, respectively, as compared by 2010. This means that fewer people driving alone or carpooling would be able to travel from their home to their non-work-related destination within 15 minutes. Transit options would experience an increase of 4 percent, meaning that more people using a transit mode of transportation would be able to access their non-work-related destination within 15 minutes. The overall change would be a 3 percent decrease.

<table>
<thead>
<tr>
<th>Transportation Mode</th>
<th>Percent Accessible 2010</th>
<th>Percent Accessible 2035</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drive Alone</td>
<td>71%</td>
<td>68%</td>
<td>3% decrease</td>
</tr>
<tr>
<td>Carpool</td>
<td>73%</td>
<td>69%</td>
<td>4% decrease</td>
</tr>
<tr>
<td>Transit</td>
<td>4%</td>
<td>8%</td>
<td>4% increase</td>
</tr>
<tr>
<td>Combined</td>
<td>3% net decrease</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: SANDAG 2011b

A substantial decrease in the percentage of non-work-related trips accessible within 15 minutes is considered to be a 3 percent decrease or more. Thus, because the overall change would be a 3 percent decrease, a significant impact related to accessibility of non-work-related trips within 15 minutes would result in year 2035, for which mitigation is described in Section 4.16.5.

Transportation Network Improvements

A number of transportation network improvements would be completed by 2035 as detailed under the 2035 analysis of T-1. As described under the 2020 discussion, certain types of transportation improvements, specifically on local arterials, would best serve local non-work-related travel. However, even with these transportation improvements, certain transportation modes would experience decreases in accessibility of non-work-related trips. Table 4.16-11 shows 3 percent fewer people driving alone, and 4 percent fewer people carpooling would be able to travel from their home to their non-work-related destination within 15 minutes in 2020 as compared to 2010. People using transit options would experience an increase of 4 percent. The overall change would be a 3 percent decrease. Thus, because the overall change would be a 3 percent decrease, a significant impact related to accessibility of non-work-related trips within 15 minutes would result in year 2035.

Conclusion

In 2035, implementation of both the land use changes and transportation improvements results in a decrease in the percentage of non-work-related trips accessible within 15 minutes when driving alone or
4.16 Transportation and Traffic

carpooling by 3 and 4 percent, respectively, as compared to 2010. Transit would experience an increase of 4 percent. Thus, because the overall change would be a 3 percent decrease, a significant impact related to accessibility of non-work-related trips within 15 minutes would result in year 2035, for which mitigation is described in Section 4.16.5.

2050

Regional Growth/Land Use Change

Regional population growth of 36 percent over the next 40 years would substantially increase the number of people living in the San Diego region and using the transportation network to access non-work-related destinations, such as shopping or retail centers. The growth pattern described under the 2050 analysis for T-1 is applicable for this discussion as well. The forecasted percentage of these trips is shown in Table 4.16-12. Smart growth concepts and increased density in urbanized areas, as forecasted in the 2050 RTC/SCS, would aid in developing land use patterns that promote living near everyday destinations. However, the percentage of trips accessible within 15 minutes when driving alone or carpooling would decrease by 4 and 5 percent, respectively, as compared to 2010. This means that fewer people driving alone or carpooling would be able to travel from their home to their non-work-related destination within 15 minutes. However, transit options would experience an increase of 4 percent, meaning that more people using a transit mode of transportation would be able to access their non-work-related destination within 15 minutes. The overall change would be a 5 percent decrease.

<table>
<thead>
<tr>
<th>Transportation Mode</th>
<th>Percent Accessible 2010</th>
<th>Percent Accessible 2050</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drive Alone</td>
<td>71%</td>
<td>67%</td>
<td>4% decrease</td>
</tr>
<tr>
<td>Carpool</td>
<td>73%</td>
<td>68%</td>
<td>5% decrease</td>
</tr>
<tr>
<td>Transit</td>
<td>4%</td>
<td>8%</td>
<td>4% increase</td>
</tr>
<tr>
<td>Combined</td>
<td></td>
<td></td>
<td>5% net decrease</td>
</tr>
</tbody>
</table>

Source: SANDAG 2011b

A substantial decrease in the percentage of non-work-related trips accessible within 15 minutes is considered to be 3 minutes or more. Thus, because the overall change would be a 5 percent decrease, a significant impact related to accessibility of non-work-related trips in 15 minutes would result in year 2050.

Transportation Network Improvements

Many transportation network improvements would be completed by 2050 as detailed in the 2050 analysis of T-1. As described under the 2020 discussion, certain types of transportation improvements, specifically on local arterials, would best serve local non-work-related travel. However, even with these transportation improvements, certain transportation modes would experience decreases in accessibility of non-work-related trips. Table 4.16-12 shows 4 percent fewer people driving alone and 5 percent fewer people carpooling would be able to travel from their home to their non-work-related destination within 15 minutes in 2020 as compared to 2010. People using transit options would experience an increase of 4 percent. Thus, because driving alone and carpooling would experience a decrease of greater than 3 percent, a significant impact related to accessibility of non-work-related trips in 15 minutes would result in year 2050. The overall change would be a 5 percent decrease.
Conclusion

In 2050, implementation of both the land use changes and transportation improvements results in a decrease in the percentage of non-work-related trips accessible within 15 minutes when driving alone or carpooling by 4 and 5 percent, respectively, as compared to 2010. Transit would experience an increase of 4 percent. Thus, because the overall change would be a 5 percent decrease, a significant impact related to accessibility of non-work-related trips in 15 minutes would result in year 2050, for which mitigation is described in Section 4.16.5.

**T-4 CONGESTED VEHICLE MILES TRAVELLED**

Regional growth is the primary cause for continued increased congestion on the transportation network within the San Diego area. The anticipated increase in population, housing, and employment throughout the region would add substantial volumes of people using the transportation network for work, education, and personal trips. This increased volume would be especially noticeable to travelers during morning and evening peak commute times when the transportation network is most heavily used.

If regional growth occurs in a land use pattern that involves expansion into newly developed areas outside of established communities and employment centers, it is likely that persons living in the new, more distant development areas would have increased travel necessary to access established employment, education, and commercial centers. However, in a situation where regional growth occurs in a land use pattern that increases density in existing communities and results in people living near their places of work, education, and other daily destinations, use of the transportation network can be reduced and increases in congestion can be minimized.

The transportation network plays a vital role in the ability of people to travel from their homes to places of employment, education, or other personal destinations in a reasonable amount of time. The amount of VMT in congested conditions for both auto and transit travel is forecasted for years 2020, 2035, and 2050 and compared to baseline 2010 conditions. An increase of 3 percent or greater in those trips is considered substantial.

### 2020

**Regional Growth/Land Use Change**

Regional population growth of almost 10 percent by the year 2020 would increase the number of people living in the San Diego region and using the transportation network to access their places of employment, school, and personal destinations. Smart growth concepts and increased density in urbanized areas, as forecasted in the 2050 RTC/SCS, would aid in developing land use patterns that promote living near everyday destinations such as employment and commercial centers. The growth pattern described under the 2020 analysis for T-1 is applicable for this discussion as well. As shown in Table 4.16-13, by 2020 the amount of VMT in congested conditions would decrease by 2 percent for auto travel and 1 percent for transit travel for a combined total decrease of 3 percent.

**Table 4.16-13**

<table>
<thead>
<tr>
<th>Transportation Mode</th>
<th>2010</th>
<th>2020</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto Travel</td>
<td>11%</td>
<td>9%</td>
<td>2% decrease</td>
</tr>
<tr>
<td>Transit Travel</td>
<td>5%</td>
<td>4%</td>
<td>1% decrease</td>
</tr>
<tr>
<td><strong>Combined</strong></td>
<td></td>
<td></td>
<td><strong>3% net decrease</strong></td>
</tr>
</tbody>
</table>

Source: SANDAG 2011b
This is a positive result and means that fewer miles would be traveled in congested conditions in 2020 relative to 2010. Thus, a less than significant impact related to total VMT in congested conditions during peak periods would result in 2020.

**Transportation Network Improvements**

A number of transportation network improvements would be completed by 2020 as detailed in the analysis of 2020 for T-1. Important components of the transportation network improvements that would minimize VMT in congested conditions during peak periods are discussed in the work trip travel time analysis for 2020. Table 4.16-13 shows that the percentage of VMT in congested conditions would decrease between 2010 and 2020, for both auto and transit travel modes. Thus, a less than significant impact related to total VMT in congested conditions during peak periods would result in 2020.

**Conclusion**

In 2020, implementation of both the land use changes and transportation improvements results in a decrease in the percentage of VMT in congested conditions of 2 percent for auto travel and 1 percent for transit, for a combined total decrease of 3 percent as compared to 2010. This means that less VMT would occur in congested conditions. Thus, a less than significant impact related to total VMT in congested conditions during peak periods would result in 2020.

**2035**

**Regional Growth/Land Use Change**

Regional population growth of almost 25 percent in the next 25 years would substantially increase the number of people living in the San Diego region and using the transportation network to travel to their places of employment, school, and personal destinations. Smart growth concepts and increased density in urbanized areas, as forecasted in the 2050 RTC/SCS, would aid in developing land use patterns that promote living near everyday destinations such as employment and commercial centers and thus minimize the need for travel during peak hours. The growth pattern described under the 2035 analysis for T-1 is applicable for this discussion as well. As shown in Table 4.16-14, in 2035 the amount of VMT in congested conditions would increase by 2 percent for auto travel and decrease by 1 percent for transit travel for a combined 1 percent increase. This means more miles traveled by auto would occur in LOS E or F conditions and that fewer transit miles would be traveled in congested conditions in 2035 relative to 2010.

<table>
<thead>
<tr>
<th>Transportation Mode</th>
<th>2010</th>
<th>2035</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto Travel</td>
<td>11%</td>
<td>13%</td>
<td>2% increase</td>
</tr>
<tr>
<td>Transit Travel</td>
<td>5%</td>
<td>4%</td>
<td>1% decrease</td>
</tr>
<tr>
<td>Combined</td>
<td></td>
<td></td>
<td>1% net increase</td>
</tr>
</tbody>
</table>

Source: SANDAG 2011b

The VMT in congested conditions would not experience an increase of 3 percent or greater as compared to 2010. Thus, a less than significant impact related to total VMT in congested conditions during peak periods would result in 2035.
Transportation Network Improvements

A number of transportation network improvements would be completed by 2035 as detailed in the 2035 analysis of T-1. Important components of the transportation network improvements that would minimize VMT in congested conditions during peak periods are discussed in the work trip travel time analysis for 2035. Table 4.16-14 shows that the percentage of VMT in congested conditions would increase by 2 percent between 2010 and 2020 for auto travel and decrease by 1 percent for transit travel for a combined 1 percent increase. The VMT in congested conditions would not experience an increase of 3 percent or greater as compared to 2010. Thus, a less than significant impact related to total VMT in congested conditions during peak periods would result in 2035.

Conclusion

In 2035, implementation of both the land use changes and transportation improvements results in an increase in the percentage of VMT in congested conditions of 2 percent for auto travel and a decrease by 1 percent for transit for a combined 1 percent increase as compared to 2010. An increase of 3 percent or greater in those trips is considered substantial. Thus, a less than significant impact related to total VMT in congested conditions during peak periods would result in 2035.

2050

Regional Growth/Land Use Change

Regional population growth of 36 percent over the next 40 years would substantially increase the number of people living in the San Diego region and using the transportation network to travel to their places of employment, school, and personal destinations. Smart growth concepts and increased density in urbanized areas, as forecasted in the 2050 RTC/SCS, would aid in developing land use patterns that promote living near everyday destinations such as employment and commercial centers and thus minimize the need for travel during peak hours. The growth pattern described under the 2050 analysis for T-1 is applicable for this discussion as well. However, as shown in Table 4.16-15, in 2050 the amount of VMT in congested conditions would increase by 4 percent for auto travel and there would be no change for transit travel. This would result in a combined 4 percent increase. This means more miles traveled by auto would occur in LOS E or F conditions and that approximately the same number of transit miles would occur in congested conditions in 2050 relative to 2010.

Table 4.16-15
Year 2050: Percentage of Total Vehicle Miles Traveled in Congested Conditions during Peak Periods

<table>
<thead>
<tr>
<th>Transportation Mode</th>
<th>2010</th>
<th>2050</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto Travel</td>
<td>11%</td>
<td>16%</td>
<td>4% increase</td>
</tr>
<tr>
<td>Transit Travel</td>
<td>5%</td>
<td>5%</td>
<td>no change</td>
</tr>
<tr>
<td>Combined</td>
<td></td>
<td></td>
<td>4% net increase</td>
</tr>
</tbody>
</table>

Source: SANDAG 2011b

Because there would be an increase of greater than 3 percent as compared to 2010, a significant impact related to total VMT in congested conditions during peak periods would result in 2050.

Transportation Network Improvements

Most of the transportation network improvements would be completed by 2050 as detailed in the 2050 analysis of T-1. Important components of the transportation network improvements that would minimize VMT in congested conditions during peak periods are discussed in the work trip travel time analysis for 2050. Table 4.16-15 shows that the percentage of VMT in congested conditions would increase by 4
percent between 2010 and 2050 for auto travel and would have no change for transit travel. This would result in a combined 4 percent increase. Because there would be an increase of greater than 3 percent as compared to 2010, a significant impact related to total VMT in congested conditions during peak periods would result in 2050.

Conclusion

In 2050, implementation of both the land use changes and transportation improvements results in an increase in the percentage of VMT in congested conditions of 4 percent for auto travel and results in no change for transit, as compared to 2010. This would result in a combined 4 percent increase. An increase of 3 percent or greater in those trips is considered substantial. Because there would be an increase of greater than 3 percent as compared to 2010, a significant impact related to total VMT in congested conditions during peak periods would result in 2050, for which mitigation is described in Section 4.16.5.

T-5 EMERGENCY ACCESS AND RESPONSE

Emergency access and response times are often a local issue, rather than a regional issue. Basic emergency services are provided locally and typically within a small geographic radius. More detail regarding the provision of emergency services such as fire, police, and medical is provided in Section 4.13. Individual general plans include response times for emergency access for their jurisdiction that outline the acceptable maximum amount of time necessary to respond to an emergency. Reasonable response times can vary dependent upon the locale. For example, an urban setting may have a very quick emergency response time with multiple emergency facilities available to provide service to an area while more remote and rural locations may have a longer response time due to substantial distance that must be traveled for emergency vehicles to reach a location.

When considering development projects, individual jurisdictions consider the accessibility of emergency service and whether the project could be accessed within the acceptable emergency response time. Often, when substantial development occurs in a land use pattern that extends beyond currently urbanized areas of a community, new emergency facilities are necessary to adequately serve the new development area. Frequently, when development occurs with smart growth concepts and sustainable community elements, existing emergency facilities must be expanded with additional staff, equipment, and funding to provide service to new development. Though this type of development does not expand a geographic service area, it increases the number of people requiring emergency services.

The transportation network, specifically the roadway network, plays a key role in the ability of emergency service providers to respond to emergencies in an acceptable amount of time. In general, arterials and local roadways are the main transportation facilities used by service providers to access emergencies as most emergency services are provided from local locations. Access to large regional interstates and freeways also is key to service emergencies that occur on those roadways and to accommodate emergency travel to other regional facilities, such as hospitals. As the region grows, increased congestion on roadways would hinder the ability of emergency service vehicles to travel to and access emergencies in a quick and timely manner. During construction activities on roadways, emergency access can be impeded due to resulting congestion and delays, detours, lane closures, and other traffic altering situations.

2020

Regional Growth/Land Use Change

The forecasted growth throughout the San Diego region will require that additional emergency services be developed to serve the increasing population. Even with increased emergency services and the transportation network improvements anticipated by the 2050 RTP/SCS, roadway congestion would
Transportation and Traffic

4.16 Transportation and Traffic

continue to increase due to the additional volume of traffic as shown throughout the various analyses and data provided in this section. As shown in the analysis of transportation impacts for year 2020 throughout this section, impacts related to traffic volumes and congestion in this time period are not considered significant. As shown in Table 4.16-13, by 2020 the amount of VMT in congested conditions would decrease by 2 percent for auto travel, which would indicate less congestion as compared to 2010 conditions. Thus, congestion would not substantially impede the ability of emergency vehicles to access areas. As they currently do in congested conditions, emergency vehicles would navigate and maneuver through the traffic by utilizing roadway shoulders, medians, and space yielded by vehicles to reach emergency locations. Therefore, regional growth in 2020 would not impede response times for emergency response and access, and would result in a less than significant impact.

Transportation Network Improvements

A number of transportation network improvements would be completed by 2020 as detailed in the 2020 analysis for T-1. During construction activities on roadways, emergency access can be impeded due to congestion and delays, detours, lane closures, and other traffic altering situations. However, temporary construction projects that have the potential to substantially disrupt traffic are typically required to prepare and implement a traffic control plan per requirements of the lead agencies. Emergency access is also addressed through the CEQA process for individual projects. Generally, a traffic control plan considers the ability of emergency vehicles to be able to pass through the construction zones in a timely manner to maintain uninterrupted adequate access to all areas and may include measures such as notification of local emergency service providers, availability of flagmen to control traffic for emergency vehicle passage, adequate shoulder room to maneuver through congestion, and similar types of access provisions. Thus, temporary construction of transportation network improvements would not significantly impede emergency access and would result in a less than significant impact in 2020.

Once operational, these transportation network improvements would serve to maintain or create better operational conditions on regional and local roadways than would exist without the improvements. This in turn would help emergency vehicles have adequate access to respond to emergencies in an acceptable amount of time. For these reasons, operation of transportation network improvements in the year 2020 would not impede response times for emergency access and response, and would result in a less than significant impact.

Conclusion

The roadway congestion that would result from regional growth or transportation network improvements in 2020 would not impede response times for emergency response and access, and would result in a less than significant impact.

2035

Regional Growth/Land Use Change

The forecasted growth throughout the San Diego region by 2035 will require that additional emergency services be developed to serve the increasing population. However, even with increased emergency services and the transportation network improvements anticipated by the 2050 RTP/SCS, roadway congestion would continue to increase due to the additional volume of traffic as shown throughout the various analyses and data provided in this section. However, as described for 2020, the additional congestion would not substantially impede the ability of emergency vehicles to access areas as emergency vehicles would navigate and maneuver through the traffic by utilizing roadway shoulders, medians, and space yielded by vehicles. For this reason, regional growth and the resulting degradation of roadway
operating conditions would not significantly impede response times for emergency response and access and would result in a less than significant impact in 2035.

**Transportation Network Improvements**

The analysis provided under year 2020 regarding transportation network improvements and emergency response and access is the same for year 2035. As described previously, temporary construction of transportation network improvements would not significantly impede emergency access and would result in a less than significant impact in 2035.

**Conclusion**

The roadway congestion that would result from regional growth or transportation network improvements in 2035 would not impede response times for emergency response and access, and would result in a less than significant impact.

**2050**

**Regional Growth/Land Use Change**

The analysis provided under years 2020 and 2035 regarding regional growth/land use and emergency response and access is the same for year 2050. Regional growth and the resulting degradation of roadway operating conditions would not substantially impede response times for emergency response and access and would result in a less than significant impact in 2050.

**Transportation Network Improvements**

The analysis provided under years 2020 and 2035 regarding transportation network improvements and emergency response and access is the same for year 2050. As described previously, temporary construction of transportation network improvements would not significantly impede emergency access and would result in a less than significant impact in 2050.

**Conclusion**

The roadway congestion that would result from regional growth or transportation network improvements in 2050 would not impede response times for emergency response and access, and would result in a less than significant impact.

**4.16.5 MITIGATION MEASURES**

Implementation of the 2050 RTP/SCS would result in significant transportation impacts in 2020, 2035, and 2050. Implementation of the mitigation measures below would reduce impacts, though not necessarily to a less than significant level. These mitigation measures are general and programmatic in nature, and would be refined in project-specific CEQA documents.

**T-1 SUBSTANTIALLY INCREASE AVERAGE WORK TRIP TRAVEL TIME**

**2035**

Implementation of the 2050 RTP/SCS would result in significant impacts to average work trip travel time in 2035. Implementation of Mitigation Measure TRANS-A would reduce these impacts.
SANDAG, working with local jurisdictions and other transportation planning agencies, including Caltrans, shall reevaluate regional travel times in interim years prior to 2035 and 2050. When feasible, SANDAG shall in future RTPs modify the timing and priority of transportation network improvements to be consistent with available funding programs to most quickly implement those improvements that would reduce impacts T1, T-3, and T4 to less than significant levels.

**2050**

Implementation of the 2050 RTP/SCS would result in significant impacts to average work trip travel time in 2050. Implementation of Mitigation Measure TRANS-A, as described under 2035 above, would reduce these impacts.

**T-3** SUBSTANTIALLY DECREASE THE PERCENTAGE OF NON-WORK-RELATED TRIPS ACCESSIBLE WITHIN 15 MINUTES

**2035**

Implementation of the 2050 RTP/SCS would result in significant impacts to non-work-related trips accessible in 15 minutes in 2035. Implementation of Mitigation Measure TRANS-A would reduce these impacts.

**2050**

Implementation of the 2050 RTP/SCS would result in significant impacts to non-work-related trips accessible in 15 minutes in 2050. Implementation of Mitigation Measure TRANS-A would reduce these impacts.

**T-4** SUBSTANTIALLY INCREASE THE CONGESTED VEHICLE MILES TRAVELLED IN PEAK PERIODS

**2050**

Implementation of the 2050 RTP/SCS would result in significant impacts to congested VMT in peak periods in 2050. Implementation of Mitigation Measure TRANS-A would reduce these impacts.

**Mitigation Found to Be Infeasible**

To further reduce significant impacts that would result both from regional growth/land use change and transportation improvements, various possible mitigation measures and alternatives were considered. As described with each of the potential measures outlined below, due to substantial negative factors such as adverse effects to economic viability, implementation challenges, and adverse transportation operation results, these measures were found to be infeasible as viable mitigation to reduce potential impact to below a level of significance.

- Require SANDAG’s member agencies to increase congestion pricing by elevating parking fees. The increased parking fees would serve as an economic deterrent for commuters driving alone. This could reduce single-driver trips and help avoid substantial increases in work trip travel time and peak period congestion.
This measure was considered infeasible due to the social considerations, that is, the inability to implement this measure adequately and equally throughout all agencies and because of economic consideration of the added economic burden that would be placed on workers in the San Diego region, in addition to the already difficult economic situation. Also, this measure would not achieve the objective to provide a transportation system that offers convenient travel options for people and goods, as well as reasonable travel costs as the increased parking fee may adversely impact the travel costs of drivers who do not have access to convenient transit options.

- Impose increased taxes on transportation fuel as an economic deterrent to auto and truck travel. This could reduce single-driver trips and avoid substantial increases in work trip travel time and peak period congestion.

This measure was considered infeasible because of the inability of SANDAG to adequately require the implementation of this measure across the region with the necessary authority to impose such taxes. In addition, this measure would not achieve the objective to provide a transportation system that offers convenient travel options for people and goods, as well as reasonable travel costs as increased transportation fuel taxes would elevate costs associated with travel, including transit. Also, the measure would not achieve the objective to provide a transportation system that supports improvement of the region’s standard of living due to the adverse impact it would have on the economic prosperity and viability of the region as a center for regional distribution and the goods movement industry due to higher transportation fuel prices.

- Implement a regional growth strategy that includes very restrictive zoning policies and land use regulations intended to limit future residential, employment, and economic growth within the San Diego Region. Limiting new residential and job growth would minimize additional traffic volumes, and slowing economic growth would reduce commuter trips as well as create less goods movement traffic throughout the region.

Implementation of a highly restrictive regional growth strategy was considered infeasible because it would not achieve the 2050 RTP/SCS fundamental objectives. Consideration of this measure found that these types of restrictions on future residential and employment growth could result in increased interregional commuting, higher housing costs, and reduced economic success. As fully detailed in 4.11, Land Use, this measure would not achieve the fundamental objectives to provide a transportation system that offers convenient travel options for people and goods, as well as reasonable travel costs; provide a transportation system that supports improvement of the region’s standard of living; or provide an environmentally sustainable transportation system as longer commutes require additional resources compared to short local commutes. As detailed in the Land Use section, Table 4.11-5, restricting and limiting growth as proposed by this measure would result in noncompliance with SB 375.

- Implement the unconstrained network of major capital improvements as detailed in Appendix A of the 2050 RTP/SCS. This would increase the investment in transportation infrastructure, transit services, transportation programs, and multi-modal infrastructure. The increased infrastructure and service would improve accessibility to convenient transportation options and likely reduce identified transportation impacts.

Construction of additional infrastructure and service improvements through implementation of the unconstrained transportation network was considered infeasible because it is not economically possible to fund the additional improvements. As stated in 23 USC Section 134(g)(2)(B), metropolitan area long-range transportation plans must contain a financial plan. Each
transportation plan must include a financial plan that demonstrates how the adopted long-range transportation plan can be implemented, indicate reasonably expected resources from public and private sources to carry out the plan, and recommend any additional financing strategies for needed projects and programs. Additionally, 23 CFR Section 450.322 (b)(11) requires that long-range transportation plans include a financial plan that demonstrates the consistency of proposed transportation investments with available and projected sources of revenue. Due to current fiscal constraints, it is not possible to demonstrate funding availability to implement the unconstrained transportation network. Though additional infrastructure and service improvements would likely reduce transportation impacts, this measure is economically infeasible and could not meet the requirements of the regulations cited above.

- Implement an intensified land use scenario that increases employment and residential land use densities along transportation corridors. Intensified distribution of residential use and employment centers in the immediate vicinity of transportation corridors would improve access for workers to travel to their places of work and could reduce identified transportation impacts.

The implementation of an intensive land use scenario around transportation corridors was considered infeasible for three reasons. First, SANDAG does not have the legal authority to implement this scenario. Land use inputs for the growth scenario of the 2050 RTP/SCS came directly from existing and proposed local government land use plans and policies. SANDAG does not have the legal authority to alter or modify those land use plans, which direct growth within individual jurisdictions.

Second, the intensified land use scenario conflicts with the existing and proposed local government land use plans and policies of a number of local governments. Therefore, it is unlikely that local governments would voluntarily change their land use plans and policies to implement the scenario. Additionally, any increased land use intensities would have to be countered with residential and employment reductions elsewhere and would likely involve multiple jurisdictions making simultaneous actions to accommodate this shift in growth in their individual land use plans and policies.

Third, an RTP’s forecasted growth pattern must be based on the latest available estimates and assumptions for population, land use, travel, employment, congestion, and economic activity (CFR Title 23 Section 450.322(e)). As discussed above, the intensified land use along transportation corridors scenario would conflict with that requirement and would not represent the latest available estimates and assumptions for land use and related factors.

### 4.16.6 SIGNIFICANCE AFTER MITIGATION

**T-1 SUBSTANTIALLY INCREASE AVERAGE WORK TRIP TRAVEL TIME (IN MINUTES)**

**2035**

The increase in average commute time would exceed the 3-minute threshold and would result in a significant impact related to work trip travel time in 2035. Mitigation Measure TRANS-A would allow for transportation network improvements to be reevaluated and reprioritized in future RTPs. However, the implementation of mitigation measure TRANS-A would not guarantee that the impact would be reduced to less than significant. Thus, because it cannot be guaranteed that Mitigation Measure TRANS-A would
mitigate this impact to less than significant levels, and because all other measures were found to be infeasible, the impact related to work trip travel time in 2035 would remain significant and unavoidable.

2050

The increase in average commute time would exceed the 3-minute threshold and would result in a significant impact related to work trip travel time in 2050. As described for 2035, Mitigation Measure TRANS-A would allow for transportation network improvements to be reevaluated and reprioritized in future RTPs. However, implementation of Mitigation Measure TRANS-A would not guarantee that the impact would be reduced to less than significant. Thus, because it cannot be guaranteed that Mitigation Measure TRANS-A would mitigate this impact to less than significant levels, and because all other measures were found to be infeasible, the impact related to work trip travel time in 2050 would remain significant and unavoidable.

T-3 SUBSTANTIALLY DECREASE THE PERCENTAGE OF NON-WORK-RELATED TRIPS ACCESSIBLE WITHIN 15 MINUTES

2035

The decrease in the percentage of non-work-related trips accessible within 15 minutes would exceed the 3 percent threshold and would result in a significant impact in 2035. Mitigation Measure TRANS-A would allow for transportation network improvements to be reevaluated and reprioritized in future RTPs. However, implementation of mitigation measure TRANS-A would not guarantee that the impact would be reduced to less than significant. Thus, because it cannot be guaranteed that Mitigation Measure TRANS-A would mitigate this impact to less than significant levels, and because all other measures were found to be infeasible, the impact related to non-work-related trips accessible within 15 minutes in 2035 would remain significant and unavoidable.

2050

The decrease in the percentage of work non-work-related trips accessible within 15 minutes would exceed the 3 percent threshold and would result in a significant impact in 2050. As described for 2035, Mitigation Measure TRANS-A would allow for transportation network improvements to be reevaluated and reprioritized in future RTPs. However, implementation of Mitigation Measure TRANS-A would not guarantee that the impact would be reduced to less than significant. Thus, because it cannot be guaranteed that Mitigation Measure TRANS-A would mitigate this impact to less than significant levels, and because all other measures were found to be infeasible, the impact related to non-work-related trips accessible within 15 minutes in 2050 would remain significant and unavoidable.

T-4 SUBSTANTIALLY INCREASE THE CONGESTED VEHICLE MILES TRAVELLED (LOS E AND F) IN PEAK PERIODS

2050

The increase in congested VMT in peak periods would exceed the 3 percent threshold and would result in a significant impact in 2050. Mitigation Measure TRANS-A would allow for transportation network improvements to be reevaluated and reprioritized in future RTPs. However, implementation of Mitigation Measure TRANS-A would not guarantee that the impact would be reduced to less than significant. Thus,
because it cannot be guaranteed that Mitigation Measure TRANS-A would mitigate this impact to less than significant levels, and because all other measures were found to be infeasible, the impact related to congested VMT in peak periods in 2050 would remain significant and unavoidable.