4.15 TRANSPORTATION

This section evaluates the transportation impacts of the proposed Plan. The information presented was compiled from multiple sources including the proposed Plan, SANDAG studies and publications, public transit organizations, other transportation planning agencies, and other sources identified throughout the section.

4.15.1 EXISTING CONDITIONS

REGIONWIDE TRANSPORTATION NETWORK

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 POEs. 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 2012, generally five different modes of transportation were used throughout the region for work trips during peak periods: (1) drive alone (single occupancy vehicle [SOV]), (2) carpool, (3) public transit, (4) walk, and (5) bike. As shown in Table 4.15-1, approximately 42 percent of peak period work trips were drive alone, an additional approximately 432 percent were carpool trips, approximately 12 percent were people walking or biking, and approximately two percent were on public transit.

<table>
<thead>
<tr>
<th>Transportation Mode</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drive Alone</td>
<td>42.0</td>
</tr>
<tr>
<td>Carpool</td>
<td>42.94</td>
</tr>
<tr>
<td>Public Transit</td>
<td>1.98</td>
</tr>
<tr>
<td>Walk/Bike</td>
<td>11.84</td>
</tr>
</tbody>
</table>

Source: SANDAG 2015h.

Note: the revised numbers in this table reflect the minor modifications to the project description and improved representation of local streets and roads in the regional transportation model.
HIGHWAY/ROADWAY NETWORK

The primary purpose of the roadway network (Figure 4.15-1) is to facilitate the movement of goods and people. 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 2012, the average daily VMT per capita was 25.2 miles. The regional roadway network is a complex and expansive system that is planned, designed, built, operated, and maintained by numerous agencies, such as the various cities, the County of San Diego, Caltrans, tribal governments, SANDAG, and others. As of 2012, there are 2,419 general purpose lane miles on freeways, and 624 lane miles on State highways.

SOV

In 2012, 42 percent of all peak period work trips were drive alone or Single Occupancy Vehicles (SOV), and the average peak period travel time to work was 27 minutes to travel an average of 13.1 miles.

Managed Lanes

Managed Lanes are multipurpose lanes that support carpools, vanpools, and rapid transit service. In 2012, there were 90 lane miles of managed lanes. Managed lanes include the following:

- **Express Lanes**: These are lanes in the middle of the highway that serve buses, carpools, vanpools, motorcycles, and certain clean air vehicles for no cost. People driving alone can travel on these lanes for a fee (similar to the FasTrak® system, in which fees support transit services along the I-15 corridor).

- **Carpool Lanes**: These lanes, also known as High Occupancy Vehicle or HOV lanes, have a limited number of access points along the highway. They are similar to Express Lanes, but solo drivers are precluded from using them. Each vehicle that travels onto an HOV lane must carry a minimum of two people at all times.

- **Transit-Only Lanes**: These lanes are open only to transit vehicles. They accommodate both regional and local bus services.

Regional Arterials

The San Diego region’s existing transportation network includes approximately 9,673 lane miles of regional arterials. Regional arterials offer critical links to highways. The Regional Arterial System (RAS) is the network of regional roadways and local streets that, along with the system of highways and transit services, allows for a significant amount of mobility throughout the region.

Goods Movement and Freight

The movement of goods and freight throughout the San Diego region is an important component to the region’s transportation operations. The San Diego region’s location is critical in the international transport of goods with multiple international POEs with Mexico to the south and the Ports of Los
Figure 4.15-1
2012 Highway Network
April 2015

Existing Managed Lanes

MILES
KILOMETERS
Angeles and Long Beach, which compose the fifth largest seaport complex in the world, to the north. Transportation systems for freight and goods movement include 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. Three major north-south corridors handle goods movement in the region: I-5, I-805, and I-15. These routes carry significant volumes of truck traffic through the region and farther north to Orange and Riverside counties. In addition, one toll road, SR 125, connects the Otay Mesa POE to other major north-south corridors. 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 2012, more than 502,724 trucks transported more than 10 million tons of goods, valued at about $40 billion, through the Otay Mesa and Tecate POEs (SANDAG 2015g).

Freight and goods movement rail services are operated on the LOSSAN rail corridor by the Burlington Northern Santa Fe Railway (BNSF) (LOSSAN 2007). Additionally, in 2008 the Pacific Sun Railroad began serving freight in the region (Watco 2015). 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, San Diego & Imperial Valley Railroad (SD&IV) operates two short lines owned by MTS that connect Santa Fe Depot in downtown San Diego with the San Ysidro POE.

Freight also arrives and departs the San Diego region via SDIA. Airlines serving the airport transported 172,160 tons of cargo and mail (SDIA 2015a). 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 2012, cargo operations (departures and arrivals of cargo aircraft planes) represented about 130,000 tons of regional freight movement valued at $4.625 billion (SANDAG 2015g).

Ocean cargo facilities are located on San Diego Bay, providing facilities necessary for the transfer of goods to and from the region via cargo vessels. Maritime commerce is carried out at two marine terminals located on San Diego Bay: the 10th Avenue Marine Terminal in the City of San Diego and the National City Marine Terminal at 24th Street. Ferry service operates between Downtown San Diego and Coronado.

**Airports**

The San Diego region is home to 16 public-use and military airports (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. The airport served more than 18,417 million passengers in 2014 and was served by 24 passenger carriers and five cargo carriers. In 2014, the airlines serving the airport transported 172,160 tons of cargo and mail (SDIA 2015a).
Other regional 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 MCB Camp Pendleton, Marine Corps Air Station Miramar, Naval Air Station North Island, and Naval Outlying Field Imperial Beach (SDIA 2015b).

### Transit

The primary forms of public transportation throughout the San Diego region are bus and rail service. The existing transit network is depicted in Figure 4.15-2. 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 2015). MTS serves 88 million annual passengers or 285,000 passenger trips each weekday though its bus and rail transportation services. MTS provides approximately 1.9 million hours of service across 24 million miles each year (MTS 2015). NCTD provides bus and rail services to 1,020 square miles in the northern San Diego region with 8.1 million annual boardings on the BREEZE buses, 1.7 million annual boardings on the COASTER trains, and 2.5 million annual boardings on the SPRINTER light rail (NCTD 2015b). NCTD also provides an on-demand FLEX bus service within parts of southwest Carlsbad, Encinitas, Solana Beach, and Ramona, where BREEZE bus service is not available, and LIFT service to more than 150,000 annual passengers who are unable to use BREEZE bus service due to a disability.

A key component to the ease and accessibility of public transit is distance to a transit stop from a residence or place of employment. Table 4.15-2 shows that approximately 78.77 percent of the regional population and approximately 84 percent of jobs were located within 0.5 mile of a transit stop as of 2012. Additionally, approximately 86 percent of the population was within 30 minutes of jobs and higher education enrollment using transit as of 2012.

<table>
<thead>
<tr>
<th>Performance Measure</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of population within 0.5 miles of a transit stop</td>
<td>78.77%</td>
</tr>
<tr>
<td>Percentage of employment within 0.5 miles of a transit stop</td>
<td>84%</td>
</tr>
</tbody>
</table>

Source: SANDAG 2015h.
Note: the revised numbers in this table reflect the minor modifications to the project description and improved representation of local streets and roads in the regional transportation model.

### Rail

Two major railroad corridors traverse the San Diego region: the LOSSAN rail corridor and the San Diego & Arizona Eastern (SD&AE) Railway corridor. The LOSSAN rail corridor covers a six-county coastal region covering 351 miles along the Southern California coast, with over 60 miles located in the San Diego
4.15 Transportation

region, 41 stations, and more than 150 daily passenger trains (OCTA 2015). Santa Fe Depot in Downtown San Diego marks the southern end of the LOSSAN rail corridor. The San Diego segment of the coastal rail line, built more than 125 years ago, connects to Orange County through MCB Camp Pendleton and the cities of Oceanside, Carlsbad, Encinitas, Solana Beach, Del Mar, and San Diego (Keep San Diego moving 2015).

The SD&AE Railway straddles the 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. The SD&AE runs on four lines totaling 108 miles:

- Main Line Centre City San Diego south to San Ysidro/International Border at Tijuana with a total length of 15.5 miles. This Line extends through Mexico (44.3 miles) and connects up with the Desert Line. The portion through Mexico, originally constructed as part of the Main Line, is now owned by the Mexican national railways, Ferrocarril Sonora Baja California Line.
- La Mesa Branch Downtown San Diego east to City of El Cajon with a total length of 16.1 miles.
- Coronado Branch National City south to Imperial Beach with a total length of 7.2 miles.
- Desert Line Extends north and east from the International Border (junction called Division) to Plaster City with a total length of 69.9 miles, where it joins the UP Line from El Centro.

Freight services on the lines are privately operated. SD&IV Railroad on three of the lines—Main Line, La Mesa Branch, and Coronado Branch—and Pacific Imperial Railroad, Inc. (PIR) on the Desert Line (MTS 2013).

**Light Rail**

Throughout the San Diego region, light rail service is provided by NCTD and MTS. The NCTD SPRINTER is a diesel-powered light rail system that travels a 22-mile east-west route serving 15 stations connecting Oceanside, Vista, San Marcos, and Escondido generally along SR 78. The SPRINTER operates every 30 minutes in each direction, Monday through Friday, from approximately 4am until 9pm; trains on Fridays and Saturdays run later, and trains on Saturdays, Sundays, and holidays operate every 30 minutes from 10am until 6pm and hourly before and after those hours. The SPRINTER runs 455 trains every week and has a ridership of approximately 8,400 boardings each weekday totaling 2.5 million annual boardings (NCTD 2015b).

The San Diego Trolley is a light rail passenger service operated by SDTI, which is owned by MTS. The system operates over 53.5 miles on three routes, mostly double-tracked with 53 stations. Transit operator SDTI, a wholly subsidiary of MTS, operates on the Main Line and on the La Mesa Branch 7 days a week from 4:16 a.m. to 2:00 a.m. approximately every 15 minutes on Blue and Orange Lines with 7.5-minute peak hour service on the Blue Line (MTS 2013). The Green Line also operates 15-minute service Monday through Saturday between the Old Town Transit Center and the Santee Town Center. The three lines are the Blue, Orange, and Green Lines (MTS 2011):

- The Blue Line is an 18.8-mile line operating between America Plaza in Downtown San Diego and San Ysidro at the international border with Mexico via National City and Chula Vista.
• The Orange Line terminates at America Plaza, with service extending east to El Cajon via southeastern San Diego, Lemon Grove and La Mesa.

• The Green Line operates from 12th Street and Imperial Avenue in Downtown San Diego north to Old Town along the bayside, then east to Santee via Mission Valley and San Diego State University.

Passenger and Commuter Rail

Throughout the San Diego region, passenger and commuter rail service is provided by Amtrak, NCTD, and Metrolink as described below. 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, San Luis Obispo, and the nationwide rail system. The Pacific Surfliner offers 11 daily round trips from San Diego to Los Angeles (12 on weekends), and five round trips Los Angeles to Santa Barbara to Goleta, with two extending to San Luis Obispo. The Surfliner had 2,681,173 riders in FY14 (Amtrak 2014).

The COASTER is operated by NCTD along the LOSSAN rail corridor and provides passenger commuter rail service with eight stops along 41 miles between downtown San Diego and Oceanside. The COASTER primarily serves commuters on weekdays, with approximately 20 trains scheduled during typical commute hours. A total of 126 trains run every week, with expanded service offered in the spring and summer and additional trains scheduled for special events as needed. The COASTER has an annual ridership of 1.7 million and an average weekday ridership of 5,700. The COASTER operates seven locomotives and 28 bi-level coaches (NCTD 2015a).

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 and 55 stations along 512 route miles. Metrolink operates an average of 169 trains on a weekday with 41,534 average weekday riders. The only Metrolink station in San Diego County is in Oceanside. The Orange County Line (runs Oceanside to Los Angeles) has 14 stations and 87.2 route miles. The Line operates 29 weekday trains (Metrolink 2015).

Bus

MTS operates 93 fixed-bus routes and Americans with Disabilities Act (ADA) complementary paratransit service throughout its service area, which primarily cover the central and southern portions of the San Diego region. Fixed route bus service includes local, urban, express, premium express, and rural routes (MTS 2015). Bus services are provided by the San Diego Transit Corporation (SDTC), which is owned by MTS. MTS bus service extends from the international border to as far north as Escondido.

The NCTD bus system, known as the BREEZE, serves the northern San Diego region. BREEZE buses carry passengers on approximately 164 buses on 33 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 MCB Camp Pendleton. The BREEZE has 28,800 boardings each weekday (NCTD 2015a). The NCTD service area also includes four Native American reservations governed by the Rincon Band of 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. All buses are equipped with a lift or ramp for boarding mobility-impaired riders. Most buses have a kneeling feature, and 523 buses offer low floor access. Braille or raised-type route information is available at most regional transit centers (MTS 2013).
BICYCLE 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.

The San Diego Regional Bicycle Plan was approved by the SANDAG Board of Directors on May 28, 2010. The Early Action Program (EAP) for the projects included in the Bike Plan is a $200 million initiative to expand the bike network throughout the region. The EAP comprises 42 projects totaling about 77 miles of new bikeways that would make it much easier for people to ride their bike to school, work, transit stations, and other major destinations. The EAP is funded by TransNet, the regional half-cent sales tax approved by San Diego County voters. TransNet funding will be leveraged to bring in state and federal dollars so the region can complete more bike projects.

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 (SANDAG 2010).

- **Class I Bikeway (Bike Path):** Bike paths are bikeways that are physically separated from vehicular traffic. Also termed shared-use paths, bike paths accommodate bicycle, pedestrian, and other non-motorized travel. Paths can be constructed in roadway right-of-way or independent right-of-way. Bike paths provide critical connections in the region where roadways are absent or are not conducive to bicycle travel.

- **Class II Bikeway (Bike Lane):** Bike lanes are defined by pavement markings and signage used to allocate a portion of a roadway for exclusive or preferential bicycle travel. Within the regional corridor system, bike lanes should be enhanced with treatments that improve safety and connectivity by addressing site-specific issues. Such treatments include innovative signage, intersection treatments, and bicycle loop detectors.

- **Class III Bikeway (Bike Route):** Bike routes are located on shared roadways that accommodate vehicles and bicycles in the same travel lane. Established by signs, bike routes provide continuity to other bike facilities or designate preferred routes through corridors with high demand. Within the regional corridor system, bike routes should be enhanced with treatments that improve safety and connectivity by addressing site-specific issues.

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.
Figure 4.15-3

Existing Bicycle Network
2012
April 2015

- Multi-Use Path
- Bike Lane
- Bike Route
- Freeway Shoulder
- Other Suggested Route

Map Area
San Diego Region

KILOMETERS
MILES
0 3 6
0 4 8

SANDAG
There are approximately 1,340 miles of existing bikeway facilities in the region as detailed below in Table 4.15-3. 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. The 18 cities and the County have some amount of Class I, II, or III bikeways within their area. Figure 4.15-3 shows the existing bicycle network throughout the San Diego region.

### Table 4.15-3
Existing Bicycle Facilities in the Region

<table>
<thead>
<tr>
<th>Facility Type</th>
<th>Miles</th>
<th>Percentage of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class I - Path</td>
<td>159.3</td>
<td>11.9%</td>
</tr>
<tr>
<td>Class II - Lane</td>
<td>890.2</td>
<td>66.4%</td>
</tr>
<tr>
<td>Class III - Route</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>1,340.8</td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Source: SANDAG 2010c.

### PEDESTRIAN FACILITIES

Walking, as well as bicycling, is a part of an active transportation network. Pedestrian facilities primarily include sidewalks and crosswalks associated with arterials and roadways, as well as bridge and other connections across highways and rail facilities. Systemwide safety is described below.

### TRANSPORTATION PROGRAMS

#### TDM

Transportation Demand Management (TDM) refers to programs and strategies that manage and reduce traffic congestion during peak travel times. Typical TDM programs include carpooling and vanpooling, and promoting alternative work schedules and teleworking, and increasing bicycle, pedestrian, and transit use. These programs reduce overall VMT, and make more efficient use of existing roadways and maximize the movement of people and goods.

A comprehensive TDM program for the San Diego region is known as iCommute, the goal of which is to reduce traffic congestion during peak times, as well as cut GHG emissions and other environmental pollutants by reducing the number of commuters driving to work or school alone each day. The iCommute program pulls together proven trip-reduction strategies and state-of-the-art web tools to provide access to convenient transportation choices that reduce auto dependency, vehicle energy consumption, and emissions. In FY 2013, more than 32,000 commuters and 190 employers had registered with iCommute (SANDAG 2014b).

Other TDM programs in the region include the Regional Vanpool Program, Guaranteed Ride Home, the Bicycle Encouragement Program, and SchoolPool. The specific TDM programs included in the proposed Plan are described in Chapter 2.0 of this EIR.
**TSM/ITS**

Transportation System Management (TSM) and Intelligent Transportation Systems (ITS) refer to effectively managing the overall transportation system, including the demands on the system. TSM/ITS and TDM, described above, use innovative technologies that maximize the efficiency of the transportation network and promote greater multimodal system efficiencies that support mode changes over time, which can ultimately lower GHG emissions. TSM/ITS components of the proposed Plan are described further in Chapter 2.0 of this EIR.

**Integrated Corridor Management**

In 2010, the I-15 corridor was selected as one of two pilot sites in the nation to test the Integrated Corridor Management (ICM) concept. As part of this project, a unified traffic management system has been created for the corridor, enabling multiagency and multimodal coordination to achieve smoother traffic flow, manage congestion, and improve mobility (SANDAG 2014c).

The project covers a 20-mile section of I-15 from just north of SR 52 in the City of San Diego to SR 78 in the City of Escondido, including the Express Lanes facility within the freeway median and major arterial routes within a few miles to the east and west of I-15.

**SYSTEMWIDE SAFETY**

**Vehicular**

Vehicular travel accounted for approximately 84 percent of existing travel in 2012, resulting in a total of 79,289,103 Annual VMT. As shown in Table 4.15-4, in 2012, per every thousand vehicle miles traveled in the region, the annual projected number of vehicle (driver/passenger) injury/fatality collisions was 0.12.

<table>
<thead>
<tr>
<th>Mode</th>
<th>Performance Measure</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicles</td>
<td>Annual vehicle (driver/passenger) injury/fatal collisions per thousand vehicle miles traveled (VMT)</td>
<td>0.1213</td>
</tr>
<tr>
<td>Bicycles and Pedestrians</td>
<td>Annual bicycle/pedestrian injury/fatal collisions per thousand bicyclist/pedestrian miles traveled (BPMT)</td>
<td>1.4238</td>
</tr>
</tbody>
</table>

Source: SANDAG 2015h.

Note: the revised numbers in this table reflect the minor modifications to the project description and improved representation of local streets and roads in the regional transportation model.

**Bicycle and Pedestrian**

In 2012, combined bicycle and pedestrian travel accounted for approximately 11.8 percent of regional mode share for work trips during peak periods. As shown in Table 4.15-4, in 2012, per every thousand bicyclist/pedestrian miles traveled in the region, the annual projected number of bicycle/pedestrian injury/fatality collisions was 1.4238.
In September 2010, SANDAG began engaging key stakeholders and the region’s residents in the development of the Draft Regional Safe Routes to School Strategic Plan, and the final Strategic Plan was accepted by the SANDAG Transportation Committee on March 2, 2012. The Regional Safe Routes to School Strategic Plan works to make walking and bicycling to school safer and to provide more attractive travel choices for families throughout the region. It identifies a regional strategy to support local communities in establishing new Safe Routes to School programs as well as sustaining and enhancing existing efforts (SANDAG 2015c).

Improving safety conditions is a central goal of Safe Routes to School programs, which can be accomplished through improvements to the built environment, educating students, engaging community members, enforcing traffic laws, and instituting programs designed to address personal security concerns. Safe Routes to School programs support more sustainable, compact, well-designed communities interconnected by a transportation system that expands travel choices and reduces GHG emissions. Safe Routes to School programs help achieve this vision by reducing peak period vehicle trips and making active transportation to school more viable and attractive options. Addressing school safety and accessibility improves the overall walkability of affected neighborhoods (SANDAG 2012).

4.15.2 REGULATORY SETTING

FEDERAL LAWS, REGULATIONS, PLANS, AND POLICIES

U.S. Department of Transportation – MAP-21

The Moving Ahead for Progress in the 21st Century Act (MAP-21) was signed into law by the President in 2012. MAP-21 is the first long-term highway authorization enacted since the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) was passed in 2005. This act provides needed funds and transforms the policy and programmatic framework for investments to guide the growth and development of the nation’s transportation infrastructure and includes many important provisions intended to help the Federal Motor Carrier Safety Administration (FMCSA) in its important mission to reduce crashes, injuries, and fatalities involving large trucks and buses (FMCSA 2015). MAP-21 creates a performance-based multimodal program to address challenges of the U.S. transportation system, including improving safety, maintaining infrastructure condition, reducing traffic congestion, improving efficiency of the transportation system and freight movement, protecting the environment, and reducing delays in project delivery. It builds on the policies and programs established by the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA).

DOT RTP Requirements

Under federal transportation law, DOT requires that MPOs, such as SANDAG, prepare long-range regional transportation plans (23 USC 134). In federally designated air quality nonattainment or maintenance areas, the long-range transportation plan is to be updated at least every 4 years. SANDAG adopted the existing 2050 RTP/SCS on October 28, 2011. When adopted, the proposed Plan will replace the 2050 RTP/SCS as the San Diego region’s long-range transportation plan.

Federal requirements for long-range transportation plans include the following (23 USC 134(i)(2):
• **Identification of transportation facilities.** An identification of transportation facilities (including major 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 important national and regional transportation functions.

• **Mitigation activities.** A discussion of types of potential environmental mitigation activities and potential areas to carry out these activities, including activities that may have the greatest potential to restore and maintain the environmental functions affected by the plan. The discussion must be developed in consultation with Federal, State, and tribal wildlife, land management, and regulatory agencies.

• **Financial plan.** A financial plan that demonstrates how the adopted transportation plan can be implemented, indicates resources from public and private sources that are reasonably expected to be made available to carry out the plan, and recommends any additional financing strategies for needed projects and programs. For the purpose of developing the transportation plan, the metropolitan planning organization, transit operator, and State shall cooperatively develop estimates of funds that will be available to support plan implementation.

• **Operational and management strategies.** Operational and management strategies to improve the performance of existing transportation facilities to relieve vehicular congestion and maximize the safety and mobility of people and goods.

• **Capital investment and other strategies.** Capital investment and other strategies to preserve the existing and projected future metropolitan transportation infrastructure and provide for multimodal capacity increases based on regional priorities and needs.

• **Transportation and transit enhancement activities.** Proposed transportation and transit enhancement activities.

Also, RTPs must be financially realistic ("revenue constrained"), balancing capital and operating costs with reasonable revenue expectations, as agreed upon by MPOs and their transportation agency partners in the planning process (23 CFR 450.322).

Additionally, in metropolitan areas that are in nonattainment for O₃ or CO under the CAA, the MPO must coordinate the development of a transportation plan with the process for development of the transportation control measures of the SIP required by the CAA. In each metropolitan area, the MPO must consult, as appropriate, with state and local agencies responsible for land use management, natural resources, environmental protection, conservation, and historic preservation concerning the development of a long-range transportation plan. Each MPO must provide citizens, affected public agencies, representatives of public transportation employees, freight shippers, providers of freight transportation services, private providers of transportation, representatives of users of public transportation, representatives of users of pedestrian walkways and bicycle transportation facilities, representatives of the disabled, and other interested parties with a reasonable opportunity to comment on the transportation plan. A transportation plan involving federal participation must be published or otherwise made readily available by the MPO for public review.
FHWA Congestion Management Process

The FHWA Congestion Management Process Guidebook (FHWA 2011) describes congestion management as the application of strategies to improve transportation system performance and reliability by reducing the adverse impacts of congestion on the movement of people and goods. A congestion management process (CMP) is an approach for managing congestion that provides accurate, up-to-date information on transportation system performance and assesses alternative strategies for congestion management that meet state and local needs. The CMP, as defined in federal regulation, is intended to serve as a systematic process that provides for safe and effective integrated management and operation of the multimodal transportation system. The process includes:

- Development of congestion management objectives
- Establishment of measures of multimodal transportation system performance
- Collection of data and system performance monitoring to define the extent and duration of congestion and determine the causes of congestion
- Identification of congestion management strategies
- Implementation activities, including identification of an implementation schedule and possible funding sources for each strategy
- Evaluation of the effectiveness of implemented strategies

A CMP is required in metropolitan areas with a population exceeding 200,000, known as Transportation Management Areas (TMAs). Federal requirements also state that, in all TMAs, the CMP must be developed and implemented as an integrated part of the metropolitan transportation planning process. In TMAs designated as O₃ or CO nonattainment areas, the CMP takes on a greater significance. Federal law prohibits projects that result in a significant increase in carrying capacity for SOVs from being programmed in these areas unless the project is addressed in the region’s CMP. The CMP must provide an analysis of reasonable travel demand reduction and operational management strategies; if the analysis demonstrates that these strategies cannot fully satisfy the need for additional capacity and additional SOV capacity is warranted, then the CMP must identify strategies to manage the SOV facility safely and effectively, along with other travel demand reduction and operational management strategies appropriate for the corridor.

STATE LAWS, REGULATIONS, PLANS, AND POLICIES

Active Transportation Program

Pursuant to California SB 99 (Chapter 359, Statutes of 2013) and AB 101 (Chapter 354, Statutes of 2013), the Active Transportation Program (ATP) was created to encourage increased use of active modes of transportation, such as biking and walking. The ATP consolidates various federal and state transportation programs, including the Transportation Alternatives Program, Bicycle Transportation Account, and State Safe Routes to School, into a single program with a focus to make California a national leader in active transportation (SANDAG 2015d). The ATP is administered by the California Transportation Commission (CTC) and combines many federal and state funding streams previously used for bicycle, pedestrian, safety, and other related purposes into one funding stream with broad eligibilities in order to:
- Increase the proportion of biking and walking trips,
- Increase safety for non-motorized users,
- Increase mobility for non-motorized users,
- Advance the efforts of regional agencies to achieve greenhouse gas reduction goals,
- Enhance public health, including the reduction of childhood obesity through the use of projects eligible for Safe Routes to Schools Program funding,
- Ensure disadvantaged communities fully share in program benefits (25% of program), and
- Provide a broad spectrum of projects to benefit many types of active transportation users.

(CTC 2014)

**RTP Requirements**

MPOs are required to prepare RTPs that also meet state requirements. Government Code Sections 65080 et seq. state that each MPO must prepare and adopt a regional transportation plan directed at achieving a coordinated and balanced regional transportation system, including, but not limited to, mass transportation, highway, railroad, maritime, bicycle, pedestrian, goods movement, and aviation facilities and services. The plan must be action-oriented and pragmatic, considering both the short-term and long-term future, and shall present clear, concise policy guidance to local and state officials. The regional transportation plan must consider factors specified in Section 134 of Title 23 of the United States Code, and each transportation planning agency must consider and incorporate, as appropriate, the transportation plans of cities, counties, districts, private organizations, and state and federal agencies.

The California Transportation Commission (CTC) developed guidelines (CTC 2010) to help MPOs develop their RTPs so that they are consistent with federal and state transportation planning requirements. The 2010 update to the guidelines reflects revisions to address the planning requirements of SB 375 and other planning practices. In addition to addressing SB 375, the guidelines set forth a uniform transportation planning framework throughout the state that identifies state and federal requirements for the development of RTPs. The updated guidelines recognize that the reduction of GHGs is a key priority in the transportation planning process. This is further described in Section 4.8, Greenhouse Gas Emissions.

Additionally, the guidelines describe the RTP process, including state and federal requirements and consistency and coordination with other planning documents and processes. The guidelines also describe the transportation modeling process and projecting of future demand, as well as the key assumptions typical of transportation demand models. Additionally, the guidelines describe the consultation and coordination process, which are designed to foster involvement by all interested parties including air quality agencies, discuss the environmental considerations of an RTP, and list the general contents of an RTP document (CTC 2010).

**Senate Bill 375**

In 2010, ARB established GHG reduction targets to be met regionally by 2020 and 2035. SB 375 (Chapter 728, Statutes of 2008) requires California’s MPOs to prepare an SCS that demonstrates how the region will meet its GHG reduction targets through integrated land use, housing, and transportation planning. The SCS is incorporated into the MPO’s RTP. ARB must review the SCS to determine if it would enable the MPO to meet GHG reduction targets once implemented.
Assembly Bill 1358 – California Complete Streets Act

AB 1358, the Complete Streets Act (Government Code Sections 65040.2 and 65302), was signed into law in September 2008. As of January 1, 2011, the law required cities and counties, when updating the part of a local general plan that addresses roadways and traffic flows, to ensure that those plans account for the needs of all roadway users. Specifically, the legislation requires cities and counties to ensure that local roads and streets adequately accommodate the needs of bicyclists, pedestrians, and transit riders, as well as motorists.

SB 743

SB 743 (Chapter 386, Statutes of 2013) among other things creates a process to change the way that transportation impacts are analyzed under CEQA. Specifically, SB 743 requires the Governor’s Office of Planning and Research (OPR) to amend the CEQA Guidelines to provide an alternative to level of service for evaluating transportation impacts. Particularly within areas served by transit, those alternative criteria must “promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses” (Public Resources Code Section 21099(b)(1)). Once the CEQA Guidelines are amended to include those alternative criteria, auto delay will no longer be considered a significant impact under CEQA; however, impacts related to air quality, noise, and safety must still be analyzed under CEQA where appropriate. A Preliminary Discussion Draft of Updates to the CEQA Guidelines Implementing Senate Bill 743 was released by OPR in August 2014 (OPR 2014).

Public Resources Code Section 30253

Public Resources Code Section 30253, part 4, establishes a policy that development within the Coastal Zone shall minimize energy consumption and vehicle miles traveled.

REGIONAL AND LOCAL LAWS, REGULATIONS, PLANS, AND POLICIES

TransNet Extension Ordinance and Expenditure Plan

In 2008, 67 percent of San Diego County voters approved the TransNet Extension Ordinance and Expenditure Plan (Commission Ordinance 04-01) to extend to 2048 the half-cent sales tax for region-wide transportation improvements originally approved in 1987 (Commission Ordinance 87-1). The revenues must be used solely for the improvements identified in the Expenditure Plan for the extension ordinance. SANDAG allocates the revenues in its capacity as the San Diego County Regional Transportation Commission.

The Expenditure Plan identifies capital improvements for highways (managed lane/HOV lanes and general purpose lanes), capital improvements and operations and maintenance support for rail transit and bus rapid transit, local bus and senior and disabled transportation services, local streets and roads, bicycle and pedestrian facilities, transportation-related community infrastructure to support smart growth development, environmental mitigation and enhancement projects, and administrative expenses including an Independent Taxpayer Oversight Committee. When allocating revenues, the extension ordinance requires that SANDAG “shall make every effort to maximize state and federal transportation funding to the region” (Section 5(C)). Projects receiving TransNet funds are required to accommodate travel by pedestrians and bicyclists in accordance with the best available standards and guidelines (Section 4(E)(3)).
SANDAG identified Early Action Projects on routes I-5, I-15, SR-52, SR-76, and I-805, and the Mid-Coast Corridor Transit Project. These are high-priority projects with 10-year completion timelines.

Section 16 of the extension ordinance describes the process for amendments to the expenditure plan. Amendments to the Environmental Mitigation Program (Section 2(D)) and projects included in the Expenditure Plan for the original ordinance in 1987 that remain uncompleted (i.e., State Route 76 East Segment and the Mid-Coast Corridor Transit Project) require approval by the voters of San Diego County. Other provisions requiring voter approval to be amended relate to imposition of the half-cent sales tax (Section 3), maintenance of effort requirements for local revenues (Section 8), the regional transportation congestion improvement program (Section 9), and the Independent Taxpayer Oversight Committee (Section 11). Other provisions may be amended by a two-thirds vote of the SANDAG Board of Directors.

**General Plan Circulation Elements**

As mandated by state law, general plans must have a circulation element (sometimes referred to as transportation or mobility elements) that is consistent with all other elements of the general plan. (Government Code Section 65302.) Circulation elements describe the individual jurisdictions’ acceptable operating standards and level of service, define roadway classifications, and outline goals and policies. Circulation elements also typically address public transit and pedestrian and bicycle facilities. Circulation 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.

**Regional Parking Management Toolbox**

SANDAG has created a Regional Parking Management Toolbox (SANDAG 2015e) as a means of providing the communities within the San Diego region with a framework for evaluating, implementing, and managing parking management strategies that support their individual economic development, sustainability, and mobility goals. The toolbox is an interactive, web-based resource for local jurisdictions to use in identifying parking-related challenges, and applying solutions that fit their communities.

**4.15.3 SIGNIFICANCE CRITERIA**

Appendix G of the CEQA Guidelines provides criteria for evaluating the significance of a project’s transportation impacts. Unless otherwise noted, the significance criteria specifically developed for this EIR are based on the checklist questions in Appendix G. In some cases SANDAG has combined checklist questions, edited their wording, or changed their location in the document in an effort to develop significance criteria that reflect the programmatic level of analysis in this EIR and the unique nature of the proposed Plan.

Appendix G addresses transportation in Section XVI (a-f). Specifically, Appendix G XVI criteria related to air traffic patterns (c) and design hazards (d) as well as emergency access (e) are addressed in Section 4.9, Hazards. The portion of the Appendix G criterion (a) related to conflicts with applicable plans, policies, and ordinances establishing effectiveness measures for the performance of transit, bicycle, and pedestrian facilities is addressed in criterion T-3, which also addresses Appendix G criterion (f).
The portion of Appendix G criterion (a) related to performance of intersections, streets, highways, and freeways is addressed in criteria T-1 and T-2. Beyond the analysis of VMT and induced vehicle travel, the significance criteria do not address the performance of automobiles on the highway and roadway system because implementation of the proposed Plan would not adversely affect the performance of the highway and roadway system. This conclusion is supported by the following proposed Plan performance measures (see Appendix N to the proposed Plan):

- **1A. Average peak-period travel time to work:** for peak-period drive-alone trips to work, the average travel time remains essentially unchanged over the life of the proposed Plan, with a slight one minute increase from 2012 to 2020 and from 2012 to 2035, but a one minute decrease back to the 2012 average travel time by 2035 and 2050. The approximate travel times are 27 minutes in 2012, 28 minutes in 2020 and 2035, and 27 minutes in 2035 and 2050.

- **1B. Average daily vehicle delay per capita:** for daily vehicle delay, the average delay per person remains essentially unchanged over the life of the proposed Plan, with a slight one minute decrease by 2050. The approximate daily per capita vehicle delays are 110 minutes in 2012, 2020, and 2035, and 109 minutes in 2050.

The safety performance aspect of Guidelines criterion (f) is addressed in criterion T-4. SANDAG opted out of the local congestion management program; therefore, Appendix G criterion (b) is not addressed in this Draft EIR.

Further, as required by SB 743, OPR is developing guidelines for determining the significance of transportation impacts, and will transmit them to the Natural Resources Agency for certification and adoption. At the time of preparation of this EIR, preliminary discussion draft guidelines, have been prepared by OPR (OPR 2014). Criteria T-1 and T-2 below have been specifically developed in light of this draft guidance. For the purposes of this EIR, implementation of the proposed Plan would have a significant transportation impact if it would:

- **T-1** Increase average daily vehicle miles traveled per capita or total vehicle miles traveled.
- **T-2** Induce substantial vehicle travel.
- **T-3** Decrease the performance of public transit, bicycle, or pedestrian facilities.
- **T-4** Result in a substantially higher rate of systemwide accidents, collisions, injuries, or fatalities (by mode).
- **T-5** Result in loss of parking that causes significant adverse environmental impacts.

### 4.15.4 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

#### T-1 INCREASE AVERAGE DAILY VEHICLE MILES TRAVELED PER CAPITA OR TOTAL VEHICLE MILES TRAVELED.

**ANALYSIS METHODOLOGY**

This section compares existing average daily per capita VMT and total annual VMT to average daily per capita VMT and total VMT under the proposed Plan in 2020, 2035, and 2050. Increased average daily VMT and total annual VMT are used as measures of the performance of the streets and highways system.
The analysis considers whether the combination of forecasted regional growth and land use change and planned transportation network improvements and programs would result in any increase per capita or total annual VMT in any of the future years relative to 2012. Because of the close relationship among forecasted regional growth and land use change and planned transportation network improvements and programs on travel behavior, this section analyzes their combined effect on per capita and total VMT, instead of separate analyses for regional growth and land use change and transportation network improvements and programs. The significance conclusion is based on whether implementation of the proposed Plan would result in any increases in either average daily per capita VMT or total annual VMT.

2020

Regional Growth and Land Use Change and Transportation Network Improvements and Programs

From 2012 to 2020, regional population is forecast to increase by 292,284 people (9 percent), 83,866 housing units (7 percent), and 173,211 jobs (13 percent). The proposed Plan focuses this growth to occur in areas of existing urban development, and near existing and planned transit corridors. In addition, it encourages higher-intensity residential and commercial development. Approximately 75 percent of the forecasted regional population increase by 2020 is in the City of San Diego (45 percent), County of San Diego (17 percent), and City of Chula Vista (13 percent). Similarly, these three jurisdictions accommodate approximately 77 percent of new housing units and 69 percent of new jobs, respectively, by 2020.

In the City of San Diego, the communities with the highest proportion of the forecasted population and housing unit increases include Mira Mesa, Otay Mesa, Downtown, Pacific Highlands Ranch, Black Mountain Ranch, University City, Navajo, and Mission Valley. The highest proportions of forecasted job increases are in the communities of Downtown, Kearny Mesa, Mira Mesa, Mission Valley, University City, and Otay Mesa. In the unincorporated County, the communities with the highest proportion of the forecasted population and housing unit increases include Lakeside, Otay, North County Metro, Pendleton-De Luz, Fallbrook, Spring Valley, Ramona, and Valley Center. The highest proportions of forecasted job increases are in the communities of Lakeside, Spring Valley, North County Metro, Fallbrook, and Ramona.

From 2012 to 2020, major transportation network improvements and programs would include double-tracking at certain locations on the LOSSAN rail corridor, increases in COASTER frequencies, completion of the Mid-Coast Trolley Extension from Old Town to University City, the South Bay Rapid Bus from the Otay Mesa ITC to Downtown San Diego, Rapid Bus Route 905 from Iris to the Otay Mesa POE, increases in local bus service frequencies, express bus routes to the San Diego and Tijuana International Airports, a San Marcos shuttle, and construction of two transit-only lanes on SR 15 between I-805 and I-8.

Additional major transportation network improvements would include new Managed Lanes along I-5 from Manchester Avenue to SR 78 and I-805 from Carroll Canyon Road to SR 52, new toll lanes on SR 11 to the Otay Mesa POE, new general purpose lanes along a portion of SR 76, and a new freeway connector at SR 11 and SR 905. By 2020, there also would be six improvements to regional arterials, including new travel lanes and extensions of existing roadways. Approximately 24 regional active transportation projects would be constructed by 2020. Several of the active transportation projects are in the City of San Diego, but also in other jurisdictions in coastal and inland north county and in coastal south county.
As shown in Table 4.15-5, forecasted regional growth and land use change and the planned transportation network improvements and programs would increase total annual VMT to approximately 85,000,000 (7 percent) by 2020. With a forecasted regional population increase of over 292,000 (9 percent) by 2020, daily VMT per capita would decrease from 25.2 in 2012 to 24.67 in 2020.

<table>
<thead>
<tr>
<th>Measure</th>
<th>2012</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Annual VMT</td>
<td>79,289,103</td>
<td>79,278,692</td>
</tr>
<tr>
<td></td>
<td>84,596,338</td>
<td>84,718,537</td>
</tr>
<tr>
<td>Total Regional Population</td>
<td>3,143,429</td>
<td>3,435,713</td>
</tr>
<tr>
<td>Regional Population Increase (relative to 2012)</td>
<td>--</td>
<td>292,284</td>
</tr>
<tr>
<td>Average Daily VMT Per Capita</td>
<td>25.2</td>
<td>24.67</td>
</tr>
</tbody>
</table>

Source: SANDAG 2015h.
Note: the revised numbers in this table reflect the minor modifications to the project description and improved representation of local streets and roads in the regional transportation model.

The SCS land use pattern and transportation network improvements and programs decrease per capita vehicle miles traveled. The decrease in per capita VMT is attributable to a number of factors considered in the proposed Plan’s transportation modeling: proposed Plan investments in transit and managed lanes; TDM programs such as carpooling, vanpooling, mobility hubs, and teleworking; and demographic (e.g., aging population) and economic e.g., fuel prices factors. Nevertheless, total annual VMT would increase by 2020, and this is a significant impact.

2020 Conclusion

Implementation of regional growth and land use change as well as transportation network improvements and programs associated with the proposed Plan would decrease average daily per capita VMT, but total annual VMT would increase. Therefore, this impact (T-1) in the year 2020 is significant.

2035

Regional Growth and Land Use Change and Transportation Network Improvements and Programs

From 2012 to 2035, regional population is forecast to increase by 710,269 people (23 percent), 228,965 housing units (20 percent), and 319,025 jobs (24 percent). From 2021 to 2035, regional population is forecasted to increase by 417,985 people (12 percent), 145,099 housing units (12 percent), and 145,814 jobs (10 percent). Approximately 78 percent of the forecasted regional population increase between 2021 and 2035 is in the City of San Diego (51 percent), County of San Diego (18 percent), and City of Chula Vista (9 percent). Similarly, these three jurisdictions accommodate approximately 81 percent of new housing units and 66 percent of new jobs, respectively, between 2021 and 2035.

In the City of San Diego, the communities with the highest proportion of the forecasted population and housing unit increases include Downtown, College Area, Mira Mesa, Otay Mesa, Mission Valley, Navajo, and Uptown. The highest proportions of forecasted job increases are in the communities of Downtown, Kearny Mesa, Mira Mesa, Mission Valley, University City, and Otay Mesa. In the unincorporated County, the communities with the highest proportion of the forecasted population and housing unit increases include Lakeside, North County Metro, Otay, Fallbrook, Spring Valley, San Dieguito, and Ramona. The highest proportions of forecasted job increases are in the communities of Lakeside, Spring Valley, North County Metro, Otay, and Fallbrook.
By 2035, major transportation network improvements and programs (in addition to those identified for 2020) would include double-tracking at additional locations, new stations, and a grade separation along the LOSSAN rail corridor, additional increases in COASTER frequencies including extensions of service to MCB Camp Pendleton and the Gaslamp District in Downtown San Diego, double-tracking of the SPRINTER corridor from Oceanside to Escondido, SPRINTER frequency enhancements and rail grade separations, frequency enhancements and rail grade separations for the Trolley Blue and Orange Lines, an extension of the Trolley from UTC to Mira Mesa via Sorrento Mesa/Carroll Canyon including a connection with the COASTER, an extension of the Trolley from San Ysidro to Kearny Mesa via Mission Valley, Mid-City, Southeast San Diego, National City, and Chula Vista via Highland and 4th avenues, substantial increases in Rapid bus service, additional increases in local bus service, three new streetcars, and Intermodal Transit Centers at San Diego International Airport and San Ysidro (Phase I).

Additional major transportation network improvements by 2035 would include additional managed lanes along certain portions of I-5 between SR 905 and SR 78, as well as portions of SR 15 and I-15, SR 78, SR 94, and I-805. General purposes lanes would be added along I-5 from SR 54 to SR 15, and portions of SR 52 and SR 67. Six Managed Lanes connectors would be added along portions of the I-5, SR 15, I-15, and I-805, and five freeway connectors would be added along portions of the I-5, SR 94, and SR 11/SR 905. By 2035, there would be over 50 additional improvements to local arterial streets and approximately 50 additional regional active transportation projects in locations throughout the region.

As shown in Table 4.15-6, forecasted regional growth and land use change and the planned transportation network improvements and programs would increase total annual VMT to approximately 919,000,000 (141.5 percent) from 2012 to 2035. With a forecasted regional population increase of over 710,000 (23 percent) from 2012 to 2035, daily VMT per capita would decrease from 25.2 in 2012 to 23.56 in 2035.

### Table 4.15-6
Existing and Projected VMT, Total and Per Capita, 2035

<table>
<thead>
<tr>
<th>Measure</th>
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<th>2035</th>
</tr>
</thead>
<tbody>
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<td>Total Annual VMT</td>
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<td>90,407,068</td>
</tr>
<tr>
<td></td>
<td>79,278,692</td>
<td>90,853,289</td>
</tr>
<tr>
<td>Total Regional Population</td>
<td>3,143,429</td>
<td>3,853,698</td>
</tr>
<tr>
<td>Regional Population Increase (relative to 2012)</td>
<td>--</td>
<td>710,269</td>
</tr>
<tr>
<td>Average Daily VMT Per Capita</td>
<td>25.2</td>
<td>23.56</td>
</tr>
</tbody>
</table>

Source: SANDAG 2015h.

Note: the revised numbers in this table reflect the minor modifications to the project description and improved representation of local streets and roads in the regional transportation model.

The SCS land use pattern and transportation network improvements and programs decrease per capita vehicle miles traveled. The decrease in per capita VMT is attributable to a number of factors considered in the proposed Plan’s transportation modeling: proposed Plan investments in transit and managed lanes; TDM programs such as carpooling, vanpooling, mobility hubs, and teleworking; and demographic (e.g., aging population) and economic (e.g., fuel prices) factors. Nevertheless, total annual VMT would increase by 2035. This is a significant impact.
2035 Conclusion

Implementation of regional growth and land use change as well as transportation network improvements and programs associated with the proposed Plan would decrease average daily per capita VMT, but total annual VMT would increase. Therefore, this impact (T-1) in the year 2035 is significant.

2050

Regional Growth and Land Use Change and Transportation Network Improvements and Programs

From 2012 to 2050, regional population is forecast to increase by 925,330 people (29 percent), 326,117 housing units (28 percent), and 460,492 jobs (34 percent). From 2036 to 2050, regional population is forecasted to increase by 215,061 people (6 percent), 97,152 housing units (7 percent), and 141,467 jobs (8 percent). Approximately 75 percent of the forecasted regional population increase between 2036 and 2050 is in the City of San Diego (52 percent), County of San Diego (14 percent), and City of Chula Vista (9 percent). Similarly, these three jurisdictions accommodate approximately 78 percent of new housing units and 77 percent of new jobs, respectively, between 2036 and 2050.

In the City of San Diego, the communities with the highest proportion of the forecasted population and housing unit increases include the City Heights and Eastern Area of Mid-City, Greater North Park, Uptown, Linda Vista, Clairemont Mesa, and Downtown. The highest proportions of forecasted job increases are in the communities of Downtown, Otay Mesa, and University City. In the unincorporated County, the communities with the highest proportion of the forecasted population and housing unit increases include Lakeside, North County Metro, and Spring Valley. The highest proportions of forecasted job increases are in the communities of Otay, Lakeside, and North County Metro.

By 2050, major transportation network improvements and programs (in addition to those identified by 2020 and 2035) would include completion of double tracking on the LOSSAN rail corridor, as well as the Del Mar Tunnel and grade separations, an extension of the SPRINTER to Westfield North County, the SPRINTER Express, Blue Line Trolley rail grade separations, transition of the Mid-City Rapid Bus from SDSU to Downtown San Diego to Trolley, Trolley extensions from Pacific Beach to Balboa, Balboa to Kearny Mesa, Kearny Mesa to El Cajon Transit Center, and Kearny Mesa to Carmel Valley, substantial increases in Rapid bus services, a streetcar from Mission Beach to La Jolla, and Phase II of the San Ysidro ITC.

Additional major transportation network improvements by 2050 include additional Managed Lanes along portions of I-5, SR 15 and I-15, I-805, SR 52, SR 54, SR 94, and SR 125, new general purpose lanes along portions of I-8, SR 15, SR 52, SR 56, SR 67, SR 76, SR 94, SR 125, and highway operational improvements along portions of I-5, I-8, and SR 76. There would be new Managed Lane connectors along I-15 and I-805 at SR 52, and one new freeway connector at I-15 and SR 56. New toll lanes would be added along I-5 from Vandegrift Boulevard to the Orange County line and along I-15 from SR 78 to the Riverside County line. Tolls would be removed from SR 125. There also would be nearly 60 additional regional active transportation projects.

As shown in Table 4.15-7, forecasted regional growth and land use change and the planned transportation network improvements and programs would increase total annual VMT to approximately 95,000,000 (195 percent) from 2012 to 2050. With a forecasted regional population increase of over 710,000 (23 percent) from 2012 to 2050, daily VMT per capita would decrease from 25.2 in 2012 to 23.26 in 2050.
As shown in Table 4.15-7, total VMT under the proposed Plan is projected to increase to approximately 94,000,000 (95,010,483 (1920 percent) and regional population is forecast to increase by 925,330 people (29 percent) from 2012 to 2050. This results in a decrease in daily VMT per capita from 25.2 in 2012 to 23.24 in 2050. Although daily per capita VMT decreases in 2050, the total VMT increase would be significant.

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</thead>
<tbody>
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<td>94,196,529</td>
</tr>
<tr>
<td>Total Regional Population</td>
<td>3,143,429</td>
<td>4,068,759</td>
</tr>
<tr>
<td>Regional Population Increase (relative to 2012)</td>
<td>--</td>
<td>925,330</td>
</tr>
<tr>
<td>Average Daily VMT Per Capita</td>
<td>25.2</td>
<td>23.24</td>
</tr>
</tbody>
</table>

Source: SANDAG 2015h.

Note: the revised numbers in this table reflect the minor modifications to the project description and improved representation of local streets and roads in the regional transportation model.

The SCS land use pattern and transportation network improvements and programs decrease per capita vehicle miles traveled. The decrease in per capita VMT is attributable to a number of factors considered in the proposed Plan’s transportation modeling: proposed Plan investments in transit and managed lanes; TDM programs such as carpooling, vanpooling, mobility hubs, and teleworking; and demographic (e.g., aging population) and economic (e.g., fuel prices) factors. Nevertheless, total annual VMT would increase by 2050. This is a significant impact.

2050 Conclusion

Implementation of regional growth and land use change as well as transportation network improvements and programs associated with the proposed Plan would decrease average daily per capita VMT, but total annual VMT would increase. Therefore, this impact (T-1) in the year 2050 is significant.

MITIGATION MEASURES

Impact T-1  Increase Total VMT

2020, 2035, and 2050

Overview. Many features currently included in the proposed Plan (e.g., the SCS, increased transit and active transportation investments) have the effect of reducing VMT that might otherwise occur. The GHG mitigation measures presented in this section are additional feasible VMT reduction measures not included in the proposed Plan that SANDAG would or other agencies could implement. While SANDAG has the authority to implement the plan and policy level mitigation measures it has committed to, it has no legal authority to require local jurisdictions to implement mitigation measures for specific land use projects for which they have responsibility and jurisdiction.

Other potential mitigation measures to reduce total VMT are included as components of the alternatives analyzed in Chapter 6.0, rather than as individual mitigation measures in this section. These include still more compact land use patterns, accelerated and increased transit investments, reduced or no highway investments, and policies to reduce transit fares, increase parking prices, and establish road user fees.
Mitigation Measures GHG-4A, GHG-4B, GHG-4E, and GHG-4H would reduce VMT. These measures, and their ability to reduce VMT, are summarized below:

- Mitigation Measure GHG-4A Allocate Competitive Grant Funding to Projects that Reduce GHG Emissions. SANDAG would reduce VMT by adopting new or revised grant criteria to give greater weight to a project’s ability to directly reduce GHG emissions through, among other means, directly reducing VMT, for example, through parking strategies. Also, SANDAG would require locally adopted CAPs and complete streets policies, both of which typically reduce VMT, as prerequisites to be eligible for grant funding.

- Mitigation Measure GHG-4B Adopt a Detailed Regional Mobility Hub Strategy Implementation Plan to Reduce GHG Emissions. SANDAG would adopt a regional strategy implementation plan for mobility hubs, which reduce vehicle trips and VMT through making it easier and more efficient to use transit, bicycles, and walking as alternatives to passenger vehicles.

- Mitigation Measure GHG-4E Assist in the Preparation of Climate Action Plans and Other Measures to Reduce GHG Emissions. SANDAG would provide financial and technical assistance to local governments in the preparation of CAPs, and other policies/measures to reduce GHG emissions, which typically include VMT reduction measures.

- Mitigation Measure GHG-4H Implement Measures to Reduce GHG Emissions from Development Projects. The County of San Diego and cities can and should implement measures to reduce GHG emissions, including measures to reduce VMT such as:
  - Increasing transit use, carpooling, bike-share and car-share programs, and active transportation.
  - Parking strategies based on the SANDAG Regional Parking Management Toolbox.
  - Transportation Systems Management (TSM) measures.
  - Land use siting and design measures.

SIGNIFICANCE AFTER MITIGATION

2020, 2035, and 2050

Mitigation Measures GHG-4A, GHG-4B, GHG-4E and GHG-4H reduce this impact (T-1) by requiring measures to reduce VMT. However, these mitigation measures would not reduce this impact (T-1) to a less than significant level as demonstrated by the alternatives analysis in Chapter 6.0, Alternatives.

The feasibility of an alternative that would reduce total VMT is discussed in Chapter 6.0. As described throughout Chapter 6.0, the action alternatives considered in detail in this EIR already include several major changes in transportation investments and other policy changes suggested by stakeholders specifically for the purpose of reducing total VMT. Even Alternative 5D, which has the most compact land use pattern and the most measures to reduce VMT, is unable to reduce total VMT to below 2012 levels, and there are several factors. To be implemented, this alternative would require a major State road pricing policy change, and major changes in land use policies, parking policies, and transit funding.

These results indicate that total reductions in VMT below the 2012 level are not feasible in light of the forecasted increase of nearly one million people in the region by 2050. Implementing an alternative that reduces VMT to substantially below 2012 levels would require still additional measures to reduce total VMT beyond those in Alternative 5D: even more compact development than a multiple dense cores scenario, further substantial increases in the cost of driving, and further substantial transit service improvements.
Addition measures like these may ultimately be needed to reduce VMT, but currently are considered infeasible for several reasons, including the further changes needed in legislation and policy; lack of availability and allowable uses of funding for the transit service improvements; severe economic and social impacts to residents and businesses caused by substantial increases in driving costs; and lack of authority of SANDAG or local governments to implement these types of measures.

In addition, population growth is the main cause of increases in total VMT, and SANDAG has no authority to control population growth in the region. Because there are no feasible mitigation measures to reduce this impact to less than significant, this impact (T-1) remains significant and unavoidable.

T-2  INDUCE SUBSTANTIAL VEHICLE TRAVEL.

ANALYSIS METHODOLOGY

Peer-reviewed research suggests that increases in roadway capacity lead to varying degrees of additional VMT, a phenomenon known as induced vehicle travel, or induced VMT. For purposes of this analysis, these terms are used interchangeably. It occurs when congestion is already present and a capacity expansion will lead to an appreciable reduction in travel time, which may then lead to longer trips and a change in mode (OPR 2014). OPR’s Preliminary Discussion Draft Guidelines (PDDG) for implementing SB 743 recommends agencies consider the potential for induced vehicle travel related to certain types of transportation network improvements that increase physical roadway capacity. This analysis methodology summarizes OPR’s recommendations and describes how induced vehicle miles traveled is analyzed for the proposed Plan.

As described in the PDDG, projects that increase physical roadway capacity should analyze whether the project will induce additional automobile travel when compared to existing conditions. According to the PDDG the addition of general purpose highway or arterial lanes may induce vehicle travel. Transportation projects that do not add physical roadway capacity for automobiles, but instead are for the primary purpose of improving safety or operations, or improving transit operations, generally would not result in induced vehicle travel. Transportation projects (including lane priority for transit, bicycle and pedestrian projects) that lead to net decreases in vehicle miles traveled, compared to existing conditions would not induce vehicle travel.

For this analysis, the proposed Plan transportation network improvements with the potential to induce vehicle miles traveled are described for each analysis year. Consistent with the draft OPR Guidelines above, the new arterial lanes, managed lanes, toll lanes, and general purpose freeway and highway lanes within the proposed Plan are the most likely to induce vehicular travel in the region. Because the proposed Plan identifies forecasted regional growth and land use change and planned transportation network improvements and programs for the entire region, this analysis considers the combined effect of the proposed Plan’s regional growth and land use change and transportation network improvements and programs on induced vehicle travel. The analysis compares increases in lane miles (for arterials, managed lanes, and general purpose lanes) to changes in transportation mode share and changes in daily per capita VMT. For purposes of this analysis, increases in lane miles that increase drive-alone mode share, decrease mode share for walk/bike, transit, or carpool, or increase average daily per-capita VMT, are considered to induce substantial vehicle travel.

1 The analysis uses daily per capita VMT instead of total VMT to control for the effects of population growth on total vehicle miles traveled. Using the per capita approach focuses the analysis on the effects of the proposed Plan’s transportation investments and programs and land use patterns on induced vehicle travel.
IMPACT ANALYSIS

2020

Regional Growth and Land Use Change and Transportation Network Improvements and Programs

From 2012 to 2020, regional population is forecast to increase by 292,284 people (9 percent), 83,866 housing units (7 percent), and 173,211 jobs (13 percent). The proposed Plan focuses this growth in areas of existing urban development, and near existing and planned transit corridors. Of the planned transportation network improvements by 2020, the general purpose (GP) freeway lanes, managed lanes, and arterials are the most likely to induce VMT. These improvements include new Managed Lanes along I-5 from Manchester Avenue to SR 78 and I-805 from Carroll Canyon Road to SR 52, new toll lanes on SR 11 to the Otay Mesa POE, new general purpose lanes along a portion of SR 76, and improvements to local arterial streets at locations throughout the region, including new vehicle lanes and extensions of existing roadways.

As shown in Table 4.15-8, 51 lane miles of GP highway and freeway lanes, 66 lane miles of managed lanes and toll lanes, and 508 lane miles of arterials are planned by 2020, for a total increase of 625 lane miles (about 5 percent).

<table>
<thead>
<tr>
<th>Improvement</th>
<th>2012 (lane miles)</th>
<th>2020 (lane miles)</th>
<th>Increase in Lane Miles</th>
<th>Percent Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Purpose Lanes (Freeway and State Highway)</td>
<td>3,043</td>
<td>3,094</td>
<td>51</td>
<td>1.7</td>
</tr>
<tr>
<td>Managed Lanes/Toll Lanes</td>
<td>135</td>
<td>201</td>
<td>66</td>
<td>48.9</td>
</tr>
<tr>
<td>Arterials</td>
<td>9,673</td>
<td>10,181</td>
<td>508</td>
<td>5.3</td>
</tr>
<tr>
<td>Total</td>
<td>12,851</td>
<td>13,476</td>
<td>625</td>
<td>4.9</td>
</tr>
</tbody>
</table>

Source SANDAG 2015i.

The increases in lane miles are compared to changes in drive alone mode share and average daily per capita VMT to determine whether the proposed Plan would induce substantial vehicle travel. Table 4.5-9 shows peak period work trip mode share and average daily per capita VMT for 2012 and 2020.

<table>
<thead>
<tr>
<th>Measure</th>
<th>2012</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walk, bike, transit and carpool mode share</td>
<td>56.60%</td>
<td>58.45%</td>
</tr>
<tr>
<td>drive alone</td>
<td>42.0%</td>
<td>40.04%</td>
</tr>
<tr>
<td>carpool</td>
<td>42.93%</td>
<td>44.04%</td>
</tr>
<tr>
<td>transit</td>
<td>1.98%</td>
<td>2.43%</td>
</tr>
<tr>
<td>walk/bike</td>
<td>12.08%</td>
<td>12.51%</td>
</tr>
<tr>
<td>Average Daily VMT Per Capita</td>
<td>25.2</td>
<td>24.62</td>
</tr>
</tbody>
</table>

Source: SANDAG 2015h.

Note: the revised numbers in this table reflect the minor modifications to the project description and improved representation of local streets and roads in the regional transportation model.
From 2012 to 2020, the percentage of drive-alone peak period work trips would decrease by approximately two percent, while the percentage of such trips on other modes would increase by approximately two percent. In addition, average VMT per capita would decrease by about 0.5 mile per day by 2020. At the same time, lane miles on highways, freeways, managed lanes, toll lanes, and arterials would increase by about 5 percent over the same time period. Therefore, the increase in lane miles would not induce substantial vehicle travel. This impact is less than significant.

**2020 Conclusion**

Implementation of regional growth and land use change as well as transportation network improvements and programs associated with the proposed Plan would not induce substantial vehicle travel. Therefore, this impact (T-2) in the year 2020 is less than significant.

**2035**

**Regional Growth and Land Use Change and Transportation Network Improvements and Programs**

From 2012 to 2035, regional population is forecasted to increase by 710,269 people (23 percent), 228,965 housing units (20 percent), and 319,025 jobs (24 percent). The proposed Plan focuses this growth in areas of existing urban development, and near existing and planned transit corridors. Of the planned transportation network improvements by 2035, the general purpose (GP) freeway lanes, managed lanes, and arterials are the most likely to induce VMT. These improvements include additional Managed Lanes along certain portions of I-5 between SR 905 and SR 78, as well as portions of SR 15 and I-15, SR 78, SR 94, and I-805. General purpose lanes would be added along I-5 from SR 54 to SR 15, and portions of SR 52 and SR 67, and there would be improvements to local arterial streets, including extensions and new vehicle lanes.

As shown in Table 4.15-10, 83 lane miles of GP freeway lanes, 249 lane miles of managed lanes, and 960 lane miles of arterials are planned for 2035, for a total increase of almost 1,300 lane miles (about 10 percent).

**Table 4.15-10**

<table>
<thead>
<tr>
<th>Improvement</th>
<th>2012 (lane miles)</th>
<th>2035 (lane miles)</th>
<th>Increase in Lane Miles</th>
<th>Percent Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Purpose Lanes (Freeway and State Highway)</td>
<td>3,043</td>
<td>3,126</td>
<td>83</td>
<td>2.7</td>
</tr>
<tr>
<td>Managed Lanes/Toll Lanes</td>
<td>135</td>
<td>384</td>
<td>249</td>
<td>184.4</td>
</tr>
<tr>
<td>Arterials</td>
<td>9,673</td>
<td>10,633</td>
<td>960</td>
<td>9.9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>12,851</strong></td>
<td><strong>14,143</strong></td>
<td><strong>1,292</strong></td>
<td><strong>10.1</strong></td>
</tr>
</tbody>
</table>

Source: SANDAG 2015i.

The increases in lane miles are compared to changes in drive alone mode share and average daily per capita VMT to determine whether the proposed Plan would induce substantial vehicle travel. Table 4.5-11 shows peak period work trip mode share and average daily per capita VMT for 2012 and 2035.
Table 4.15-11
Peak Period Work Trip Mode Share and Average Daily Per Capita VMT, 2012 and 2035

<table>
<thead>
<tr>
<th>Measure</th>
<th>2012</th>
<th>2035</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walk, bike, transit and carpool mode share</td>
<td>56.60%</td>
<td>58.874%</td>
</tr>
<tr>
<td>drive alone</td>
<td>42.0%</td>
<td>39.5%</td>
</tr>
<tr>
<td>carpool</td>
<td>42.93%</td>
<td>43.04%</td>
</tr>
<tr>
<td>transit</td>
<td>1.98%</td>
<td>3.34%</td>
</tr>
<tr>
<td>walk/bike</td>
<td>11.842.5%</td>
<td>12.513.5%</td>
</tr>
<tr>
<td>Average Daily VMT Per Capita</td>
<td>25.2</td>
<td>23.56</td>
</tr>
</tbody>
</table>

Source: SANDAG 2015h.

Note: the revised numbers in this table reflect the minor modifications to the project description and improved representation of local streets and roads in the regional transportation model.

From 2012 to 2035, the percentage of drive-alone peak period work trips would decrease by over two percent, while the percentage of such trips on other modes would increase by approximately two percent. In addition, average VMT per capita would decrease by about 1.5 miles per day by 2035. At the same time, lane miles on highways, freeways, managed lanes, toll lanes, and arterials would increase by about 10 percent over the same time period. Therefore, the increase in lane miles would not induce substantial vehicle travel. This impact is less than significant.

2035 Conclusion

Implementation of regional growth and land use change as well as transportation network improvements and programs associated with the proposed Plan would not induce substantial vehicle travel. Therefore, this impact (T-2) in the year 2035 is less than significant.

2050

Regional Growth and Land Use Change and Transportation Network Improvements and Programs

From 2012 to 2050, regional population is forecasted to increase by 925,330 people (29 percent), 326,117 housing units (28 percent), and 460,492 jobs (34 percent). The proposed Plan focuses this growth in areas of existing urban development, and near existing and planned transit corridors. Of the planned transportation network improvements by 2050, the general purpose (GP) freeway lanes, managed lanes, and arterials are the most likely to induce VMT. These improvements include additional Managed Lanes along portions of I-5, SR 15 and I-15, I-805, SR 52, SR 54, SR 94, and SR 125; new general purpose lanes along portions of I-8, SR 15, SR 52, SR 56, SR 67, SR 76, SR 94, and SR 125; and highway operational improvements along portions of I-5, I-8, and SR 76. New toll lanes would be added along I-5 from Vandegrift Boulevard to the Orange County border and along I-15 from SR 78 to the Riverside County border. There would be additional arterial improvements, including extensions and new vehicle lanes.

As shown in Table 4.15-12, 264 lane miles of GP freeway lanes, 480 lane miles of managed lanes, and 1,013 lane miles of arterials are planned by 2050, for a total increase of about 1,800 lane miles (about 14 percent).
Table 4.15-12
Increases in Lane Miles, 2012 and 2050

<table>
<thead>
<tr>
<th>Improvement</th>
<th>2012 (lane miles)</th>
<th>2050 (lane miles)</th>
<th>Increase in Lane Miles</th>
<th>Percent Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Purpose Lanes (Freeway and State Highway)</td>
<td>3,043</td>
<td>3,307</td>
<td>264</td>
<td>8.7</td>
</tr>
<tr>
<td>Managed Lanes/Toll Lanes</td>
<td>135</td>
<td>615</td>
<td>480</td>
<td>355.5</td>
</tr>
<tr>
<td>Arterials</td>
<td>9,673</td>
<td>10,686</td>
<td>1,013</td>
<td>10.5</td>
</tr>
<tr>
<td>Total</td>
<td>12,851</td>
<td>14,608</td>
<td>1,757</td>
<td>13.7</td>
</tr>
</tbody>
</table>

Source: SANDAG 2015i.

The increases in lane miles are compared to changes in drive alone mode share and average daily per capita VMT to determine whether the proposed Plan would induce substantial vehicle travel. Table 4.15-13 shows peak period work trip mode share and average daily per capita VMT for 2012 and 2050.

Table 4.15-13
Peak Period Work Trip Mode Share and Average Daily Per Capita VMT, 2012 and 2050

<table>
<thead>
<tr>
<th>Measure</th>
<th>2012</th>
<th>2050</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walk, bike, transit and carpool mode share</td>
<td>56.60%</td>
<td>60.17%</td>
</tr>
<tr>
<td>drive alone</td>
<td>42.0%</td>
<td>38.10%</td>
</tr>
<tr>
<td>carpool</td>
<td>42.93%</td>
<td>41.84%</td>
</tr>
<tr>
<td>transit</td>
<td>1.98%</td>
<td>3.83%</td>
</tr>
<tr>
<td>walk/bike</td>
<td>12.511.8%</td>
<td>14.515.4%</td>
</tr>
<tr>
<td>Average Daily VMT Per Capita</td>
<td>25.2</td>
<td>23.24</td>
</tr>
</tbody>
</table>

Source: SANDAG 2015h.

Note: the revised numbers in this table reflect the minor modifications to the project description and improved representation of local streets and roads in the regional transportation model.

From 2012 to 2050, the percentage of drive-alone peak period work trips would decrease by approximately four percent, while the percentage of such trips on other modes would increase by over three percent. In addition, average VMT per capita would decrease by about almost two miles per day by 2050. At the same time, lane miles on highways, freeways, managed lanes, toll lanes, and arterials would increase by about 14 percent over the same time period. Therefore, the increase in lane miles would not induce substantial vehicle travel. This impact is less than significant.

2050 Conclusion

Implementation of regional growth and land use change as well as transportation network improvements and programs associated with the proposed Plan would not induce substantial vehicle travel. Therefore, this impact (T-2) in the year 2050 is less than significant.
T-3 DECREASE THE PERFORMANCE OF PUBLIC TRANSIT, BICYCLE, OR PEDESTRIAN FACILITIES.

ANALYSIS METHODOLOGY

This section analyzes whether implementation of the proposed Plan would decrease the performance of transit, bicycle, and pedestrian facilities compared to 2010 conditions. The impact analysis uses performance measures from the proposed Plan related to the performance of public transit, walking, and biking facilities. Because the proposed Plan identifies forecasted regional growth and land use change and planned transportation network improvements and programs for the entire region, the performance measures used in this section reflect the combined effect of the proposed Plan’s regional growth and land use change and transportation network improvements and programs on public transit, bicycle and pedestrian facility performance.

IMPACT ANALYSIS

2020

Regional Growth and Land Use Change and Transportation Network Improvements and Programs

Of the planned transportation network improvements by 2020, the most relevant to this impact analysis include double-tracking at certain locations on the LOSSAN rail corridor, increases in COASTER frequencies, completion of the Mid-Coast Trolley Extension from Old Town to University City, the South Bay Rapid Bus from the Otay Mesa ITC to Downtown San Diego, Rapid Bus Route 905 from Iris to the Otay Mesa POE, increases in local bus service frequencies, express bus routes to SDIA and Tijuana International Airport, a San Marcos shuttle, construction of two transit-only lanes on SR 15 between I-805 and I-8, and approximately 24 regional active transportation projects.

The proposed Plan further supports compact, transit-oriented development through safe routes to transit and safe routes to schools strategies, mobility hubs, shared mobility services, bicycle network facilities, vanpools, carpools, and buspools. Active transportation improvements related to highway and freeway interchanges, rail-grade separations, and implementation of Complete Streets policies and improvements further enhance the proposed Plan’s transportation network improvements related to transit and active transportation. Table 4.15-14 summarizes measures related to the performance of public transit, walking, and biking facilities under implementation of the proposed Plan.

<table>
<thead>
<tr>
<th>Performance Measure</th>
<th>2012</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peak period transit mode share</td>
<td>1.98%</td>
<td>2.43%</td>
</tr>
<tr>
<td>Peak period walk/bike mode share</td>
<td>11.812%</td>
<td>12.08%</td>
</tr>
<tr>
<td>Percentage of population within 0.5 miles of a high frequency transit stop</td>
<td>35%</td>
<td>51%</td>
</tr>
<tr>
<td>Percentage of employment within 0.5 miles of a high frequency transit stop</td>
<td>42%</td>
<td>62%</td>
</tr>
<tr>
<td>Percentage of population within 0.5 miles of a transit stop</td>
<td>78.2%</td>
<td>78.2%</td>
</tr>
<tr>
<td>Percentage of employment within 0.5 miles of a transit stop</td>
<td>84%</td>
<td>87%</td>
</tr>
<tr>
<td>Percentage of population within 0.25 miles of a bike facility</td>
<td>56%</td>
<td>59.6%</td>
</tr>
<tr>
<td>Percentage of employment within 0.25 miles of a bike facility</td>
<td>696.8%</td>
<td>72%</td>
</tr>
<tr>
<td>Average Peak Period Travel Time to Work on Transit (minutes)</td>
<td>50.44</td>
<td>49.98</td>
</tr>
</tbody>
</table>
As shown in Table 4.15-14, by 2020 there would be a greater percentage of peak period transit and walk/bike trips to work, a greater percentage of population and jobs within proximity to high frequency transit stops and bike facilities, and substantially more daily transit boardings. The percentage of population within 0.5 miles of a transit stop and average peak period travel time to work on transit would remain about the same. Therefore, the proposed Plan would not impair the performance of public transit, bicycle, or pedestrian facilities.

**2020 Conclusion**

Implementation of regional growth and land use change as well as transportation network improvements and programs associated with the proposed Plan would not impair the performance of public transit, bicycle, or pedestrian facilities. Therefore, this impact (T-3) in the year 2020 is less than significant.

**2035**

*Regional Growth and Land Use Change and Transportation Network Improvements and Programs*

Of the planned transportation network improvements by 2035, the most relevant to this impact analysis include double-tracking at additional locations, new stations, and a grade separation along the LOSSAN rail corridor; additional increases in COASTER frequencies including an extension of service to MCB Camp Pendleton and the Gaslamp District in Downtown San Diego; double-tracking of the SPRINTER corridor from Oceanside to Escondido; SPRINTER frequency enhancements and rail grade separations; frequency enhancements and rail grade separations for the Trolley Blue and Orange Lines; an extension of the Trolley from UTC to Mira Mesa via Sorrento Mesa/Carroll Canyon including a connection with the COASTER; an extension of the Trolley from San Ysidro to Kearny Mesa via Mission Valley, Mid-City, Southeast San Diego, National City, and Chula Vista via Highland and 4th avenues; substantial increases in Rapid bus service; additional increases in local bus service; three new streetcars; Intermodal Transit Centers at SDIA and San Ysidro (Phase I), and approximately 50 additional regional active transportation projects.

The proposed Plan further supports compact, transit-oriented development through safe routes to transit and safe routes to schools strategies, mobility hubs, shared mobility services, bicycle network facilities, vanpools, carpools, and buspools. Active transportation improvements related to highway and freeway interchanges, rail-grade separations, and implementation of Complete Streets policies and improvements further enhance the proposed Plan’s transportation network improvements related to transit and active transportation. Table 4.15-15 summarizes measures related to the performance of public transit, walking, and biking facilities under implementation of the proposed Plan.

As shown in Table 4.15-15, by 2035 there would be a greater percentage of peak period transit and walk/bike trips to work, a greater percentage of population and jobs within proximity to transit stops, high frequency transit stops and bike facilities, and substantially more daily transit boardings. Average peak period travel time to work on transit would decrease. Therefore, the proposed Plan would not impair the performance of public transit, bicycle, or pedestrian facilities.
Table 4.15-15
Public Transit, Bicycle, and Pedestrian Facility Performance Measures, 2012 and 2035

<table>
<thead>
<tr>
<th>Performance Measure</th>
<th>2012</th>
<th>2035</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peak period transit mode share</td>
<td>1.98%</td>
<td>3.34%</td>
</tr>
<tr>
<td>Peak period walk/bike mode share</td>
<td>11.812.5%</td>
<td>12.543.5%</td>
</tr>
<tr>
<td>Percentage of population within 0.5 miles of a high frequency transit stop</td>
<td>35%</td>
<td>58%</td>
</tr>
<tr>
<td>Percentage of employment within 0.5 miles of a high frequency transit stop</td>
<td>42%</td>
<td>6968%</td>
</tr>
<tr>
<td>Percentage of population within 0.5 miles of a transit stop</td>
<td>78.77%</td>
<td>79.78%</td>
</tr>
<tr>
<td>Percentage of employment within 0.5 miles of a transit stop</td>
<td>84%</td>
<td>88.87%</td>
</tr>
<tr>
<td>Percentage of population within 0.25 miles of a bike facility</td>
<td>56%</td>
<td>61.62%</td>
</tr>
<tr>
<td>Percentage of employment within 0.25 miles of a bike facility</td>
<td>698%</td>
<td>73.24%</td>
</tr>
<tr>
<td>Average Peak Period Travel Time to Work on Transit (minutes)</td>
<td>50.43</td>
<td>46.84</td>
</tr>
<tr>
<td>Daily Transit Boardings</td>
<td>356,417</td>
<td>774,727</td>
</tr>
<tr>
<td></td>
<td>366,270</td>
<td>787,313</td>
</tr>
</tbody>
</table>

Source: SANDAG 2015h.

Note: the revised numbers in this table reflect the minor modifications to the project description and improved representation of local streets and roads in the regional transportation model.

2035 Conclusion

Implementation of regional growth and land use change as well as transportation network improvements and programs associated with the proposed Plan would not impair the performance of public transit, bicycle, or pedestrian facilities. Therefore, this impact (T-3) in the year 2035 is less than significant.

2050

Regional Growth and Land Use Change and Transportation Network Improvements and Programs

Of the planned transportation network improvements by 2050, the most relevant to this impact analysis include completion of double-tracking on the LOSSAN rail corridor, as well as the Del Mar Tunnel and grade separations; an extension of the SPRINTER to Westfield North County; the SPRINTER Express; Blue Line Trolley rail grade separations; transition of the Mid-City Rapid Bus from SDSU to Downtown San Diego to Trolley; Trolley extensions from Pacific Beach to Balboa, Balboa to Kearny Mesa, Kearny Mesa to El Cajon Transit Center, and Kearny Mesa to Carmel Valley; substantial increases in Rapid bus services; a streetcar from Mission Beach to La Jolla; Phase II of the San Ysidro ITC, and nearly 60 additional regional active transportation projects.

The proposed Plan further supports compact, transit-oriented development through safe routes to transit and safe routes to schools strategies, mobility hubs, shared mobility services, bicycle network facilities, vanpools, carpools, and buspools. Active transportation improvements related to highway and freeway interchanges, rail-grade separations, and implementation of Complete Streets policies and improvements further enhance the proposed Plan’s transportation network improvements related to transit and active transportation. Table 4.15-16 summarizes measures related to the performance of public transit, walking, and biking facilities under implementation of the proposed Plan.
Table 4.15-16
Public Transit, Bicycle, and Pedestrian Facility Performance Measures, 2012 and 2050

<table>
<thead>
<tr>
<th>Performance Measure</th>
<th>2012</th>
<th>2050</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peak period transit mode share</td>
<td>1.98%</td>
<td>3.7%</td>
</tr>
<tr>
<td>Peak period walk/bike mode share</td>
<td>11.8%</td>
<td>14.5%</td>
</tr>
<tr>
<td>Percentage of population within 0.5 miles of a high frequency transit stop</td>
<td>35%</td>
<td>61%</td>
</tr>
<tr>
<td>Percentage of employment within 0.5 miles of a high frequency transit stop</td>
<td>42%</td>
<td>71%</td>
</tr>
<tr>
<td>Percentage of population within 0.5 miles of a transit stop</td>
<td>78%</td>
<td>80%</td>
</tr>
<tr>
<td>Percentage of employment within 0.5 miles of a transit stop</td>
<td>84%</td>
<td>88%</td>
</tr>
<tr>
<td>Percentage of population within 0.25 miles of a bike facility</td>
<td>56%</td>
<td>64%</td>
</tr>
<tr>
<td>Percentage of employment within 0.25 miles of a bike facility</td>
<td>69%</td>
<td>75%</td>
</tr>
<tr>
<td>Average Peak Period Travel Time to Work on Transit (minutes)</td>
<td>50.44</td>
<td>45.34</td>
</tr>
<tr>
<td>Daily Transit Boardings</td>
<td>356,417</td>
<td>946,995</td>
</tr>
<tr>
<td></td>
<td>366,270</td>
<td>971,796</td>
</tr>
</tbody>
</table>

Source: SANDAG 2015h.

Note: the revised numbers in this table reflect the minor modifications to the project description and improved representation of local streets and roads in the regional transportation model.

As shown in Table 4.15-16, by 2050 there would be a greater percentage of peak period transit and walk/bike trips to work, a greater percentage of population and jobs within proximity to transit stops, high frequency transit stops, and bike facilities, and substantially more daily transit boardings. Average peak period travel time to work on transit would decrease. Therefore, the proposed Plan would not impair the performance of public transit, bicycle, or pedestrian facilities.

2050 Conclusion

Implementation of regional growth and land use change as well as transportation network improvements and programs associated with the proposed Plan would not impair the performance of public transit, bicycle, or pedestrian facilities. Therefore, this impact (T-3) in the year 2050 is less than significant.

T-4 RESULT IN A SUBSTANTIALLY HIGHER RATE OF SYSTEMWIDE ACCIDENTS, COLLISIONS, INJURIES, OR FATALITIES (BY MODE).

ANALYSIS METHODOLOGY

This section compares existing systemwide safety data in 2012 to projections for 2020, 2035, and 2050 under implementation of the proposed Plan. Two metrics are used: (1) annual number of vehicle injury/fatal collisions per thousand vehicle miles traveled (VMT) and (2) annual number of bicycle/pedestrian injury/fatal collisions per thousand bicyclist/pedestrian miles traveled (BPMT) (SANDAG 2015f).
IMPACT ANALYSIS

2020

Regional Growth and Land Use Change and Transportation Network Improvements and Programs

By 2020 major transportation network improvements and programs would include double-tracking at certain locations on the LOSSAN rail corridor, increases in COASTER frequencies, completion of the Mid-Coast Trolley Extension from Old Town to University City, the South Bay Rapid Bus from the Otay Mesa ITC to Downtown San Diego, Rapid Bus Route 905 from Iris to the Otay Mesa POE, increases in local bus service frequencies, express bus routes to SDIA and Tijuana International Airport, a San Marcos shuttle, and construction of two transit-only lanes on SR 15 between I-805 and I-8.

Additional major transportation network improvements would include new Managed Lanes along I-5 from Manchester Avenue to SR 78 and I-805 from Carroll Canyon Road to SR 52, new toll lanes on SR 11 to the Otay Mesa POE, new general purpose lanes along a portion of SR 76, and a new freeway connector at SR 11 and SR 905. In addition, approximately 24 regional active transportation projects would be constructed by 2020. Several of the active transportation projects are in the City of San Diego, but also in other jurisdictions in coastal and inland north county and in South Bay. Most bike projects would include safety improvements not only for bicyclists but for all roadway users, such as shortened pedestrian crossing distances at intersections, protected bikeways, and measures to calm vehicle traffic.

The proposed Plan also incorporates safe bike and pedestrian access into investments for other modes of travel, including public transit and highway improvements (see Figure 2.0-20). For example, the proposed Plan includes the incorporation of safer crossings at all future freeway and highway interchanges. Grade separation projects also reduce conflicts between rail and other users, including vehicles, pedestrians, and bicyclists. The SANDAG Regional Complete Streets Policy integrates requirements for safe and accessible street design for all modes of travel, and in particular allow for traffic calming and other safety measures, into SANDAG’s transportation network improvement projects.

Safe Routes to Schools and Safe Routes to Transit plans would further enhance safety for all modes by improving safety conditions in the built environment, educating students, engaging community members, enforcing traffic laws, and instituting programs designed to address personal security concerns. The Safe Routes to School and Safe Routes to Transit programs would help achieve this by reducing peak period vehicle trips and making active transportation more viable and attractive options. TSM/TDM programs that improve safety include vehicle technologies, mobility hubs, and the commuter services and bike program. Table 4.15-17 shows the existing and projected annual injuries/fatalities for vehicle miles traveled and bicyclist/pedestrian miles traveled.

Table 4.15-17
Annual Rate of Injuries/Fatalities for Vehicles and Bicyclists/Pedestrians, 2012 and 2020

<table>
<thead>
<tr>
<th>Mode</th>
<th>Performance Measure</th>
<th>2012</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicle</td>
<td>Annual vehicle (driver/passenger) injury/fatal collisions per thousand vehicle miles traveled (VMT)</td>
<td>0.12</td>
<td>0.12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.13</td>
<td>0.13</td>
</tr>
<tr>
<td>Bicycle/Pedestrian</td>
<td>Annual bicycle/pedestrian injury/fatal collisions per thousand bicyclist/pedestrian miles traveled (BPMT)</td>
<td>1.42</td>
<td>1.41</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.33</td>
<td>1.33</td>
</tr>
</tbody>
</table>

Source: SANDAG 2015h.

Note: the revised numbers in this table reflect the minor modifications to the project description and improved representation of local streets and roads in the regional transportation model.
As shown, the rate of injury/fatal collisions for bicycles and pedestrians would improve by 2020 under implementation of the proposed Plan. The rate of injury/fatal collisions for vehicles remains constant from 2012 to 2020. However, this rate is based on existing collision rates and does not account for the proposed Plan’s TSM and TDM investments or other vehicle technologies, which have historically been shown to improve safety. The proposed Plan includes robust TSM and TDM investments such as Active Traffic and Demand Management (ATDM), Arterial Management, and Connected Vehicle programs that would further lower the accident rates that were modeled. This impact is less than significant.

2020 Conclusion

Implementation of regional growth and land use change as well as transportation network improvements and programs associated with the proposed Plan would not result in a substantially higher rate of systemwide accidents, collisions, injuries, or fatalities. Therefore, this impact (T-4) in the year 2020 is less than significant.

2035

Regional Growth and Land Use Change and Transportation Network Improvements and Programs

In 2035, major transportation network improvements and programs (in addition to those identified for 2020) would include double-tracking at additional locations, new stations, and a grade separation along the LOSSAN rail corridor; additional increases in COASTER frequencies including an extension of service to MCB Camp Pendleton and the Gaslamp District in Downtown San Diego; double-tracking of the SPRINTER corridor from Oceanside to Escondido; SPRINTER frequency enhancements and rail grade separations; frequency enhancements and rail grade separations for the Trolley Blue and Orange Lines; an extension of the Trolley from UTC to Mira Mesa via Sorrento Mesa/Carroll Canyon including a connection with the COASTER; an extension of the Trolley from San Ysidro to Kearny Mesa via Mission Valley, Mid-City, Southeast San Diego, National City, and Chula Vista via Highland and 4th avenues; substantial increases in Rapid bus service; additional increases in local bus service; three new streetcars; and Intermodal Transit Centers at SDIA and San Ysidro (Phase I).

Additional major transportation network improvements by 2035 would include additional Managed Lanes along certain portions of I-5 between SR 905 and SR 78, as well as portions of SR 15 and I-15, SR 78, SR 94, and I-805. General purpose lanes would be added along I-5 from SR 54 to SR 15, and portions of SR 52 and SR 67. Six Managed Lane connectors would be added along portions of I-5, SR 15, I-15, and I-805, and five freeway connectors would be added along portions of I-5, SR 94, and SR 11/SR 905. In addition there would be approximately 50 additional regional active transportation projects in locations throughout the region.

The active transportation projects identified in the proposed Plan include safety improvements not only for bicyclists but also for pedestrians, including shortened crossing distances at intersections. The Plan also incorporates safe bike and pedestrian access into investments for other modes of travel, including public transit and highway improvements (see Figure 2.0-20). For example, the proposed Plan includes the incorporation of safer crossings at all future freeway and highway interchanges. As described in the year 2020 analysis above, grade separation projects in addition to Complete Streets policies, and Safe Routes to Schools and Safe Routes to Transit plans, will further enhance safety for all modes. Table 4.15-18 shows the existing and projected annual injuries/fatalities for vehicle miles traveled and bicyclist/pedestrian miles traveled for 2012 and 2035.
### 4.15 Transportation

#### Table 4.15-18

<table>
<thead>
<tr>
<th>Mode</th>
<th>Performance Measure</th>
<th>2012</th>
<th>2035</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Vehicle</strong></td>
<td>Annual vehicle (driver/passenger) injury/fatal collisions per thousand vehicle miles traveled (VMT)</td>
<td>0.12</td>
<td>0.13</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.13</td>
<td>0.13</td>
</tr>
<tr>
<td><strong>Bicycle/Pedestrian</strong></td>
<td>Annual bicycle/pedestrian injury/fatal collisions per thousand bicyclist/pedestrian miles traveled (BPMT)</td>
<td>1.42</td>
<td>1.38</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.35</td>
<td>1.29</td>
</tr>
</tbody>
</table>

Source: SANDAG 2015h.

Note: the revised numbers in this table reflect the minor modifications to the project description and improved representation of local streets and roads in the regional transportation model.

As shown, the rate of injury/fatal collisions for bicycles and pedestrians would improve by 2035 under implementation of the proposed Plan. The rate of injury/fatal collisions for vehicles remains constant from 2012 to 2035. However, this rate is based on existing collision rates and does not account for the proposed Plan’s TSM and TDM investments or other vehicle technologies, which have historically been shown to improve safety. The proposed Plan includes robust TSM and TDM investments such as Active Traffic and Demand Management (ATDM), Arterial Management, and Connected Vehicle programs that would further lower the accident rates that were modeled. This impact is less than significant.

**2035 Conclusion**

Implementation of regional growth and land use change as well as transportation network improvements and programs associated with the proposed Plan would not result in a substantially higher rate of systemwide accidents, collisions, injuries, or fatalities. Therefore, this impact (T-4) in the year 2035 is less than significant.

**2050**

**Regional Growth and Land Use Change and Transportation Network Improvements and Programs**

By 2050, major transportation network improvements and programs (in addition to those identified by 2020 and 2035) would include completion of double-tracking on the LOSSAN rail corridor, as well as the Del Mar Tunnel and grade separations; an extension of the SPRINTER to Westfield North County; the SPRINT Express; Blue Line Trolley rail grade separations; transition of the Mid-City Rapid Bus from SDSU to Downtown San Diego to Trolley; Trolley extensions from Pacific Beach to Balboa, Balboa to Kearny Mesa, Kearny Mesa to El Cajon Transit Center, and Kearny Mesa to Carmel Valley; substantial increases in Rapid bus services; a streetcar from Mission Beach to La Jolla; and Phase II of the San Ysidro ITC.

Additional major transportation network improvements by 2050 include additional Managed Lanes along portions of I-5, SR 15 and I-15, I-805, SR 52, SR 54, SR 94, and SR 125; new general purpose lanes along portions of I-8, SR 15, SR 52, SR 56, SR 67, SR 76, SR 94, and SR 125; and highway operational improvements along portions of I-5, I-8, and SR 76. There would be new Managed Lane connectors along I-15 and I-805 at SR 52, and one new freeway connector at I-15 and SR 56. New toll lanes would be added along I-5 from Vandegrift Boulevard to the Orange County border and along I-15 from SR 78 to the Riverside County border. There also would be nearly 60 additional regional active transportation projects.
The active transportation projects identified in the proposed Plan include safety improvements not only for bicyclists but also for pedestrians, including shortened crossing distances at intersections. The Plan also incorporates safe bike and pedestrian access into investments for other modes of travel, including public transit and highway improvements (see Figure 2.0-20). For example, the proposed Plan includes the incorporation of safer crossings at all future freeway and highway interchanges. As described in the year 2020 analysis above, grade separation projects in addition to Complete Streets policies, and Safe Routes to Schools and Safe Routes to Transit plans, will further enhance safety for all modes. Table 4.15-19 shows the existing and projected annual injuries/fatalities for vehicle miles traveled and bicyclist/pedestrian miles traveled for 2012 and 2050.

### Table 4.15-19

<table>
<thead>
<tr>
<th>Mode</th>
<th>Performance Measure</th>
<th>2012</th>
<th>2050</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Vehicle</strong></td>
<td>Annual vehicle (driver/passenger) injury/fatal collisions per thousand vehicle miles traveled (VMT)</td>
<td>0.12</td>
<td>0.12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.13</td>
<td>0.13</td>
</tr>
<tr>
<td><strong>Bicycle/Pedestrian</strong></td>
<td>Annual bicycle/pedestrian injury/fatal collisions per thousand bicyclist/pedestrian miles traveled (BPMT)</td>
<td>1.42</td>
<td>1.18</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.38</td>
<td>1.13</td>
</tr>
</tbody>
</table>

Source: SANDAG 2015h.

Note: the revised numbers in this table reflect the minor modifications to the project description and improved representation of local streets and roads in the regional transportation model.

As shown, the rate of injury/fatal collisions for bicycles and pedestrians would improve by 2050 under implementation of the proposed Plan. The rate of injury/fatal collisions for vehicles remains constant from 2012 to 2050. However, this rate is based on existing collision rates and does not account for the proposed Plan’s TSM and TDM investments or other vehicle technologies, which have historically been shown to improve safety. The proposed Plan includes robust TSM and TDM investments such as Active Traffic and Demand Management (ATDM), Arterial Management, and Connected Vehicle programs that would further lower the accident rates that were modeled. This impact is less than significant.

### 2050 Conclusion

Implementation of regional growth and land use change as well as transportation network improvements and programs associated with the proposed Plan would not result in a substantially higher rate of systemwide accidents, collisions, injuries, or fatalities. Therefore, this impact (T-4) in the year 2050 is less than significant.

### T-5 RESULT IN LOSS OF PARKING SUPPLY THAT CAUSES SIGNIFICANT ADVERSE ENVIRONMENTAL IMPACTS.

**ANALYSIS METHODOLOGY**

This section analyzes whether the implementation of planned transportation network improvements would cause a loss of parking supply that causes significant adverse environmental impacts. This analysis identifies the proposed Plan’s transportation network improvements that would result in the removal of on-street parking, such as active transportation projects, transit projects, and street cars. The analysis describes the general location of these types of projects, and determines whether the loss of parking in these areas would cause significant adverse environmental impacts. The analysis also takes into account the proposed Plan’s transportation programs that reduce parking demand. Secondary impacts from the loss of parking supply under the proposed Plan, such as vehicle miles traveled, air quality, GHG emissions, and noise are addressed under the significance criteria of other EIR resource topics.
IMPACT ANALYSIS

2020

Regional Growth and Land Use Change

Transportation Network Improvements and Programs

There would be several transportation network improvements by 2020 that would affect the supply of parking. Approximately 24 regional active transportation projects would be constructed by 2020. Several of the active transportation projects are in the City of San Diego, but also in other jurisdictions in coastal and inland north county and in coastal south county. Many of these active transportation projects as well as Rapid bus service would occur within existing roadway rights-of-way. In some cases, there would be adequate right-of-way to accommodate active transportation projects without changes to existing on-street parking. Bikeway projects located in urban areas of the City of San Diego and the City of Imperial Beach, in particular, would be located in areas with constrained rights-of-way. For areas with constrained right-of-way, vehicle lanes and/or on-street parking would be used for the active transportation projects. In areas where the on-street parking lane is used for the project, the parking would be reconfigured (e.g., parallel parking replaced with diagonal parking), relocated (e.g., moved to a nearby street or property), and/or removed, as dictated by project-specific circumstances.

As explained below, the relocation, removal, or reconfiguration of parking within these areas as necessary to support planned transportation network improvements would not cause significant adverse environmental impacts.

Many existing SANDAG programs as well as new proposed Plan transportation programs are specifically designed to minimize vehicular traffic demand and reduce parking demand. Transit Oriented Development, along with SANDAG’s Urban Area Transit Strategy, Regional Complete Streets Strategy, TDM policies, and Regional Bike Plan, are all examples of programs that address a multimodal approach to meeting travel demand, reduce reliance on vehicle travel, and reduce parking demand.

Further, smart parking strategies discussed in the proposed Plan combine management strategies and technology to deliver advanced parking solutions for communities. Smart parking systems inform people where, when, and how much parking is available at their destination. Smart parking systems collect, analyze and report data to help determine, for example, how public parking lots are being used, and provide insights that can lead to more efficient use of the available parking. Information like this helps people decide when to leave, whether to travel by car or by transit, what public transit service to take, or what route to choose.

Additional programs that reduce parking demand include “mobility hubs” (transportation centers in smart growth areas with high frequency transit service that feature things like bikeshare, carshare, neighborhood electric vehicles, scootershare, bike parking, dynamic parking strategies, real-time ridesharing, and improved connectivity for bikes and pedestrians), Safe Routes to School, Safe Routes to Transit, Guaranteed Ride Home, Regional Bike Parking Program, and investments to expand the reach of shared-use mobility (e.g., Uber, Lyft). These programs also further a multimodal approach to meeting travel demand, reduce reliance on vehicle travel, and reduce parking demand.
Based on the above analysis, planned transportation network improvements would not result in loss of parking supply that causes significant adverse environmental impacts. This is a less than significant impact.

**2020 Conclusion**

Implementation of the planned transportation network improvements and programs would not result in loss of parking supply that causes significant adverse environmental impacts. Therefore, this impact (T-5) in the year 2020 is less than significant.

**2035**

**Transportation Network Improvements and Programs**

Of the planned transportation network improvements by 2035, the most likely to impact existing on-street parking include: Rapid services, three new streetcars, and approximately 50 additional regional active transportation projects in locations throughout the region.

Except for off-facility bike paths, most of these active transportation projects as well as Rapid and streetcar projects would occur within existing rights-of-way, some of which may contain on-street parking that may be required to be relocated, removed, and/or reconfigured. Bikeway and streetcar projects located in urban areas of the cities of San Diego, Lemon Grove, Chula Vista and National City, in particular, would be located in areas with constrained rights-of-way. In some cases, there would be adequate right-of-way to accommodate active transportation projects without changes to existing on-street parking. For areas with constrained right-of-way, vehicle lanes and/or on-street parking would be used for the active transportation projects. In areas where the on-street parking lane is used for the project, the parking would be reconfigured (e.g., parallel parking replaced with diagonal parking), relocated (e.g., moved to a nearby street or property), and/or removed, as dictated by project-specific circumstances.

As explained in the 2020 analysis, many existing SANDAG programs as well as new proposed Plan transportation programs are specifically designed to minimize vehicular traffic demand and reduce parking demand. Transit Oriented Development, along with SANDAG’s Urban Area Transit Strategy, Regional Complete Streets Strategy, TDM policies, and Regional Bike Plan are all examples of programs that address a multimodal approach to meeting travel demand, reduce reliance on vehicle travel, and reduce parking demand. Smart parking strategies, mobility hubs, Safe Routes to School, Safe Routes to Transit, Guaranteed Ride Home, Regional Bike Parking Program, and investments to expand the reach of shared-use mobility (e.g., Uber, Lyft) also further a multimodal approach to meeting travel demand, reduce reliance on vehicle travel, and reduce parking demand.

Based on the above analysis, this is a less than significant impact.

**2035 Conclusion**

Implementation of the planned transportation network improvements and programs would not result in loss of parking supply that causes significant adverse environmental impacts. Therefore, this impact (T-5) in the year 2035 is less than significant.
Transportation Network Improvements and Programs

Of the planned transportation network improvements by 2035, the most likely to impact existing on-street parking include: Rapid services, one new streetcar, and approximately 60 additional regional active transportation projects. Except for off-facility bike paths, most of these active transportation projects would occur within existing rights-of-way, some of which may contain on-street parking that may be required to be relocated, removed, and/or reconfigured. Bikeway and streetcar projects located in urban areas of the cities of San Diego, Encinitas, Chula and Oceanside as well as in some locations in the unincorporated areas would be located in areas with constrained rights-of-way.

In some cases, there would be adequate right-of-way to accommodate active transportation projects without changes to existing on-street parking. For areas with constrained right-of-way, vehicle lanes and/or on-street parking would be used for the active transportation projects. In areas where the on-street parking lane is used for the project, the parking would be reconfigured (e.g., parallel parking replaced with diagonal parking), relocated (e.g., moved to a nearby street or property), and/or removed, as dictated by project-specific circumstances.

As explained in the 2020 analysis, many existing SANDAG programs as well as new proposed Plan transportation programs are specifically designed to minimize vehicular traffic demand and reduce parking demand. Transit Oriented Development, along with SANDAG’s Urban Area Transit Strategy, Regional Complete Streets Strategy, TDM policies, and Regional Bike Plan are all examples of programs that address a multimodal approach to meeting travel demand, reduce reliance on vehicle travel, and reduce parking demand. Smart parking strategies, mobility hubs, Safe Routes to School, Safe Routes to Transit, Guaranteed Ride Home, Regional Bike Parking Program, and investments to expand the reach of shared-use mobility (e.g., Uber, Lyft) also further a multimodal approach to meeting travel demand, reduce reliance on vehicle travel, and reduce parking demand. This is a less than significant impact.

2050 Conclusion

Implementation of the planned transportation network improvements and programs would not result in loss of parking supply that causes significant adverse environmental impacts. Therefore, this impact (T-5) in the year 2050 is less than significant.