4.14 Transportation

This section describes the current transportation conditions and examines the effects of the changes in projected land use and transportation projects included in the 2022 RTP/SCS on transportation conditions in 2046. This section evaluates the impacts related to transportation such as changes in travel times, accessibility to jobs, traffic congestion, vehicle miles traveled (VMT), and transit utilization that may result from the implementation of the 2022 RTP/SCS.

4.14.1 Setting

Existing regional transportation networks and facilities in the SJCOG region include an intermodal system consisting of a state and interstate highway system, an inland port, bike and bus routes, passenger and freight rail, and commercial passenger airline service. Figures highlighting these facilities, locations, and routes are included in the 2022 RTP/SCS in Appendix L Modal Discussion. Several major routes traverse the SJCOG region and provide important links for employees and goods to other parts of California, such as the Bay Area and Sacramento.

The SJCOG region transportation system has been designed to meet the multiple needs of both residents and businesses. Geographically near the center of the State, San Joaquin County is strategically positioned and provides key routes and linkages for the movement of goods throughout California and the rest of the United States. The region has one of the few deep-water ports within the State at the Port of Stockton, an airport which serves international markets, key highway corridors, and the hub for a number of major railroads. Given its location, the SJCOG region serves as a major transportation center not only for warehousing and distribution activities, but also as a source of more affordable housing for employees working in the Bay Area.

The SJCOG region also has six airports open to the public that offer a variety of aviation services. Stockton Metropolitan Airport offers general aviation services, daily air cargo flights to serve the logistics sector northern California, and commercial passenger service to Las Vegas, Nevada.

A number of rail lines traverse the SJCOG region and provide services for both passengers and freight. A partnership between the Union Pacific and the Burlington Northern and Santa Fe (BNSF) Corporation operates an intermodal shipping yard providing a key connection for truck-rail freight movement. Amtrak provides passenger service to the County, while Altamont Corridor Express (ACE) provides direct commuter rail service to Silicon Valley (with stops in Stockton, Lathrop, Manteca, and Tracy.

Roadway Network

San Joaquin County has an established network of roadways that serve the transportation needs of residents, visitors, and businesses. There are six major freeways and highways in the area: I-5, I-205, State Route (SR)-99, SR-4, SR-12, and SR-120. Interstate (I)-5 and SR-99 are the major north-south routes that lead north to Sacramento and south to Stanislaus County and the rest of the San Joaquin Valley. SR-12, SR-4, and SR-120 are east-west routes connecting between I-5 and SR-99 and beyond. Interstate 205 runs westward from I-5 and connects with I-580, which continues over the Altamont Pass and into the Bay Area.

Operations

A variety of performance measures are used to assess transportation systems. Depending on the type of performance evaluation required, performance measures may be very specific and focus on

intersections or roadway segments, or performance measures may be aggregated to evaluate the overall operation of a regional transportation system. A regional travel model typically only contains information on the number of lanes, posted speed and link capacity on roadway segments and lacks information detailed enough to calculate accurate intersection information.

Because of the programmatic nature of the proposed 2022 RTP/SCS, the performance measures discussed herein are aggregated as a region to evaluate the overall performance of the transportation system. Roadway transportation performance measures that address performance goals include:

- Total vehicle miles traveled (VMT); and,
- VMT per capita.

The basic measure of the amount of roadway transportation generated is VMT. One vehicle traveling one mile constitutes one vehicle mile traveled, regardless of the size of the vehicle or the number of passengers in the vehicle. Increases in VMT are associated with regional growth that would occur with or without implementation of the proposed 2022 RTP/SCS. Thus, VMT data may not reflect deficient traffic operations,[1] although VMT may have a strong correlation with congestion.

Baseline VMT data for the SJCOG region is shown in Table 4.14-1, below. The 2016 Base Year is used as the baseline for analysis within this EIR. Total VMT data accounts for all vehicle types and all travel within the region, including trips that originate and/or end outside of the SJCOG region, and that pass through the region without having an origin or destination within the SJCOG region. Pursuant to Section 15125(a)(1) of the *State CEQA Guidelines,* although the analysis baseline will normally reflect physical environmental conditions as they exist at the time the notice of preparation is published, "where necessary to provide the most accurate picture practically possible of the project's impacts, a lead agency may define existing conditions by referencing historic conditions." SJCOG has elected to do so here, for the reasons just described.

An area's per capita (or per person) VMT, as applied in this EIR, is the total VMT divided by the population of that area and is a measure of the average vehicle miles each person travels on a typical weekday. Per capita VMT tends to increase as a result of greater overall economic activity in the region, higher levels of per-household automobile ownership, and/or a jobs-housing imbalance that contributes to longer average commute distances.

Table 4.14-1 Baseline VMT for SJCOG Region

Base Year	Regional VMT	VMT per Capita[1]
2016 (2022 RTP/SCS Base Year)	17,015,116	23.24

Source: Appendix A

[1] VMT per capita is based on a population size of 732,185 persons (SJCOG Model)

Additional information about the modeling assumptions and inputs used for the SJCOG model is provided in Appendices M through S of the RTP/SCS.

[1] Traffic operational measures such as roadway congestion and delay are not considered CEQA impacts.

Public Transit

The San Joaquin Regional Transit District (SJRTD) provides bus service throughout the County with the Hopper service. The Hopper provides fixed-route service to the cities of Stockton, Lathrop, and Manteca as well as to the community of French Camp. Additional intercity bus lines provide service to Tracy. SJRTD also offers dial-a-ride services for both the general public and for the elderly/disabled throughout the County. These dial-a-ride services provide transportation seven days a week during nontraditional bus hours in rural areas not served by fixed-route lines. The dial-a-ride programs provide connection services to fixed-route lines and to passenger rail (such as Altamont Corridor Express (ACE) and Amtrak).

SJRTD's Interregional Commuter Service offers bus service to passengers traveling to Alameda, Contra Costa, Santa Clara, and Sacramento counties, including feeder service to BART for employees working in San Francisco and the East Bay. The SJRTD intercity route 91 connects Ripon, Manteca, and Stockton and routes 26 and 90 connect Tracy, Lathrop, French Camp, and Stockton. Routes 93 and 23 link Stockton to Lodi. The interregional service is designed to meet the needs of commuters who travel distances greater than 50 miles one way. Greyhound and Amtrak also provide interregional bus service.

Lodi's Grapeline, the Tracy Tracer, Manteca Transit, and smaller transit services in the cities of Escalon (eTrans) and Ripon (Blossom Express) also provide bus service. The combination of services supports local transit systems, bus rapid transit, intercity and interregional bus transit services, and needed services such as demand response for both those who need transit for medical purposes and those in the rural areas of the County.

Within the 2022 RTP/SCS, approximately $2.9 billion in passenger bus transit operations and $323.8 million in passenger bus transit capital investments are planned. Over half of these funds are targeted for expanding passenger bus service.

Rail

Rail lines in San Joaquin County are used for both passenger and freight services. Several major railways stretch through large portions of the County, including the Union Pacific and BNSF Railroads. Stockton serves as a hub for many of these railways and acts as a major distribution center for freight shipped to locations throughout California and the United States.

The Altamont Corridor Express (ACE), formerly the Altamont Commuter Express, is a commuter rail service in California connecting Stockton with San Jose. It is named for the Altamont Pass, an area through which it travels. The service commenced on October 19, 1998, with two trains daily in each direction (weekdays only). The frequency was increased in November 2009 to three trains daily in each direction and then increased to four trains daily in each direction in September 2012. There are 10 stops along its 86 miles route; present travel time is about 2 hours and 10 minutes from end-to-end. The tracks are owned by Union Pacific. The ACE transit service uses Bombardier Bi-Level Coaches and "MPI F40PH-3C" locomotives. It is managed by the San Joaquin Regional Rail Commission. ACE has planned to extend service south to Ripon, Ceres, Modesto, and Sacramento starting in 2023.

Within the 2022 RTP/SCS, approximately $604 million in passenger rail transit operations and $554.5 million in passenger rail transit capital investments are planned. Over half of these funds are targeted for expanding the current passenger rail system

Active Transportation (Bicycle and Pedestrian Facilities)

Both bicycling and walking within the SJCOG region are attractive transportation alternatives due to the relatively flat topography and temperate climate during much of the year. Bikeways are facilities that provide primarily for, and promote, bicycle travel. The five types of bikeways identified by the California Manual on Uniform Traffic Control Devices and recognized in the SJCOG region are identified below (Caltrans 2014).

- **Class I (Off-Street Bike Paths or Multi-Use Paths).** A Class I bikeway provides physical separation from motor vehicles and are often fully separated from the street. Interactions between bicyclists and vehicles are limited to roadway crossings.
- **Class II (On-Street Bicycle Lanes).** A Class II bikeway is striped adjacent to vehicle travel lanes, delineated either by a solid white line or by a larger hatched buffer space.
- **Class III (Bike Routes).** A Class III bikeway designates certain roadways as preferred streets for bicyclists. They typically include wayfinding signage for bicyclists as well as additional signage to increase driver awareness to the potential presence of bicyclists. Bicycle boulevards are a specific type of Class III Bike Route, best suited for low-speed, low- volume neighborhood streets with traffic calming enhancements. Rural bike routes are another type of Class III Bike Route that usually feature wide shoulders, striping, and intermittent rumble strips to provide space for cyclists to ride on rural roads or highways.
- **Class IV (Separated Bike Lanes).** A Class IV bikeway is located on the street, adjacent to vehicular traffic. Separated bike lanes provide more physical separation between bicyclists and motor vehicles than Class II, as separation always includes both vertical separation (parked vehicles, raised concrete curbs, planters, bollards, etc.) and horizontal separation (striped buffer, landscaped areas, etc.).

In 2012 SJCOG prepared Regional Bicycle, Pedestrian, and Safe Routes to School Master Plan in coordination with its member agencies. The plan is compliant with the California Bicycle Transportation Act which allows all of SJCOG's member agencies to be eligible for state active transportation funding. All of SJCOG's member local agencies have developed Class I, II, or III bicycle facilities to serve bicycle travel. Most agencies including the County and the City of Stockton have long-range plans defining an envisioned future bicycle system. The total investment in active transportation infrastructure provides for over 800 miles of new Class I, II, or III bicycle lanes throughout San Joaquin County. The total revenues made available to support active transportation and complete streets represent a 20.0 percent increase over the 2018 Plan. This includes education, encouragement, and enforcement programs in support of walking and bicycling as well as planning and transit integration projects.

Air Transportation

San Joaquin County has six public airports that serve a variety of needs including air cargo, agricultural shipping, crop-dusting, passenger and corporate flights, flight training, and recreation uses. These airports are:

- Kingdon Executive Airport—Lodi
- Lind's Airport—Lodi
- Lodi (Precissi) Airpark
- New Jerusalem Airport—Vernalis
- Stockton Metropolitan Airport—Stockton

- Tracy Municipal Airport—Tracy

Stockton Metropolitan, Tracy Municipal, and New Jerusalem (outside Tracy) are all public airports while Lind's Airport, the Precissi Airpark, and the Kingdon Airpark are privately owned. Stockton Metropolitan Airport is the largest airport in the County, offering limited passenger service to Las Vegas via Allegiant Air. In addition to Las Vegas, Stockton Municipal Airport has commercial service to Phoenix Sky Harbor International Airport. The Tracy Municipal Airport is used for general aviation such as business flights, flight training, and recreation uses. While Lind's Airport in Lodi is privately owned, it is one of the most active public access airports in the County. The airport accommodates general aviation aircraft, including business jets. The remaining airports are used for small aircraft including business flights and crop-dusting activities.

Emerging Travel and Mobility Options and Technology

New transportation technologies can have an important influence on regional and national transportation systems, and some have already started to change longstanding transportation behaviors. Several new options that affect vehicle trips have begun emerging around the nation in the last decade. For example, transportation network companies, such as Uber and Lyft, provide ridesharing opportunities, similar to taxi for-hire services but are reserved for on-demand users who can request a ride through a smartphone app. Such services contract drivers using their personal vehicles to provide on-demand rides. These services began operations in roughly 2013 and operations continue today.

Micromobility, in the form of application-reservation-based e-scooters and bikeshare, is another emerging trend that was largely introduced in 2017. The micromobility industry has been highly volatile as many startup companies have emerged, consolidated, and/or discontinued operations over the last few years. Other transportation innovations include the following: connected and autonomous vehicles; mobility aggregation applications that provide users with one source for mobility services (e.g., Moovel, CityMapper); coordinated and adaptive traffic signals; active traffic management, which provides the ability to dynamically manage traffic through use of strategies such as adaptive ramp metering and adaptive traffic signal control; and unmanned aircraft systems. These and other emerging technologies have the potential to transform mobility choices and alter the transportation landscape.

Application-based food delivery services, such as UberEats, Grubhub, Doordash, and Postmates, have also expanded dramatically in recent years. Such services were fueled by the COVID-19 pandemic which limited or periodically closed dining at restaurants through most of 2020 and early 2021. Drivers for such food delivery services may operate trips for multiple food delivery and passenger applications simultaneously, depending on where demand is highest. Delivery of packages and parcels through traditional methods such as the Postal Service, UPS, FedEx, and newcomers like Amazon Prime also saw expansion as a result of the COVID-19 pandemic with trends increasing towards online shopping, resulting in fewer trips to traditional retail centers.

Beyond new travel options, emerging vehicle technology is beginning to influence travel behavior and safety. For example, smartphone applications such as Google Maps and Waze better inform travelers regarding route options, comparative costs, and dynamic routing to avoid significant delays. Safety technology on newer vehicles can include assisted braking, lane guidance, and attentiveness alerts, all of which could reduce risk of collisions. Such features will likely become standard on most vehicles in the coming years. As collisions decline, some congestion-related collisions could be reduced over time.

Transportation Demand Management/Transportation System Management

Transportation Demand Management (TDM) refers to all programs and strategies that are intended to reduce the number of vehicle trips required over the transportation network or shift the distribution of trips between time periods across the network (FHWA 2012). Transportation System Management represents a variety of management techniques designed to improve the efficiency and effectiveness of the transportation system. These techniques improve operations and/or services of existing and future transportation networks (FHWA 2012).

Vehicle Flow Management

The Department of Energy's Fuel-Efficient Traffic Signal Management Program has assisted in increasing the number of synchronized traffic signals within the region to promote free flowing vehicle transportation conditions, less use of vehicle fuel, and decreased pollution due to less vehicle miles traveled. In the past, some jurisdictions have implemented minor design improvements to the existing transportation infrastructure in lieu of costly capital construction or reconstruction. In the future, signalization, channelization, and the construction of acceleration and deceleration lanes with ramp metering at key interchanges are expected to achieve roadway vehicle flow improvements.

Intermodal Transportation

Transportation engineers and planners in the SJCOG region have employed one or more of the following methods of enhancing intermodality to increase the use of the existing transportation capacity more efficiently:

- Coordinate transit routes and schedules with those of inter-city rail and bus service;
- Provide amenities and facilities for bicycle and pedestrian access to transit stops;
- Facilitate and encourage access to the regional air carrier airport by paratransit, transit, taxi, transportation network companies and bicycle; and
- Provide park and ride facilities with bicycle, pedestrian and transit access amenities.

Ridesharing

Rideshare programs help reduce congestion and improve traffic flow. Regionally, SJCOG operates a multi-county rideshare program called Dibs (formerly Commute Connection). The rideshare program is designed to facilitate carpooling, vanpooling, bicycling, walking, and riding transit.

Preferential Transit/Carpool Treatment/Electric Vehicle Charging

Methods employed by local jurisdictions to encourage people to reduce their use of single-occupant vehicles include preferential parking for carpools and vanpools; subsidized transit passes; use of agency vans for vanpooling; and provision of an on-site transportation coordinator. Regional transit agencies strive to ensure that major developments within their service areas are transit accessible and that transit stops are located to promote transit use.

Shared Parking Facilities

Parking management refers to programs that result in more efficient use of parking resources and can either provide an incentive or disincentive to single occupant vehicle use. Parking facilities that are shared between multiple users and destinations are found within the region. Park and ride lots

are a form of off-site shared parking facilities that facilitate ridesharing. Park and ride lots within the region have been placed in locations where people can easily meet and form carpool trips, such as the Tracy Transit Center. Park-and-ride facilities are located in Lathrop, Lodi, Stockton, and Tracy. SJCOG's various jurisdictions may also construct parking structures and create parking legislation as feasible and necessary.

4.14.2 Regulatory Setting

a. Federal Laws, Regulations, and Policies

Moving Ahead for Progress in the 21st Century Act

The Moving Ahead for Progress in the 21st Century Act (MAP-21), was enacted in 2012. Through the medium-term plan development process, MAP-21 encourages Metropolitan Planning Organizations (MPOs), such as SJCOG, to consult with officials responsible for other types of planning activities that are affected by transportation in the area (including State and local planned growth, economic development, environmental protection, airport operations and freight movements) or to coordinate its planning process, to the maximum extent practicable, with such planning activities (23 U.S.C. §134(g)(3)(A)).

Specifically, MAP-21 requires that the medium-term planning process provide for consideration of projects and strategies that will:

- Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity and efficiency;
- Increase the safety of the transportation system for motorized and non-motorized users;
- Increase the security of the transportation system for motorized and non-motorized users;
- Increase the accessibility and mobility of people and for freight;
- Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns;
- Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;
- Promote efficient system management and operation; and
- Emphasize the preservation of the existing transportation system (23 U.S.C. §134(h)(1)).

Fixing America's Surface Transportation Act

Fixing America's Surface Transportation (FAST) Act builds on the changes made by MAP-21 and was signed into law in December 2015 (Public Law 114-94). The FAST Act authorizes $305 billion through fiscal year 2020 for highways, highway and motor vehicle safety, public transportation, rail and research and technology programs and provides a dedicated source of federal funds for freight projects. The FAST Act expands the scope of consideration of the metropolitan planning process to include consideration of intercity transportation, including intercity buses, intercity bus facilities and commuter vanpool providers; improving transportation system resiliency and reliability; reducing or mitigating the stormwater impacts of surface transportation; and enhancing travel and tourism. In addition, it requires strategies to reduce the vulnerability of existing transportation infrastructure to natural disasters.

Under the FAST Act, the U.S. Department of Transportation requires that MPOs, such as SJOG, prepare long-range transportation plans and update them every four years if they are in areas designated as "nonattainment" or "maintenance" for federal air quality standards. Before enactment of the FAST Act and its predecessor, MAP-21, the primary federal requirements regarding long-range transportation plans were included in the metropolitan transportation planning rules (23 CFR Part 450 and 49 CFR Part 613). The FAST Act makes a number of changes to the statutes that underpin these regulations. Per federal requirements, long-range transportation plans must:

- Be developed through an open and inclusive process that ensures public input; seeks out and considers the needs of those traditionally under served by existing transportation systems; and consults with resource agencies to ensure potential problems are discovered early in the planning process;
- Be developed for a period of not less than 20 years into the future; long-range transportation plans must reflect the most recent assumptions for population, travel, land use, congestion, employment and economic activity;
- Have a financially constrained element, transportation revenue assumptions must be reasonable, and the long-range financial estimate must take into account construction-related inflation costs;
- Include a description of the performance measures and performance targets used in assessing the performance of the transportation system;
- Include a system performance report evaluating the condition and performance of the system with respect to performance targets adopted by the state that detail progress over time;
- Include multiple scenarios for consideration and evaluation relative to the state performance targets as well as locally-developed measures.
- Conform to the applicable federal air quality plan, called the State Implementation Plan, for ozone and other pollutants for which an area is not in attainment; and
- Consider planning factors and strategies in the local context.

On September 30, 2020, the United States Senate approved H.R. 8337, which provides fiscal-year 2021 appropriations to federal agencies for continuing projects and activities of the federal government. Included in this act is a 1-year, $13.6 billion extension of the FAST Act.

Infrastructure Investment and Jobs Act

The Infrastructure Investment and Jobs Act (IIJA) replaced the expired FAST Act and was signed into law in November 2021 (Public Law 117-58). The IIJA authorizes $973 billion through Fiscal Year 2022 for investment in all modes of transportation as well as investment in water, power and energy, environmental remediation, public lands, broadband, and overall resilience. The Act distributes the federal funds in three ways (National Association of Counties [NACO] 2022):

- Authorizations from the federal Highway Trust Fund for highway and transit programs;
- Authorizations of appropriations from the General Fund of the U.S. Treasury, subject to annual appropriations process; and
- Advanced appropriations over five years, independent of the regular appropriations process.

Of the $973 billion, $550 billion is to be allocated for new investments, such as funding provided through a surface transportation authorization law. Of the $550 billion dedicated to new

investments, $284 billion will be distributed to the U.S. Department of Transportation in order to modernize and make improvements across all modes of transportation. Those funds are reserved for the following (NACO 2022):

- Roads & Bridges: $110 billion
- Transit: $39 billion
- Rail: $66 billion
- Safety: $11 billion
- Airports: $25 billion
- Ports & Waterways: $17 billion
- Electric vehicle chargers: $7.5 billion
- Electric buses: $7.5 billion
- Reconnecting Communities: $1 billion

Counties and MPOs, such as SJCOG, can access the IIJA funds competitively, through federal grant programs and competitive processes run by state departments of transportation and MPOs, through suballocations based on populations from state departments of transportation, and through federal formulas such as transit formulas and the formula (entitlement) component of the Airport Improvement Program. Overall, the IIJA establishes a new, long-term surface transportation reauthorization and significantly increases the number of competitive grant opportunities via supplemental appropriations to the U.S. Department of Transportation (NACO 2022).

Specifically, California can expect to receive approximately $29.5 billion over five years in Federal highway formula funding for state highway and bridge projects. The IIJA will assist in repairing and rebuilding roads and bridges with a focus on climate change mitigation, resilience, equity, and safety for all users, including cyclists and pedestrians. Additionally, the IIJA will improve healthy, sustainable transportation options for millions of Americans; California can expect to receive approximately $10.3 billion over five years to improve public transportation options across the state. Finally, the IIJA is expected to help modernize and expand passenger rail in California while improving freight rail efficiency and safety (U.S. Department of Transportation 2022).

Congestion Management Process

The Congestion Management Process (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; and
- Evaluation of the effectiveness of implemented strategies.

The enactment of this legislation required all MPOs serving a transportation management area (TMA) maintain a congestion management process (CMP). A CMP is a systematic and regionally accepted approach for managing congestion that provides accurate, up-to-date information on transportation system performance and assesses alternative strategies for congestion management that meet state and local needs. The Moving Ahead for Progress in the 21st Century bill expired in 2014 and was replaced by the FAST Act, which subsequently expired in September 2021. SJCOG adopted their Regional Congestion Management Process in August of 2021. The Regional Congestion Management Program (RCMP) serves as a mechanism to fulfill SJCOG's requirements as a metropolitan area with a population exceeding 200,000, under the Federal Congestion Management Process. In addition, there is an opportunity to integrate Performance-Based Planning and Programming (PBPP) performance metrics and provide information of interest to our jurisdictions.

A key focus of the Federal CMP aims to reduce single-occupant-vehicle (SOV) travel while minimizing the need for increasing SOV roadway capacity. It also provides additional resources for the development and deployment of new congestion management technologies. For areas designated as non-attainment of Federal air quality standards such as San Joaquin County, the Federal Congestion Management Process stipulates (23 CFR 450.320 (d)) that Federal funds may not be programmed for any project that results in a significant increase in the carrying capacity of single occupancy vehicles (i.e., new general purpose lanes with the exception of safety improvements or the elimination of bottlenecks) unless the project is addressed through a federally compliant congestion management process. For SOV capacity increasing projects proposed to be advanced with Federal funds, an analysis is required to demonstrate that all reasonable travel demand reduction and operational management strategies have been implemented to the fullest extent possible.

b. State Laws, Regulations, and Policies

California Transportation Plan

The California Transportation Plan is prepared by the California State Transportation Agency every five years to provide a long-range policy framework to meet the State's future mobility needs and reduce greenhouse gas (GHG) emissions to goals set by the California Global Warming Solutions Act of 2006 (Assembly Bill [AB 32], discussed in Section 4.9, *Greenhouse Gas Emissions/Climate Change*) and implementing legislation Senate Bill (SB) 375 (discussed below). The most recent California Transportation Plan was adopted in 2021 (Caltrans 2021). The California Transportation Plan defines goals, performance-based policies, and strategies to achieve the State's collective vision for California's future statewide, integrated, multimodal transportation system by envisioning a sustainable system that improves mobility and enhances quality of life. The California Transportation Plan is developed in collaboration with transportation stakeholders such as SJCOG. Through ongoing engagement, the California Transportation Plan is intended to provide goals and visions to support a fully integrated, multimodal, sustainable transportation system that supports the quality of life, prosperous economy, human and environmental health, and social equity.

California Transportation Commission Regional Transportation Plan Guidelines

The California Transportation Commission (CTC) publishes and periodically updates guidelines for the development of long-range transportation plans, such as SJCOG's proposed 2022 RTP/SCS. Pursuant to Government Code Section 65080(d), each regional transportation planning agency

(RTPA) is required to adopt and submit an updated RTP to CTC and Caltrans every four years. SJCOG is the designated RTPA for San Joaquin County.

Under Government Code Section 14522, the CTC is authorized to prepare guidelines to assist in the preparation of RTPs. The most recent update to the RTP guidelines was published in 2017 and includes separate guidance for RTPAs and MPOs and new checklists for RTP content (CTC 2017).

Climate Action Plan for Transportation Infrastructure

The Climate Action Plan for Transportation Infrastructure was adopted on July 12, 2021 (CalSTA 2021). The Climate Action Plan for Transportation Infrastructure details how the state recommends investing billions of discretionary transportation dollars annually to aggressively combat and adapt to climate change while supporting public health, safety, and equity. The Climate Action Plan for Transportation Infrastructure builds on executive orders signed by Governor Gavin Newsom in 2019 and 2020 targeted at reducing GHG emissions in transportation, which account for more than 40 percent of all emissions, to reach the state's ambitious climate goals (CalSTA 2021).

State Regional Transportation Plan Requirements

Government Code Sections 65080 et seq. state that MPOs must prepare and adopt a long-range transportation plan, such as an RTP, 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 planning, and shall present clear, concise policy guidance to local and state officials. Each transportation planning agency must consider and incorporate, as appropriate, the transportation plans of cities, counties, districts, private organizations and state and federal agencies.

Pursuant to Government Code section 65080(d), MPOs, such as SJCOG, that are located in nonattainment and monitoring areas must update their long-range transportation plans at least every four years.

The CTC has developed RTP guidelines to assist MPOs with developing their RTPs so that they are consistent with federal and state transportation planning requirements. The guidelines are updated and adopted periodically, as needed. For the first time, two separate guidelines were adopted in January 2017 to guide RTP development in MPOs and RTPAs. Both documents incorporate new legislation and the associated goals, particularly related to reducing GHG emissions and improving air quality. Both the 2017 RTP Guidelines for MPOs and the 2017 RTP Guidelines for RTPAs specify that the requirements outlined in the documents apply to all RTP updates begun following adoption (CTC 2017).

The 2017 RTP Guidelines include guidelines for regional travel demand modeling. The regional travel demand model guidelines are “scaled” to different sizes of MPOs. The guidelines also describe the methods for projecting of future travel demand, as well as the key assumptions typical of transportation demand models. In addition, 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 2017).

Senate Bill 375

The Sustainable Communities and Climate Protection Act of 2008 (Chapter 728, Statues of 2008) (SB 375) diversified the areas of study from past RTPs to include land use impacts and climate change issues. Specifically, SB 375 requires MPOs to prepare a SCS that demonstrates how the region will meet its GHG reduction targets through integrated land use, housing, and transportation planning. The SCS must identify a transportation network that, when integrated with the forecasted development pattern for the SJCOG region, will reduce GHG emissions from automobiles and light trucks in accordance with targets set by the California Air Resources Board (CARB).

Under SB 375, some development and transportation projects assumed as a part of the proposed 2022 RTP/SCS may be eligible to use a streamlined version of the environmental review process. Among other criteria, these projects must be consistent with the land use designation, density, intensity, and policies of the proposed 2022 RTP/SCS, and fall within the identified criteria for development and transportation projects. Streamlining under SB 375 is described in more detail in Section 1.5.1, *Streamlining Under SB 375*.

Senate Bill 743

SB 743 (2013) changed the way that public agencies evaluate the transportation impacts of projects under CEQA, recognizing that roadway congestion, while an inconvenience to drivers, is not itself an environmental impact. (See PRC Section 21099(b)(2) ["automobile delay, as described solely by level of service or similar measures of vehicular capacity or traffic congestion shall not be considered a significant impact on the environment pursuant to [CEQA]"].)

Under SB 743, the Governor's Office of Planning and Research (OPR) established VMT as the preferred metric for measuring transportation impacts of most projects in place of vehicle level of service (LOS) or related measures of congestion as the primary metric. The use of VMT for determining significance of transportation impacts has become commonplace since the certification of this provision and the release of OPR's Technical Advisory on Evaluating Transportation Impacts in CEQA in December 2018 and, as of July 1, 2020, is the required metric statewide (OPR 2018).

For land use projects, SB 743 provides opportunities to streamline transportation analysis under CEQA for qualifying urban infill development near major transit stops in metropolitan regions statewide, as described in more detail in Section 1.5.3, *Streamlining Under SB 743*. Additionally, the legislation establishes that aesthetic and parking impacts of these projects are not considered significant impacts on the environment.

SB 743 can also substantially affect the review of transportation projects under CEQA. Some projects, such as expanding facilities for bicycle, pedestrian, or transit only use, will not result in adverse transportation impacts because they are assumed not to substantially increase automobile trips. However, for roadway capacity projects, the CEQA guidelines (Section 15064.3) give lead agencies some discretion over what metric is used to evaluate transportation impacts, as some roadway expansion projects can induce vehicle travel. If using a metric besides VMT, however, the change in vehicle travel should still be reported. A program-level assessment of roadway projects in a regional plan may also be used to streamline project level analysis (OPR 2018).

Caltrans has provided two guidance documents to address VMT impacts on the state highway system consistent with the requirements of SB 743 and the OPR Technical Advisory:

- The Transportation Analysis under CEQA (TAC) provides information to support CEQA practitioners in making CEQA significance determinations for transportation impacts of projects

on the state highway system. These could include land use projects or transportation projects (Caltrans 2020b).

- The Transportation Analysis Framework (TAF) guides the preferred approach for analyzing the VMT attributable to proposed projects (induced travel) in various project settings, with particular focus on the analysis of induced travel associated with transportation projects which would add road capacity to the transportation system (Caltrans 2020c).

State CEQA Guidelines Section 15064.3 and OPR Technical Advisory

State CEQA Guidelines Section 15064.3 implements SB 743 and establishes VMT as the most appropriate measure of transportation impacts. The primary components of Section 15064.3 include:

- Identifies VMT as the most appropriate measure of transportation impacts;
- Declares that a project's effect on automobile delay shall not constitute a significant environmental impact (except for projects increasing roadway capacity);
- Creates a rebuttable presumption of no significant transportation impacts for (a) land use projects within one-half mile of either an existing major transit stop or a stop along an existing high quality transit corridor, (b) land use projects that reduce VMT below existing conditions, and (c) transportation projects that reduce or have no impact on VMT;
- Allows a lead agency to qualitatively evaluate VMT if existing models are not available; and
- Gives lead agencies discretion to select a methodology to evaluate a project's VMT, but requires lead agencies to document that methodology in the environmental document prepared for the project.

CEQA lead agencies were required to comply with the State Guideline Section 15064.3 no later than July 1, 2020. The OPR in its *Technical Advisory on Evaluating Transportation Impacts in CEQA* has provided some language regarding the use of VMT (OPR 2018). Specifically, a threshold of 15 percent less VMT per capita than existing average VMT for the area is relevant for analyzing impacts related to the 2022 RTP/SCS, pursuant to the following language:

> Based on OPR's extensive review of the applicable research, and in light of an assessment by the CARB quantifying the need for VMT reduction in order to meet the State's long-term climate goals, OPR recommends that a per capita or per employee VMT that is 15 percent below that of existing development may be a reasonable threshold. [¶] Fifteen percent reductions in VMT are achievable at the project level in a variety of place types. [¶] Moreover, a 15 percent reduction is consistent with SB 743's direction to OPR to select a threshold that will help the State achieve its climate goals. As described above, section 21099 states that the criteria for determining significance must "promote the reduction in greenhouse gas emissions." In its document the CARB 2017 Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals, CARB assesses VMT reduction per capita consistent with its evidence-based modeling scenario that would achieve State climate goals of 40 percent GHG emissions reduction from 1990 levels by 2030 and 80 percent GHG emissions reduction levels from 1990 by 2050. Applying California Department of Finance population forecasts, CARB finds per-capita light-duty vehicle travel would need to be approximately 16.8 percent lower than existing, and overall per-capita vehicle travel would need to be approximately 14.3 percent lower than existing levels under that scenario. Below these levels, a project could be considered low VMT and would, on that metric, be consistent with 2017 Scoping Plan Update assumptions that achieve climate state climate

> goals… [¶] In summary, achieving 15 percent lower per capita (residential) or per employee (office) VMT than existing development is both generally achievable and is supported by evidence that connects this level of reduction to the State's emissions goals (OPR 2018).

Assembly Bill 1358

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

California Bicycle Transportation Act

The California Bicycle Transportation Act of 1994 requires all cities and counties to have an adopted bicycle master plan to apply for Bicycle Transportation Account funding source. Existing bicycle master plans and other modal plans adopted within the SJCOG region are described below.

c. Regional Laws, Regulations, and Policies

Regional Transportation Planning Agency Transportation Plans

As described in Section 1.2, *Project Background*, SJCOG functions as both the federally-designated MPO and the State-designated regional transportation planning agency RTPA for San Joaquin County. Under federal regulations (23 CFR 450.322(c)) and State law (Government Code 65080(d)), SJCOG is required to prepare a long-range (at least 20-year) transportation planning document, known as the RTP. The RTP must be updated every four years and must be consistent with the California Transportation Plan. The RTP is generally an action-oriented document used to achieve a coordinated and balanced regional transportation system.

The 2018 Regional Transportation Plan (2018 RTP) was the last regional transportation plan adopted by SJCOG. As a foundation for this RTP, many of the policies and strategies from the 2018 RTP remain relevant and have been carried forward. RTP/SCS changes to the policies and strategies in the 2018 RTP were primarily made to ensure consistency of the 2022 RTP/SCS with SB 375 and to delete strategies that were completed since the 2018 RTP/SCS. Upon approval, the 2022 RTP/SCS will supersede all of the policies and strategies in the 2018 RTP. Therefore, the specific policies and strategies contained in the 2022 RTP are not included in this analysis.

San Joaquin Council of Governments Regional Transportation Impact Fee

SJCOG, in coordination with its member agencies, implements a regional transportation impact fee as part of a county-wide multi-jurisdiction capital improvement program to assist with the costs of new transportation facilities or other transportation and transit improvements. Establishment in 2006, the RTIF has been updated in 2012 and 2017, with addenda adopted in 2018 and 2020.

d. Local Laws, Regulations, and Policies

General Plans

State law requires cities and counties to adopt general plans, which must incorporate a circulation element, also often called a transportation element. A general plan's transportation/circulation element is an infrastructure plan and policy document used to determine the needed expansion or

modification of the transportation network (including services) to accommodate planned population and employment growth. The elements generally address expectations for transportation network operations and safety based on goals and policies of the city or county. The elements also often address goods movement, public transit, bicycle facilities and pedestrian facilities.

Transportation provisions in applicable county and city general plans for the SJCOG region are discussed below.

San Joaquin County General Plan

The San Joaquin County 2035 General Plan's Public Facilities and Services Element contains the Transportation and Mobility Section, providing the framework for the Countywide transportation system. The Transportation and Mobility section focuses on multi-modal improvements to guide the funds for transportation within the county in a context-sensitive manner that benefits residents the most (San Joaquin County 2016).

City of Escalon General Plan

The Escalon General Plan Circulation Element discusses standards for roadway design, future services, and impact of roadways on residents. Its goals, as stated, are to "Coordinate the transportation and circulation system with planned land uses, promote the safe and efficient transport of goods and the safe and effective movement of all segments of the population, make efficient use of existing transportation facilities, and protect environmental quality and promote the wise and equitable use of economic and natural resources." The plan spans various modes, centers Escalon in the regional transportation network, and strives to improve overall circulation within the City of Escalon (City of Escalon 2010).

City of Lathrop General Plan

The Transportation & Circulation component of the Community Development Element of the City of Lathrop discusses projected regional demand and land use in Lathrop and the projected roadway needs. The Plan discusses the proximity of Lathrop to interregional and interstate air, rail, truck, and automobile networks, and how this proximity might be improved with multiple proposed projects that enhance regional connectivity (City of Lathrop 1991).

City of Lodi General Plan

The City of Lodi general plan Transportation Element seeks to provide access to employment, education, and recreation through improved access to commercial, industrial, recreational, and public service centers, while reducing the impact of airborne emissions. The transportation element takes an in-depth multimodal look at how residents could be even better served by a further improved transportation system (City of Lodi 2010)

City of Manteca General Plan

As of the drafting of this EIR, the City of Manteca has begun the process of finalizing its 2021 General Plan. The Circulation element focuses on regional coordination to improve Manteca's roadways, as well as needed updates to City policies in regards to statewide legal changes. The element begins with a focus on multimodal accessibility and discusses how Manteca can respond to changes in technology and the SJCOG region (City of Manteca 2021).

City of Ripon General Plan

The circulation and transportation chapter of the City of Ripon's General Plan 2040 seeks to create a robust transportation system that provides adequate access across the planning horizon while limiting subsequent effects of the expansion. The City, divided into parts by State Route 99, the Stanislaus River, and two railways, creates an internal circulation challenge, which the plan proposes to address. The plan also covers potential transit improvements and a multimodal plan (City of Ripon 2006).

City of Stockton General Plan

The transportation section of Envision Stockton 2040 is organized around four key goals: mobile community, active community, sustainable transportation, and effective transportation assessments. The plan focuses on providing mobility for all communities, including transition to a "complete streets" framework, greater active transportation opportunities, effective mitigation of traffic-related harms for transportation land uses, and infrastructure design that limits pollution exposure and traffic deaths (City of Stockton 2018).

City of Tracy General Plan

The circulation element of the general plan of the City of Tracy seeks to balance its role as a major regional logistics hub with residents' needs. The plan gives details on how the City should maintain a high-quality infrastructure network for all users and all modes, while maintaining a high quality of connectivity and interregional access (City of Tracy 2011).

Local Transportation Fee Programs

The local jurisdictions in the SJCOG region all charge development fees to mitigate transportation impacts on their locally owned and operated roadways that are not considered part of the regional transportation network. Some also charge fees to assist with the maintenance and construction of infrastructure for regionally significant routes.

4.14.3 Impact Analysis

a. Methodology and Significance Thresholds

The criteria for determining whether the RTP/SCS would have significant environmental impacts related to transportation and traffic were based in part on the environmental checklist in Appendix G of the State CEQA Guidelines (14 CCR 15000 et seq.) and on performance measures established by SJCOG. Significant impacts to transportation would occur if the plan would:

1. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities;
2. Conflict with or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b), specifically resulting in
    a. An overall increase in total regional VMT above baseline (2016) conditions;
    b. A change in VMT per capita in the region that fails to reach 15 percent below baseline (2016) VMT per capita conditions; or
    c. A substantial increase in induced travel due to roadway capacity expansions;

3. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);
4. Result in inadequate emergency access; or,
5. Impair implementation or physically interfere with an adopted emergency response plan or emergency evacuation plan

SJCOG develops and applies state-of-the-art models integrated into a comprehensive modeling and forecasting framework to develop growth projections, travel forecasts, and emissions estimates intended to support the region's various planning programs. For analysis of the 2022 RTP/SCS, SJCOG refined the travel demand model used for the previous 2018 RTP/SCS to focus more sharply on the SJCOG region only for the purposes of improving model performance and validation. This refined 1-county SJCOG model was updated with sociodemographic details and existing roadway network refinements to reflect the planned projects included in the 2022 RTP/SCS. The model output was evaluated to confirm that model performance is consistent with the previous version. This sub-area version reduced the 3-County MIP2 travel demand model to a 1-County model, covering only the SJCOG region, for the purposes of improving model performance and validation. The 1-county SJCOG model was updated with sociodemographic details and existing roadway network refinements to reflect the planned projects included in the 2022 RTP/SCS. The model output was evaluated to confirm that model performance is consistent with the previous version.

Per SB 743, the primary determinant of transportation impacts is now vehicle miles travelled, or VMT. One "VMT" is one vehicle traveling on a roadway for one mile. Regardless of how many people are traveling in the vehicle, each vehicle traveling on a roadway within the region produces VMT.

For the purposes of this EIR, VMT is estimated and projected for a typical weekday. VMT has been a primary indicator of travel for policy-makers and transportation professionals for decades.

Transportation data was supplied by SJCOG based on forecasts developed using the Tri-County Valley Model Improvement Program (VMIP2) travel demand model (SJCOG Model). This three-county model (Merced, Stanislaus, and San Joaquin counties) characterizing the transportation environment was developed in accordance with and validated to state/federal standards including the 2022 California Transportation Commission RTP Guidelines.

Model inputs are listed below.

- Socioeconomic Data by Traffic Analysis Zone
- Roadway Network Characteristics by Functional Classification of Roadway
- Land Use and Accessibility for Auto Ownership Model
- Land Use, parking, Travel Demand Model (TDM), Walk and Bike for Mode Choice Model
- Transit Networks
- External Trips (inter-regional trips)

The model includes modules that incorporate household characteristics (size, number of workers, income, single-family or multi-family unit); auto ownership; trip generation; trip distribution; mode choice (e.g., single-occupant vehicle, multi-occupant vehicle, transit and active modes (walking and cycling); and traffic assignment to the transportation network. The RTP/SCS foundation is comprised of recent household and job growth forecasts, market demand and economic studies, and transportation studies including SJCOG's Smart Growth Transit Oriented Development Plan, Goods Movement Study, and Regional Bike/Pedestrian Master Plan.

When additional capacity is provided on a roadway, a short-term gain in reducing delay on the roadway is typically observed. However, additional capacity will often encourage additional trips amongst existing users in the long term, thus increasing VMT overall. These new trips are generated for a variety of reasons, including drivers who were using an alternative mode previously but now are driving (e.g., driving instead of taking transit), or drivers who now choose to make a trip that previously they had forgone (e.g., someone going shopping or picking up dinner that was previously staying home for dinner). This phenomenon is referred to as induced demand. Induced demand effects are generally considered under two-time frames: short term (0-5 years), which includes effects such as diverted trips, mode shift resulting from driving becoming more attractive, and latent trips (new trips that were previously suppressed by congestions); and long term (5-10 years), which includes effects such as destination changes from new land uses, mode shift resulting from transit service provider impacts, and increasing auto dependency.

To account for induced demand associated with the proposed 2022 RTP/SCS in a manner consistent with CARB requirements, it was determined that the VMT data obtained from the travel demand model should be augmented using the California Induced Travel Calculator[2]. This calculator allows a user to estimate the total (both short-term and long-term) induced demand VMT annually added as the result of the new construction of general-purpose lane miles, high-occupancy vehicle lane miles, or high-occupancy toll lane miles. In particular, induced demand analysis is required by CARB during SB 375 analysis for FHWA functional classifications of Interstate (class 1), other freeway and expressways (class 2), and other principal arterials (class 3). Based on a review of model sensitivities, it was determined that the travel demand adequately accounts for the effects of short term induced demand and, as such, only the long-term effects of induced demand from the calculator were added to VMT results from the travel demand model in order to fully account for induced demand.

b. Project Impacts and Mitigation Measures

The following section discusses potential impacts and mitigation measures that may be associated with transportation projects and the land use scenario contained within the proposed 2022 RTP/SCS. Section 4.14.3.c summarizes the impacts associated with capital improvement projects in the proposed 2022 RTP/SCS. Due to the programmatic nature of the proposed 2022 RTP/SCS, a precise, project-level analysis of the specific impacts associated with individual transportation and land use projects is not possible at this time. In general, however, implementation of proposed transportation improvement projects and future projects under the land use scenario envisioned by the proposed 2022 RTP/SCS could result in the impacts as described in the following section.

Threshold 1:	The project would conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities

Impact T-1 TRANSPORTATION PROJECTS AND LAND USE PROJECTS ENVISIONED BY THE PROPOSED 2022 RTP/SCS WOULD NOT CONFLICT WITH ANY PROGRAM, PLAN, ORDINANCE OR POLICY ADDRESSING THE CIRCULATION SYSTEM, INCLUDING TRANSIT, ROADWAY, BICYCLE AND PEDESTRIAN FACILITIES. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

The proposed SJCOG 2022 RTP/SCS is intended to improve the circulation system for all modes of transportation so that motor vehicles and non-motorized vehicles can use the streets simultaneously and safely. Specifically, the proposed 2022 RTP/SCS includes goals and objectives on a federal, state, and regional level that aim to: achieve a significant reduction in traffic fatalities and

[2] https://travelcalculator.ncst.ucdavis.edu

serious injuries on all public roads; maintain the highway infrastructure asset system in a state of good repair; achieve a significant reduction in congestion on the National Highway System; improve the efficiency of the surface transportation system; enhance the performance of the transportation system while protecting and enhancing the natural environment; and, improve overall mobility and accessibility. Overall, the goals and objectives included in the proposed 2022 RTP/SCS are intended to ensure that future transportation projects would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.

Transportation projects included under the proposed 2022 RTP/SCS consist of widening existing roadways; constructing expressways and freeways; and installing medians. Such projects would result in capacity increases, congestion relief, safety improvements, and overall circulation improvements. Therefore, the proposed 2022 RTP/SCS would be consistent with the California Transportation Plan and individual jurisdiction General Plans, as well as the goals and objectives outlined within the 2018 RTP/SCS and the proposed 2022 RTP/SCS, which are described above. Active transportation projects included under the proposed 2022 RTP/SCS would add new pedestrian and bicycle facilities including sidewalks, bike lanes, multi-use trails, bicycle and pedestrian bridges, and bike parking facilities; improve existing facilities; improve active transportation signage and striping; implement Safe Routes to School projects; and upgrade pedestrian facilities with ADA modifications. Bicycle and pedestrian improvement projects identified in the proposed 2022 RTP/SCS are aimed primarily at improving bicycle and pedestrian safety and accessibility. Pedestrian and bicycle facilities would be designed and constructed in compliance with applicable safety regulations, such as the California Manual of Uniform Traffic Control Devices (Caltrans 2014). Transit projects included under the proposed 2022 RTP/SCS would bolster the existing operational network; improve transit centers; and improve transit facility amenities. Such projects would result in increased transit ridership and improved rider experiences. Therefore, the proposed 2022 RTP/SCS would be consistent with individual jurisdiction General Plans and specific modal Transportation Plans, as well as the goals and objectives included in the 2018 RTP/SCS and the proposed 2022 RTP/SCS.

Since the proposed 2022 RTP/SCS would result in additional and improved facilities to accommodate pedestrian, bicycle, and transit travel modes, there would not be substantial disruption of bicycle, pedestrian, and transit facilities. In addition, the proposed 2022 RTP/SCS would result in roadway capacity increases, congestion relief, safety improvements, and overall circulation improvements. Therefore, the proposed 2022 RTP/SCS would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities. This impact would be less than significant.

Mitigation Measures

No mitigation measures are required.

Threshold 2:	The project would conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b), specifically resulting in a. An overall increase in total regional VMT above baseline (2016) conditions would be considered a significant impact; b. A change in VMT per capita in the region that fails to reach 16 percent below baseline (2020) VMT per capita conditions would be considered a significant impact; or c. A substantial increase in induced travel due to roadway capacity expansions would be considered a significant impact.

Impact T-2 THE PROPOSED 2022 WOULD RESULT IN AN OVERALL INCREASE IN REGIONAL VMT ABOVE BASELINE (2016) CONDITIONS. THE PROPOSED 2022 RTP/SCS WOULD RESULT IN AN INCREASE IN VMT PER CAPITA BELOW THE ABOVE BASELINE (2016) CONDITIONS. REGIONAL VMT AND VMT PER CAPITA IMPACTS FROM IMPLEMENTATION OF THE PROPOSED 2022 RTP/SCS WOULD BE SIGNIFICANT AND UNAVOIDABLE. THE INDUCED TRAVEL IMPACT AT THE REGIONAL LEVEL WOULD BE LESS THAN SIGNIFICANT.

Table 4.14-2, below, compares the total daily regional VMT and VMT per capita for baseline conditions in 2016 and for anticipated 2046 conditions with implementation of the proposed 2022 RTP/SCS on all roadways for the SJCOG region as a whole. The daily VMT and VMT per capita anticipated in 2046 without implementation of the proposed 2022 RTP/SCS are also provided in Table 4.14-2 for informational and comparative purposes.

Overall Increase in Regional VMT

The SJCOG Model used to estimate VMT includes the regional transportation system elements shown in Table 4.14-2. Regional VMT data accounts for automobiles and light duty trucks, as well as all travel within the region, including trips that originate or end outside of the SJCOG region. An area's VMT per capita is the total VMT divided by the population of that area and is a measure of the average vehicle miles each person travels on a typical weekday.

Table 4.14-2 VMT Results Summary

Scenario	2016	2046 Plan	2046 No Build
Base VMT (SJCOG Model)	17,015,116	23,495,442	23,684,122
Induced VMT (Hybrid NCST)	N/A	1,732,137	463,370
Total VMT	**17,015,116**	**25,227,579**	**24,147,492**

Source: SJCOG Modelling Information

As shown in Table 4.14-2,Base VMT reflects the portion of VMT results directly output by the SJCOG regional model. This includes VMT resulting from existing and projected growth, multiple "short term" effects including diversion to new or expanded roadways, mode shifts, longer trip lengths and other short-term travel pattern shifts resulting from changes in accessibility. Conversely, the induced VMT increment was determined using the California Induced Demand Calculator and reflects the long-term induced effect that changes in accessibility (i.e., new or widened roadways) have on employment and residential location choices. Additional information on induced demand is included in the "Induced Travel" section.

As shown, the proposed 2022 RTP/SCS is projected to increase the total regional VMT above 2016 baseline conditions. Including induced travel as shown in Table 4.14-2, with implementation of the 2022 RTP/SCS, total daily regional VMT would increase by an estimated 8,212,463 miles in 2046, which would be an approximately 48 percent increase from the baseline 2016 conditions for 2046. Therefore, this impact would be significant.

For informational purposes, Table 4.14-2 shows that total regional VMT would also increase without implementation of the proposed 2022 RTP/SCS. Specifically, total daily regional VMT would increase by an estimated 6,669,006 miles from baseline for 2046 without implementation of the proposed 2022 RTP/SCS, which would be an approximately 24 percent increase. This demonstrates that population growth in the SJCOG region would increase daily VMT, regardless of implementation of the proposed 2022 RTP/SCS. Note, however, that the modelled VMT under the 2046 plan would be lower than that of the no build scenario. As this VMT increase is higher than the 2016 baseline, the impact is significant.

Per Capita Vehicle Miles Traveled

Table 4.15-3 VMT Results Summary

Scenario	Regional VMT	VMT per Capita[1]
2016 Baseline	17,015,116	23.24
2046 with proposed 2022 RTP/SCS	25,227,579	25.37
2046 without proposed 2022 RTP/SCS	24,147,492	24.29

Source: Appendix A
[1] VMT per capita is based on a 2016 population size of 732,185 persons, and an interpolated 2046 population size of 994,257 persons.

Daily VMT per capita including induced demand would increase from 23.24 to 25.37 miles by 2046 with implementation of the proposed 2022 RTP/SCS, an increase of approximately 9.17 percent. For informational purposes, Table 4.14-2 also shows that without implementation of the proposed 2022 RTP/SCS, daily VMT per capita would increase from 23.24 to 24.29 by 2046. This would be an increase of approximately 4.50 percent for 2046. As shown, the proposed 2022 RTP/SCS would fail to reach 16 percent below baseline (2016) VMT per capita conditions in 2046. Therefore, this impact would be significant.

Induced Travel

It should be noted that although this is a program-level analysis, and not project specific, some of the proposed 2022 RTP/SCS projects include expanding the capacity of State highways in the region. These include adding travel lanes (managed lanes) on I-205, SR 120, and I-5. Other proposed 2022 RTP/SCS projects include expanding the capacity of major arterials in various locations in the county.

Numerous studies and research suggest that an expansion of highway capacity may induce travel (OPR 2018) According to OPR, the initial reduction in traffic congestion and travel times from increased capacity is attractive to travelers, resulting in more trips on the facility and increasing the total VMT. These types of projects may result in the following trip-making changes, which have implications for total VMT (OPR 2018):

- Longer Trips. The ability to travel a long distance in a shorter time increases the attractiveness of destinations that are further away, increasing trip length and VMT.

- Changes in Mode Choice. When transportation investments are devoted to reducing automobile travel time, travelers tend to shift toward automobile use from other modes, which increases VMT.
- Route Changes. Faster travel times on a route attract more drivers to that route from other routes, which can increase or decrease VMT depending on whether it shortens or lengthens trips.
- Newly Generated Trips. Increasing travel speeds can induce additional trips, which increases VMT. For example, an individual who previously telecommuted or purchased goods on the internet might choose to accomplish those ends via automobile trips as a result of increased speeds.
- Land Use Changes. Faster travel times along a corridor lead to land development further along that corridor; that development generates and attracts longer trips, which increases VMT. Over several years, this component of induced VMT can be substantial, e.g., approximately half of the total effect on VMT.

Regarding land use changes, the proposed 2022 RTP/SCS coordinates land use and transportation projects through the 2046 horizon year. The SCS identifies a land use strategy that supports the objectives of SB 375 to achieve, among other things: increased roadway optimization, increased modes of travel other than single occupancy automobiles, increased access to jobs and amenities, minimized increases in VMT and reduced GHG emissions. Among the strategies to meet these goals is a mix of land uses balanced to minimize VMT and maximize the ability for residents and visitors of the region to conduct everyday activities without the need to travel by car. As a consequence, the transportation system performance results discussed in the EIR's transportation impact analysis capture the effects of land use changes on overall travel demand in the region.

Given the suburban and rural nature of San Joaquin County, without suppression, induced vehicle travel effects of roadway expansion projects will be substantially dampened. Although the SJCOG Model does not specifically evaluate induced travel from the perspective of longer trips, changes in mode choice, route changes or newly generated induced trips, at the regional level these effects may also be negligible compared to the overall amount of travel. As discussed in the Federal Highway Administration's "HERS-ST Highway Economic Requirements System - State Version: Technical Report - Appendix B: Induced Traffic and Induced Demand" (2002), "If the demand is for a single facility, then induced traffic will appear large relative to previous volumes, because most of the change in trips will be from diverted trips. At the regional level, induced traffic would be a smaller share of total traffic growth, because only trips diverted from other regions, plus substitutions between transportation and other goods, make up the induced share." Therefore, although individual capacity-increasing roadway projects included in the proposed 2022 RTP/SCS may induce travel, at the regional level additional VMT resulting specifically from induced travel demand would not be substantial, and the induced travel impact at the regional level would be less than significant.

The following mitigation measures would reduce regional VMT and VMT per capita impacts.

Mitigation Measures

For transportation projects under their jurisdiction, SJCOG shall implement, and transportation project sponsor agencies can and should implement, the following mitigation measures developed for the proposed 2022 RTP/SCS where applicable for transportation projects. For land use projects under their jurisdiction, the County and incorporated cities in the SJCOG region can and should

implement the following mitigation measures. Project specific environmental documents may adjust these mitigation measures as necessary to respond to site specific conditions.

T-2(a) Regional VMT Reduction Programs

Implementing agencies shall require implementation of VMT reduction strategies through TDM programs, impact fee programs, mitigation banks or exchange programs, in-lieu fee programs, and other land use project conditions that reduce VMT. Programs shall be designed to reduce VMT from existing land uses, where feasible, and from new discretionary residential or employment land use projects. The design of programs and project specific mitigation shall focus on VMT reduction strategies that increase travel choices and improve the comfort and convenience of sharing rides in private vehicles, using public transit, biking, or walking. Modifications may include but are not limited to:

- Provide car-sharing, vanpool, bike sharing, and ride-sharing programs
- Implement or provide access to commute reduction programs, such as the measures included in Rule 9410 adopted by the San Joaquin Valley Air Pollution Control District
- Provide a bus rapid transit system, such as the planned Modesto BRT
- Improve pedestrian or bicycle networks or transit service, such as the planned ACE Forward passenger rail service extension
- Provide transit passes
- Provide a van pool program, such as CalVans
- Encourage telecommute programs
- Incorporate affordable housing into the project
- Increase density
- Increase mixed uses within the project area
- Incorporate improved pedestrian connections within the project/neighborhood
- Incentivize development in low VMT communities
- Incentivize housing near commercial and offices
- Increase access to goods and services, such as groceries, schools, and daycare
- Incorporate neighborhood electric vehicle network and incentivize the installation of electric vehicle chargers in places such as shopping and employment centers
- Orient the project toward transit, bicycle, and pedestrian facilities
- Provide traffic calming
- Provide bicycle parking
- Limit parking
- Separate out parking costs
- Provide parking cash-out programs
- Provide incentives to purchase electric vehicles
- Construct intelligent transportation system management/intelligent transportation system (TSM/ITS) measures such as ramp metering, signalization of intersections, and changeable message signs
- Provide a VMT mitigation bank or exchange program

IMPLEMENTING AGENCIES AND TIMING

Implementing agencies for transportation projects are SJCOG and transportation project sponsor agencies. Implementing agencies for land use projects are cities and counties. This mitigation measure shall, or can and should, be applied during project permitting and environmental review and implemented during project operation, as applicable.

Significance After Mitigation

If implementing agencies adopt and require the mitigation measures outlined above, impacts would be reduced because less VMT would be added to the SJCOG region. As discussed above, while VMT on certain routes looks high, this is largely attributable to the model's diverted trips, and not a reflection of an increase in regional VMT. Therefore, the plan's impact on regional VMT is less than significant. However, at the local level, the implementation of project-level VMT-reducing measures, such as mixed uses, transit-oriented development, or participation in a VMT Mitigation Banks other fee-based VMT mitigation program may not be feasible or may not be able to fully mitigate an individual project's impact. Therefore, this impact would remain significant and unavoidable. No additional mitigation measures to reduce this impact to less than significant levels are feasible.

Threshold 3:	The Project would substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)

Impact T-3 TRANSPORTATION AND LAND USE PROJECTS IMPLEMENTED UNDER THE PROPOSED 2022 RTP/SCS WOULD NOT SUBSTANTIALLY INCREASE HAZARDS DUE TO GEOMETRIC DESIGN FEATURES OR INCOMPATIBLE USES. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

The regional growth pattern of the proposed 2022 RTP/SCS does not define design level features of roadways. While the proposed 2022 RTP/SCS expands development and increases density in growth geographies, this growth would not impact geometric design features or roadway uses in a consistent way, as those design standards and uses are established and enforced at the local jurisdictional level. Specific transportation projects identified in the proposed 2022 RTP/SCS consist of widening existing roadways; constructing expressways and freeways; and installing medians, all of which would result in improved circulation and safety. Future transportation projects would also be subject to design guidelines established by the State or the local jurisdiction with authority over the project, including curve radii on curving road segments, maximum road grade/slope, and minimum separating distance between intersections and driveways.

Construction activities resulting from implementation of the proposed 2022 RTP/SCS would be short term, intermittent, and geographically dispersed. At the regional level, these disruptions would be localized, and impacts would be limited and would not represent a significant impact to the operations of the regional transportation system. At the local level, construction activities could increase travel on local roads and result in detours or increased congestion in certain locations. The actual construction details of land use development projects and proposed transportation projects are not known, because the projects are in the early stages of planning. Construction impacts would be evaluated at the project level as more information about the timing, design, scope, and construction program are available. Generally, construction activities for land use development and transportation projects would be required to be conducted in accordance with, and subject to review by, all applicable State and/or local jurisdictions with authority over the project; thus,

ensuring projects would be designed to minimize the potential for hazardous conditions and to ensure safe travel by all modes.

Future transportation projects would be required to conform to the design standards of the public agency responsible for implementation, including safety standards. As such, the proposed 2022 RTP/SCS is would not negatively impact the design of transportation facilities by increasing hazards. Rather, investments would incentivize design improvements to make roadways safer. Therefore, the proposed 2022 RTP/SCS would not substantially increase hazards due to geometric design features or incompatible land uses, and the impact would be less than significant.

Similarly, the proposed SJCOG 2022 RTP/SCS would not adversely impact the compatible use of transportation facilities. Rather, investments would incentivize design improvements to make roadways safer. The SCS does not introduce new agricultural uses or other similar uses that would result in increased incompatible vehicle uses on roadways in the region, such as slow-moving farm equipment. In addition, specific transportation projects under the proposed 2022 RTP/SCS would be subject to and would follow the allowable uses established by the State or the local jurisdiction with authority over the project. Therefore, the proposed 2022 RTP/SCS would not substantially increase hazards due to incompatible uses.

Furthermore, the 2022 RTP/SCS does not include components that would result in changes in air traffic patterns that would result in substantial safety risks. To minimize any unanticipated safety risks, any development and subsequent planning decisions in proximity to airports would be subject to review under the State Aeronautics Act provided under Public Utilities Code §§ 21167 et seq. Specific projects that may affect navigable airspace are also subject to FAA review, as outlined under 14 CFR Parts 77.5, 77.7 and 77.9.

Overall, this impact would be less than significant.

Mitigation Measures

No mitigation measures are required.

Threshold 4:	The project would result in inadequate emergency access
Threshold 5:	The project would impair implementation or physically interfere with an adopted emergency response plan or emergency evacuation plan

Impact T-4 TRANSPORTATION AND LAND USE PROJECTS IMPLEMENTED UNDER THE PROPOSED 2022 RTP/SCS WOULD NOT RESULT IN INADEQUATE EMERGENCY VEHICLE ACCESS, NOR WOULD PROJECTS IMPLEMENTED UNDER THE PROPOSED 2022 RTP/SCS IMPAIR IMPLEMENTATION OR PHYSICALLY INTERFERE WITH AN ADOPTED EMERGENCY RESPONSE PLAN OR EMERGENCY EVACUATION PLAN. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

Transportation infrastructure plays a key role in providing access to destinations during emergencies. These systems must be able to accommodate emergency response vehicles, personnel, and equipment. In the event of an emergency or disaster, the SJCOG region's roads and other transportation networks can determine the success or failure of the region during the emergency and in recovery. The proposed 2022 RTP/SCS would not implement specific design features or specifications for new project-level development or other transportation facilities. However, the specific projects and programs identified in the proposed 2022 RTP/SCS would entail upgrades and improvements to existing transportation infrastructure, resulting in increased roadway capacity, congestion relief, circulation improvements, and overall roadway safety

improvements. As such, implementation of the proposed 2022 RTP/SCS would improve performance of the transportation system in the SJCOG region, which would improve emergency response and facilitate more effective emergency evacuation.

The actual design details of land use development projects and proposed transportation projects are not known, because the projects are in the early stages of planning. However, both Caltrans and local jurisdictions have design standards for new and existing development and roadways to ensure adequate passage of emergency vehicles. Standards include specifications related to clear width, effective turning radius and turnouts, curve radii on curving road segments, maximum road grade/slope, and minimum separating distance between intersections and driveways. Transportation projects would be subject to review with regard to emergency vehicle requirements by State and/or local jurisdictions with authority over the project as well as responsible emergency service agencies; thus, ensuring projects would be designed to meet all applicable emergency design standards.

Construction activities could temporarily impair emergency access points used for emergency vehicle access. However, standard construction procedures for development of a construction management plan would address these conditions and would require provision of alternative emergency vehicle access points. Specifically, in accordance with Caltrans permitting requirements, a traffic control plan would be required that adheres to the standards set forth in the California Manual of Uniform Traffic Control Devices (Caltrans 2014). As part of these requirements, there are provisions for coordination with local emergency services, training for flagmen for emergency vehicles traveling through the work zone, temporary lane separators that have sloping sides to facilitate crossover by emergency vehicles, and vehicle storage and staging areas for emergency vehicles. The Caltrans requirements also provide for construction work during off-peak hours and flaggers and include provisions for "Detour for Bike Lanes on Roads with Closure of One Travel Direction." Measures similar to Caltrans requirements are typically applied to local projects, such as requiring at least two points of ingress/egress to residential developments for emergency access.

In addition, while implementation of proposed 2022 RTP/SCS's land use scenario and transportation projects could temporarily impede emergency access at project locations during construction periods, construction projects would conform to State, regional, and local regulations requiring maintenance of emergency access during construction. Based on the above analysis, the impacts of the proposed 2022 RTP/SCS on emergency vehicle access and on interference with an adopted emergency response plan or emergency evacuation plan would be less than significant.

Mitigation Measures

No mitigation measures are required.

c. Specific Proposed 2022 RTP/SCS Projects That May Result in Impacts

The analysis within this section discusses the transportation impacts associated with the transportation improvement projects included in the proposed 2022 RTP/SCS. The projects within the proposed 2022 RTP/SCS are evaluated herein in their entirety and are intended to improve circulation rather than cause adverse impacts. However, as described above, the proposed 2022 RTP/SCS would increase baseline 2016 regional VMT by approximately 8,212,463 miles in 2046, which would be an approximately 48 percent increase from the baseline 2016 conditions for 2046. This effect has been found to be a significant and unavoidable impact, as described above. The SJCOG Model used for this analysis does not have the capability to distinguish which project or projects would specifically result in increased regional VMT. However, any number of the proposed

2022 RTP/SCS projects that expand roadway capacity or improve traffic flow and circulation could presumably increase VMT. Thus, there are no specific transportation projects that can be listed in this section related to the adverse impacts of increased regional VMT in the SJCOG region.

4.14.4 Cumulative Impacts

The cumulative impacts analysis area for transportation consists of the SJCOG region and the seven adjoining counties. Movement within, through, and beyond the SJCOG region is necessary for commuters, personal travel, and goods movement. Thus, it is important to consider both the SJCOG region as well as the connection with the adjoining counties.

The federal, State, and regional laws, regulations, and policies outlined in Section 4.14.2, *Regulatory Setting,* apply to surrounding counties in the same manner as they apply to projects within the SJCOG region, thereby avoiding the potential for cumulative conflict between the transportation planning for the SJCOG region and the surrounding counties. Therefore, the potential cumulative impacts resulting from the implementation of the proposed 2022 RTP/SCS related to conflict with programs, plans, and ordinances or policies addressing the circulation system would be less than significant, and the proposed 2022 RTP/SCS contribution would not be cumulatively considerable.

Development in the cumulative impact analysis area would result in significant and unavoidable increase in regional VMT as well as daily VMT per capita from baseline (2016) conditions, partially due to commuters travelling to and from employment in the adjoining counties. However, the 2022 RTP/SCS is designed to maintain and foster the balance between jobs and housing within the SJCOG region and provides a strategy to allocate growth in such a way as to achieve a more balanced jobs/housing ratio and to optimize transportation investments that support those land uses.

As discussed above, implementation of the 2022 RTP/SCS would increase daily VMT in 2046 compared to the baseline 2016 conditions While the majority of the VMT would be expected to remain within the SJCOG region, some portion of the VMT would inevitably extend to areas within the adjoining counties. The most reasonable assumption is that VMT to adjoining counties would be concentrated to the most heavily traveled roadways in the counties with the highest relative employment, such as I-5 and SR-99 into Sacramento and Stanislaus counties The increased VMT in adjoining county areas would be in addition to the VMT generated from the increased population growth of such counties into the future. Per capita VMT in the cumulative impact area would be unlikely to reach 16 percent below the baseline VMT per capita by 2046 due to increased VMT in the region, both with and without implementation of the proposed 2022 RTP/SCS. The implementation of project-level VMT-reducing measures, such as mixed uses and transit-oriented development, may not be feasible and cannot be guaranteed on a project-by-project basis. Regional VMT reduction programs, such as VMT banks, may also not be feasible as there are no procedures or policies in place to establish such programs. Thus, cumulative impacts on VMT would be significant and the proposed 2022 RTP/SCS contribution to cumulative VMT impacts would be cumulatively considerable, and this contribution would remain cumulatively considerable post-mitigation.

Some types of transportation impacts are related to site- and project-specific characteristics and conditions and would not be significantly affected by other development outside of the SJCOG region. As discussed in Impacts T-3 and T-4, there are existing federal, State, and local regulations that govern transportation hazards and emergency access associated with development and infrastructure projects. Regulations and oversight, as outlined in the impact analysis above, would effectively reduce the potential for individual projects to create a transportation hazards or emergency access impact within the SJCOG region and surrounding counties. Thus, cumulative

impacts related to the transportation hazards and emergency access would not be significant and the proposed 2022 RTP/SCS contribution would not be cumulatively considerable.